



#### Documentation for package 'base' version 4.1.0

- DESCRIPTION file.
- Code demos. Use demo() to run them.

### Help Pages

## ABCDEFGHIJKLMNOPQRSTUVWXZmisc

<u>base-package</u> The R Base Package

-- A --

abbreviate Abbreviate Strings

<u>abs</u> Miscellaneous Mathematical Functions

acos Trigonometric Functions
acosh Hyperbolic Functions

activeBindingFunction Binding and Environment Locking, Active Bindings

<u>addNA</u> Factors

addTaskCallback Add or Remove a Top-Level Task Callback

<u>agrepl</u> Approximate String Matching (Fuzzy Matching)

<u>agrepl</u> Approximate String Matching (Fuzzy Matching)

alist Lists - Generic and Dotted Pairs

all Are All Values True?

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any Are Some Values True?

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 anyMissing
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 'Not Available' / Missing Values

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Arg Complex Numbers and Basic Functionality

<u>args</u> Argument List of a Function

Arithmetic Arithmetic Operators
array Multi-way Arrays

<u>arrayInd</u> Which indices are TRUE?

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as.character.condition Condition Handling and Recovery

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<u>as.character.hexmode</u> Display Numbers in Hexadecimal

as.character.numeric version Numeric Versions

<u>as.character.octmode</u> Display Numbers in Octal

as.character.POSIXt Date-time Conversion Functions to and from Character

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Coerce to a Data Frame

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<u>as.data.frame.numeric\_version</u> Numeric Versions as.data.frame.POSIXct Date-Time Classes

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<u>as.expression</u> Unevaluated Expressions

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<u>as.list.difftime</u> Time Intervals / Differences

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backtick Quotes

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Functions to Retrieve Values Supplied by Calls to the Browser

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<u>chartr</u> Character Translation and Casefolding

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chkDots Warn About Extraneous Arguments in the "..." of Its Caller

<u>chol</u> The Choleski Decomposition

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Functions to Manipulate Connections (Files, URLs, ...)

ConstantsBuilt-in ConstantscontributorsR Project Contributors

Control Flow

<u>copyrights</u> Copyrights of Files Used to Build R <u>copyrights</u> Copyrights of Files Used to Build R

cosTrigonometric FunctionscoshHyperbolic FunctionscospiTrigonometric FunctionscrossprodMatrix Crossproduct

Cstack\_infoReport Information on C Stack Size and UsagecummaxCumulative Sums, Products, and ExtremescumminCumulative Sums, Products, and ExtremescumprodCumulative Sums, Products, and ExtremescumsumCumulative Sums, Products, and Extremes

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Data Frames

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<u>Dates</u> Date Class

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<u>deparse1</u> Expression Deparsing

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<u>diff</u> Lagged Differences

<u>diff.difftime</u>
Time Intervals / Differences
<u>difftime</u>
Time Intervals / Differences

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<u>dir.create</u> Manipulation of Directories and File Permissions

<u>dirname</u> Manipulate File Paths

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<u>else</u> Control Flow

<u>emptyenv</u> Environment Access

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<u>encodeString</u> Encode Character Vector as for Printing

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<u>factor</u> Factors

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<u>format.difftime</u> Time Intervals / Differences

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format.octmode Display Numbers in Octal

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formatDL Format Description Lists

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<u>fuzzy matching</u> Approximate String Matching (Fuzzy Matching)

-- G --

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gc Garbage Collection

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gcinfo Garbage Collection

gctorture Garbage Collector
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getAllConnections

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getDLLRegisteredRoutines Reflectance Information for C/Fortran routines in a DLL

getElement Extract or Replace Parts of an Object

geterrmessage Stop Function Execution

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getLoadedDLLs Get DLLs Loaded in Current Session

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gettextf Use C-style String Formatting Commands

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gzcon (De)compress I/O Through Connections

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<u>intToUtf8</u> Convert Integer Vectors to or from UTF-8-encoded Character Vectors

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<u>is.atomic</u> Is an Object Atomic or Recursive?

<u>is.call</u> Function Calls <u>is.character</u> Character Vectors

<u>is.complex</u> Complex Numbers and Basic Functionality

<u>is.data.frame</u>
<u>is.double</u>
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<u>is.element</u> Set Operations

<u>is.environment</u> Environment Access <u>is.expression</u> Unevaluated Expressions

<u>is.factor</u> Factors

is.finite Finite, Infinite and NaN Numbers

<u>is.function</u> Is an Object of Type (Primitive) Function?

is.infinite Finite, Infinite and NaN Numbers

is.integer Vectors

is.languageIs an Object a Language Object?is.listLists - Generic and Dotted Pairs

is.loaded Foreign Function Interface

is.logical Logical Vectors

is.matrix Matrices

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is.package version **Numeric Versions** 

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isIncomplete Functions to Manipulate Connections (Files, URLs, ...)

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Functions to Manipulate Connections (Files, URLs, ...) isOpen

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isS4 Test for an S4 object

isSeekable **Functions to Reposition Connections** 

**isSymmetric** Test if a Matrix or other Object is Symmetric (Hermitian)

**isTRUE Logical Operators** 

-- Ј --

jitter 'Jitter' (Add Noise) to Numbers

julian Extract Parts of a POSIXt or Date Object

-- к --

<u>kappa</u> Compute or Estimate the Condition Number of a Matrix

kronecker Kronecker Products on Arrays

-- L --

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lapply Apply a Function over a List or Vector

last.warning Print Warning Messages

<u>La\_library</u> LAPACK Library La\_version LAPACK Version

lbeta **Special Functions of Mathematics** lchoose **Special Functions of Mathematics** LC ALL Query or Set Aspects of the Locale LC\_COLLATE Query or Set Aspects of the Locale LC CTYPE Query or Set Aspects of the Locale LC MEASUREMENT Query or Set Aspects of the Locale LC\_MESSAGES Query or Set Aspects of the Locale LC MONETARY Query or Set Aspects of the Locale LC\_NUMERIC Query or Set Aspects of the Locale LC\_PAPER Query or Set Aspects of the Locale LC TIME Query or Set Aspects of the Locale

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libcurl Version Report Version of libcurl

library Loading/Attaching and Listing of Packages

<u>library.dynam</u> Loading DLLs from Packages <u>library.dynam.unload</u> Loading DLLs from Packages

license Terms
license The R License Terms
The R License Terms

listLists - Generic and Dotted Pairslist.dirsList the Files in a Directory/Folderlist.filesList the Files in a Directory/Folderlist2DFCreate Data Frame From List

list2env From A List, Build or Add To an Environment

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loadedNamespacesLoading and Unloading Name SpacesloadNamespaceLoading and Unloading Name SpaceslocalEvaluate an (Unevaluated) Expression

Find Details of the Numerical and Monetary Representations in the Current

Locale

locales Query or Set Aspects of the Locale

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lower.tri Lower and Upper Triangular Part of a Matrix

<u>ls</u> List Objects

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make.namesMake Syntactically Valid Namesmake.uniqueMake Character Strings Unique

<u>makeActiveBinding</u> Binding and Environment Locking, Active Bindings

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Map Common Higher-Order Functions in Functional Programming Languages

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margin.tableCompute table marginsmarginSumsCompute table marginsmat.or.vecCreate a Matrix or a Vector

match Value Matching

match.arg Argument Verification Using Partial Matching

match.call Argument Matching

match.fun Extract a Function Specified by Name

Math S3 Group Generic Functions

Math.Date Date Class

Math.difftime Time Intervals / Differences

Math.factor Factors

Math.POSIXItDate-Time ClassesMath.POSIXtDate-Time ClassesmatmultMatrix Multiplication

matrix Matrices

max Maxima and Minima

max.col Find Maximum Position in Matrix

MC\_CORES Options Settings
mean Arithmetic Mean

mean.Date Date Class

mean.difftime Time Intervals / Differences

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mem.maxVSize Query and Set Heap Size Limits

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Memory-limits Memory Limits in R

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mergeMerge Two Data FramesmessageDiagnostic Messages

mget Return the Value of a Named Object

min Maxima and Minima

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months Extract Parts of a POSIXt or Date Object

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<u>NativeSymbol</u> Obtain a Description of one or more Native (C/Fortran) Symbols <u>NativeSymbolInfo</u> Obtain a Description of one or more Native (C/Fortran) Symbols

NA character 'Not Available' / Missing Values
 NA complex 'Not Available' / Missing Values
 NA integer 'Not Available' / Missing Values
 NA real 'Not Available' / Missing Values

nchar Count the Number of Characters (or Bytes or Width)

NCOL The Number of Rows/Columns of an Array

The Number of Rows/Columns of an Array

Negate Common Higher-Order Functions in Functional Programming Languages

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<u>ngettext</u> Translate Text Messages

<u>nlevels</u> The Number of Levels of a Factor

<u>noquote</u> Class for 'no quote' Printing of Character Strings

norm Compute the Norm of a Matrix

normalizePath Express File Paths in Canonical Form

Not Yet Implemented Functions and Unused Arguments
Not Yet Implemented Functions and Unused Arguments

NROW
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The Number of Rows/Columns of an Array

NULLThe Null ObjectnullfileDisplay ConnectionsnumericNumeric VectorsNumeric ConstantsNumeric Constantsnumeric versionNumeric Versions

numToBits Convert to or from (Bit/Packed) Raw Vectors

numToInts Convert to or from (Bit/Packed) Raw Vectors

<u>nzchar</u> Count the Number of Characters (or Bytes or Width)

-- 0 --

objects List Objects

octmode Display Numbers in Octal

oldClass
Object Classes
OlsonNames
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on.exit Function Exit Code

open Functions to Manipulate Connections (Files, URLs, ...)

<u>open.srcfile</u>
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<u>packageEvent</u> Functions to Get and Set Hooks for Load, Attach, Detach and Unload

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<u>packageStartupMessage</u> Diagnostic Messages package version Numeric Versions

<u>packBits</u> Convert to or from (Bit/Packed) Raw Vectors

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parent.env Environment Access

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parseParse R ExpressionspasteConcatenate Stringspaste0Concatenate Stringspath.expandExpand File Pathspath.packageFind Packages

pcre\_config Report Configuration Options for PCRE

pi Built-in Constants

pipe Functions to Manipulate Connections (Files, URLs, ...)

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polyroot Find Zeros of a Real or Complex Polynomial

pos.to.env Convert Positions in the Search Path to Environments

Position Common Higher-Order Functions in Functional Programming Languages

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<u>print.by</u> Apply a Function to a Data Frame Split by Factors

<u>print.condition</u> Condition Handling and Recovery

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<u>print.data.frame</u> Printing Data Frames

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<u>print.libraryIQR</u> Loading/Attaching and Listing of Packages

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<u>prop.table</u> Express Table Entries as Fraction of Marginal Table

<u>proportions</u> Express Table Entries as Fraction of Marginal Table

provideDimnames Dimnames of an Object

psigammaSpecial Functions of MathematicspushBackPush Text Back on to a ConnectionpushBackLengthPush Text Back on to a Connection

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g Terminate an R Session

qrThe QR Decomposition of a Matrixqr.coefThe QR Decomposition of a Matrixqr.defaultThe QR Decomposition of a Matrixqr.fittedThe QR Decomposition of a Matrix

gr.Q Reconstruct the Q, R, or X Matrices from a QR Object

<u>qr.qty</u> The QR Decomposition of a Matrix <u>qr.qy</u> The QR Decomposition of a Matrix

<u>qr.R.</u> Reconstruct the Q, R, or X Matrices from a QR Object

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<u>qr.X</u> Reconstruct the Q, R, or X Matrices from a QR Object

<u>quarters</u> Extract Parts of a POSIXt or Date Object

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R. Version Information
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Version Information

Random Number Generation

Random.user User-supplied Random Number Generation

rangeRange of ValuesrankSample Ranks

rapply Recursively Apply a Function to a List

<u>raw</u> Raw Vectors

rawConnectionRaw ConnectionsrawConnectionValueRaw Connections

rawShiftConvert to or from (Bit/Packed) Raw VectorsrawToBitsConvert to or from (Bit/Packed) Raw VectorsrawToCharConvert to or from (Bit/Packed) Raw VectorsrbindCombine R Objects by Rows or Columnsrbind.data.frameCombine R Objects by Rows or Columns

rcond Compute or Estimate the Condition Number of a Matrix

Rd2pdf Utilities for Processing Rd Files
RD2PDF\_INPUTENC Utilities for Processing Rd Files
Rdcony Utilities for Processing Rd Files

Re Complex Numbers and Basic Functionality

read.dcf Read and Write Data in DCF Format

readBin Transfer Binary Data To and From Connections

<u>readChar</u> Transfer Character Strings To and From Connections

readlineRead a Line from the TerminalreadLinesRead Text Lines from a ConnectionreadRDSSerialization Interface for Single ObjectsreadRenvironSet Environment Variables from a File

Recall Recursive Calling

Reduce Common Higher-Order Functions in Functional Programming

Languages

reg.finalizer Finalization of Objects

regexRegular Expressions as used in RregexecPattern Matching and ReplacementregexpRegular Expressions as used in RregexprPattern Matching and Replacement

RegisteredNativeSymbol Obtain a Description of one or more Native (C/Fortran)

**Symbols** 

<u>regmatches</u>
Extract or Replace Matched Substrings
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Regular Expressions as used in R

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<u>removeTaskCallback</u> Add or Remove a Top-Level Task Callback

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<u>requireNamespace</u> Loading and Unloading Name Spaces

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reserved Reserved Words in R

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rle Reverse Elements
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rm Remove Objects from a Specified Environment

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<u>round.Date</u> Round / Truncate Data-Time Objects <u>round.POSIXt</u> Round / Truncate Data-Time Objects

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rownames Row and Column Names

Give Column Sums of a Matrix or Data Frame, Based on a

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R C BOUNDS CHECK Options Settings
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R DEFAULT PACKAGES Initialization at Start of an R Session

R\_DOC\_DIR Environment Variables

<u>R\_ENVIRON</u>
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<u>R\_ENVIRON\_USER</u>
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R\_GCTORTURE Torture Garbage Collector

rowsum

R GCTORTURE INHIBIT RELEASE Torture Garbage Collector
R GCTORTURE WAIT Torture Garbage Collector
R GSCMD Environment Variables
R HISTFILE Environment Variables
R HISTSIZE Environment Variables

R\_HOME Return the R Home Directory

R\_ICU\_LOCALE Setup Collation by ICU
R\_INCLUDE\_DIR Environment Variables

R\_INTERACTIVE\_DEVICE Options Settings
R\_KEEP\_PKG\_SOURCE Options Settings

**R\_LIBS** Search Paths for Packages R LIBS SITE Search Paths for Packages R LIBS USER Search Paths for Packages R\_MAX\_NUM\_DLLS Foreign Function Interface R PAPERSIZE **Environment Variables** R\_PCRE\_JIT\_STACK\_MAXSIZE **Environment Variables R\_PDFVIEWER Environment Variables Environment Variables** R PLATFORM **Environment Variables** R\_PRINTCMD

**Environment Variables** R RD4PDF **Environment Variables** R\_SHARE\_DIR R\_SUPPORT\_OLD\_TARS **Environment Variables Numeric Versions** R\_system\_version **Environment Variables** R\_TEXI2DVICMD R UNZIPCMD **Environment Variables Environment Variables** R\_USER **Environment Variables R\_ZIPCMD** 

-- s --

S3 group Generic Functions

S3Methods Class Methods

S4 Test for an S4 object

<u>sample</u>Random Samples and Permutations<u>sapply</u>Apply a Function over a List or Vector

save Save R Objects

<u>saveRDS</u>
Serialization Interface for Single Objects

<u>scale</u>
Scaling and Centering of Matrix-like Objects

scan Read Data Values

searchGive Search Path for R ObjectssearchpathsGive Search Path for R Objects

seek Functions to Reposition Connections

seq Sequence Generation

seq.DateGenerate Regular Sequences of Datesseq.POSIXtGenerate Regular Sequences of Times

sequence Create A Vector of Sequences

seq\_alongSequence Generationseq\_lenSequence Generation

serialize Simple Serialization Interface

serverSocket Functions to Manipulate Connections (Files, URLs, ...)

set.seed Random Number Generation

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setHook Functions to Get and Set Hooks for Load, Attach, Detach and Unload

setSessionTimeLimitSet CPU and/or Elapsed Time LimitssetTimeLimitSet CPU and/or Elapsed Time Limits

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<u>signif</u> Rounding of Numbers

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sinTrigonometric FunctionssingleDouble-Precision VectorssinhHyperbolic FunctionssinkSend R Output to a FilesinpiTrigonometric Functionsslice.indexSlice Indexes in an Array

<u>socketAccept</u> Functions to Manipulate Connections (Files, URLs, ...) <u>socketConnection</u> Functions to Manipulate Connections (Files, URLs, ...)

socketSelect Wait on Socket Connections

socketTimeout Functions to Manipulate Connections (Files, URLs, ...)

solve Solve a System of Equations

solve.qr The QR Decomposition of a Matrix

<u>sort</u> Sorting or Ordering Vectors

sort.list Ordering Permutation

source Read R Code from a File, a Connection or Expressions

Special Functions of Mathematics

<u>split</u> Divide into Groups and Reassemble

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sprintfUse C-style String Formatting CommandssqrtMiscellaneous Mathematical Functions

<u>sQuote</u> Quote Text

References to Source Files and Code srcfile srcfile-class References to Source Files and Code srcfilealias References to Source Files and Code srcfilealias-class References to Source Files and Code srcfilecopy References to Source Files and Code srcfilecopy-class References to Source Files and Code References to Source Files and Code srcref References to Source Files and Code srcref-class

<u>standardGeneric</u> Formal Method System - Dispatching S4 Methods <u>startsWith</u> Does String Start or End With Another String?

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stderrDisplay ConnectionsstdinDisplay ConnectionsstdoutDisplay ConnectionsstopStop Function Execution

<u>stopifnot</u> Ensure the Truth of R Expressions <u>storage.mode</u> The (Storage) Mode of an Object

str.POSIXtDate-Time Classesstr2expressionParse R Expressionsstr2langParse R Expressions

<u>strftime</u> Date-time Conversion Functions to and from Character <u>strptime</u> Date-time Conversion Functions to and from Character

strrepRepeat the Elements of a Character VectorstrsplitSplit the Elements of a Character Vector

strtoi Convert Strings to Integers

<u>strtrim</u> Trim Character Strings to Specified Display Widths

<u>structure</u> Attribute Specification

strwrap Wrap Character Strings to Format Paragraphs

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<u>summary</u> Object Summaries

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Summary.Date Date Class

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Summary.POSIXctDate-Time Classessummary.POSIXctDate-Time ClassesSummary.POSIXltDate-Time Classessummary.proc\_timeRunning Time of R

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<u>suspendInterrupts</u> Condition Handling and Recovery

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Sys.chmod Manipulation of Directories and File Permissions

<u>Sys.Date</u> Get Current Date and Time <u>Sys.getenv</u> Get Environment Variables

Sys.getlocaleQuery or Set Aspects of the LocaleSys.getpidGet the Process ID of the R SessionSys.globWildcard Expansion on File PathsSys.infoExtract System and User Information

Sys.localeconv Find Details of the Numerical and Monetary Representations in the

Current Locale

<u>sys.on.exit</u> Functions to Access the Function Call Stack <u>sys.parent</u> Functions to Access the Function Call Stack

Sys.readlink Read File Symbolic Links

Sys.setenv Set or Unset Environment Variables

Sys.setFileTime Set File Time

Sys.setlocaleQuery or Set Aspects of the LocaleSys.sleepSuspend Execution for a Time Intervalsys.sourceParse and Evaluate Expressions from a Filesys.statusFunctions to Access the Function Call Stack

Sys.time Get Current Date and Time

Sys.timezone Time Zones

Sys.umask Manipulation of Directories and File Permissions

Sys.unsetenv Set or Unset Environment Variables

Sys.whichFind Full Paths to ExecutablessystemInvoke a System Commandsystem.fileFind Names of R System Files

<u>system.time</u> CPU Time Used

system2 Invoke a System Command

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<u>table</u> Cross Tabulation and Table Creation

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<u>tapply</u> Apply a Function Over a Ragged Array <u>taskCallbackManager</u> Create an R-level Task Callback Manager

<u>tcrossprod</u> Matrix Crossproduct

<u>tempdir</u> Create Names for Temporary Files <u>tempfile</u> Create Names for Temporary Files

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<u>tolower</u> Character Translation and Casefolding

<u>topenv</u> Top Level Environment

toString Convert an R Object to a Character String
toupper Character Translation and Casefolding

<u>trace</u> Interactive Tracing and Debugging of Calls to a Function or Method

tracebackGet and Print Call StackstracememTrace Copying of Objects

<u>tracingState</u> Interactive Tracing and Debugging of Calls to a Function or Method

<u>transform</u> Transform an Object, for Example a Data Frame

<u>Trig</u> Trigonometric Functions

<u>trigamma</u> Special Functions of Mathematics
<u>trimws</u> Remove Leading/Trailing Whitespace

TRUE Logical Vectors

trunc Rounding of Numbers

trunc.DateRound / Truncate Data-Time Objectstrunc.POSIXtRound / Truncate Data-Time ObjectstruncateFunctions to Reposition Connections

<u>try</u> Try an Expression Allowing Error Recovery

<u>tryCatch</u> Condition Handling and Recovery <u>tryInvokeRestart</u> Condition Handling and Recovery

type The Type of an Object typeof The Type of an Object

TZDIR Time Zones
TZDIR Time Zones

-- U --

<u>umask</u> Manipulation of Directories and File Permissions

unclass
Undebug

Object Classes

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<u>Unicode</u> Convert Integer Vectors to or from UTF-8-encoded Character Vectors

<u>union</u> Set Operations

<u>unique</u> Extract Unique Elements

<u>unique.numeric\_version</u> Numeric Versions <u>unique.POSIXlt</u> Date-Time Classes

unique.warningsPrint Warning MessagesunitsTime Intervals / Differencesunits.difftimeTime Intervals / DifferencesunlinkDelete Files and Directories

<u>unlist</u> Flatten Lists

<u>unloadNamespace</u> Loading and Unloading Name Spaces

<u>unlockBinding</u> Binding and Environment Locking, Active Bindings

unnameRemove 'names' or 'dimnames'unserializeSimple Serialization Interface

<u>unsplit</u> Divide into Groups and Reassemble

<u>untrace</u> Interactive Tracing and Debugging of Calls to a Function or Method

<u>untracemem</u> Trace Copying of Objects

<u>unz</u> Functions to Manipulate Connections (Files, URLs, ...)

<u>upper.tri</u> Lower and Upper Triangular Part of a Matrix

<u>url</u> Functions to Manipulate Connections (Files, URLs, ...)

<u>UseMethod</u> Class Methods

<u>UTF-8 file path</u> File Paths not in the Native Encoding

<u>utf8ToInt</u> Convert Integer Vectors to or from UTF-8-encoded Character Vectors

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<u>validEnc</u>
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Check if a Character Vector is Validly Encoded

<u>vapply</u> Apply a Function over a List or Vector

vector Vectors

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<u>warningCondition</u> Condition Handling and Recovery

<u>warnings</u> Print Warning Messages

weekdays Extract Parts of a POSIXt or Date Object

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which.max Where is the Min() or Max() or first TRUE or FALSE?
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with Evaluate an Expression in a Data Environment

with Autoprint Read R Code from a File, a Connection or Expressions

with Calling Handlers Condition Handling and Recovery

within Evaluate an Expression in a Data Environment

with Restarts Condition Handling and Recovery with Visible Return both a Value and its Visibility

write Write Data to a File

write.dcf Read and Write Data in DCF Format

writeBin Transfer Binary Data To and From Connections
writeChar Transfer Character Strings To and From Connections

writeLines Write Lines to a Connection

-- x --

xor Logical Operators

xtfrm Auxiliary Function for Sorting and Ranking

xtfrm.numeric\_version Numeric Versions

xzfile Functions to Manipulate Connections (Files, URLs, ...)

-- z --

<u>zapsmall</u> Rounding of Numbers: Zapping Small Ones to Zero

-- misc --

! Logical Operators

!.hexmode Display Numbers in Hexadecimal

!.octmode Display Numbers in Octal

!= Relational Operators

"\_ Quotes

Extract or Replace Parts of an ObjectS.DLLInfoGet DLLs Loaded in Current Session

\$.package\_version Numeric Versions

<u>\$<-</u> Extract or Replace Parts of an Object

<u>\$<-.data.frame</u> Extract or Replace Parts of a Data Frame

%%
%\*%
Matrix Multiplication
%l%
Arithmetic Operators
%in%
Value Matching

%o% Outer Product of Arrays

%x% Kronecker Products on Arrays

& Logical Operators&& Logical Operators

&.hexmode Display Numbers in Hexadecimal

&.octmode Display Numbers in Octal

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Parentheses and Braces
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Arithmetic Operators

\*.difftime Time Intervals / Differences

<u>+</u> Arithmetic Operators

<u>+.Date</u> Operators on the Date Class

+.POSIXtDate-Time ClassesArithmetic Operators

<u>-.Date</u> Operators on the Date Class

-.POSIXt-> Date-Time Classes-> Assignment Operators->> Assignment Operators

... ..., '..1', etc used in Functions
...elt ..., '..1', etc used in Functions
...length ..., '..1', etc used in Functions
...names ..., '..1', etc used in Functions
...1 ..., '..1', etc used in Functions
...2 ..., '..1', etc used in Functions

..deparseOpts Options for Expression Deparsing

<u>.amatch\_bounds</u> Approximate String Matching (Fuzzy Matching)
<u>.amatch\_costs</u> Approximate String Matching (Fuzzy Matching)

<u>.Autoloaded</u> On-demand Loading of Packages <u>.AutoloadEnv</u> On-demand Loading of Packages

<u>.BaseNamespaceEnv</u> Environment Access <u>.bincode</u> Bin a Numeric Vector <u>.C</u> Foreign Function Interface

.Call Modern Interfaces to C/C++ code.Capabilities Report Capabilities of this Build of R

.Class Class Methods .class2 Object Classes

.col Column Indexes

.colMeansForm Row and Column Sums and Means.colSumsForm Row and Column Sums and Means.conflicts.OKAttach Set of R Objects to Search Path

.decode numeric version Numeric Versions

.<u>Defunct</u> Marking Objects as Defunct

<u>.deparseOpts</u> Options for Expression Deparsing
<u>.Deprecated</u> Marking Objects as Deprecated

<u>.Devices</u> Lists of Open/Active Graphics Devices <u>.Devices</u> Lists of Open/Active Graphics Devices

<u>.doTrace</u> Interactive Tracing and Debugging of Calls to a Function or Method

<u>.dynLibs</u> Loading DLLs from Packages

.encode numeric version Numeric Versions

.expand\_R\_libs\_env\_var Search Paths for Packages

.External Modern Interfaces to C/C++ code
.First Initialization at Start of an R Session
.First.sys Initialization at Start of an R Session
.format.zeros Formatting Using C-style Formats

<u>.Fortran</u> Foreign Function Interface

.Generic Class Methods

.GlobalEnv Environment Access

.Group S3 Group Generic Functions

.handleSimpleError Condition Handling and Recovery

<u>Internal</u> Call an Internal Function

.isOpen References to Source Files and Code

.kappa\_tri Compute or Estimate the Condition Number of a Matrix

.kronecker Products on Arrays

.Last Terminate an R Session

.Last.lib Hooks for Namespace Events

.Last.sys Terminate an R Session

<u>.Last.value</u> Value of Last Evaluated Expression <u>.LC.categories</u> Query or Set Aspects of the Locale

<u>.leap.seconds</u> Date-Time Classes

.libPathsSearch Paths for Packages.LibrarySearch Paths for Packages.Library.siteSearch Paths for Packages

.Machine Numerical Characteristics of the Machine

<u>.makeMessage</u> Diagnostic Messages <u>.make\_numeric\_version</u> Numeric Versions <u>.Method</u> Class Methods

<u>.noGenerics</u> Loading/Attaching and Listing of Packages

.NotYetImplemented.NotYetUsedNot Yet Implemented Functions and Unused Arguments.NotYetUsedNot Yet Implemented Functions and Unused Arguments

.onAttachHooks for Namespace Events.onDetachHooks for Namespace Events.onLoadHooks for Namespace Events.onUnloadHooks for Namespace Events

.Options Options Settings

.OptRequireMethods Initialization at Start of an R Session

<u>.packages</u> Listing of Packages <u>.packageStartupMessage</u> Diagnostic Messages

<u>.Platform</u> Platform Specific Variables
<u>.Primitive</u> Look Up a Primitive Function
<u>.Random.seed</u> Random Number Generation

<u>.Renviron</u> Initialization at Start of an R Session <u>.rmpkg</u> Give Search Path for R Objects

<u>.row</u> Row Indexes

<u>.rowMeans</u>
<u>.rowSums</u>

Row and Column Sums and Means
Form Row and Column Sums and Means
Rprofile

Initialization at Start of an R Session

.S3method Register S3 Methods

.S3PrimitiveGenerics Internal Generic Functions

.signalSimpleWarning Condition Handling and Recovery

<u>.standard\_regexps</u> Miscellaneous Internal/Programming Utilities

.sys.timezone Time Zones

.<u>Traceback</u> Get and Print Call Stacks .<u>traceback</u> Get and Print Call Stacks

.tryResumeInterrupt Condition Handling and Recovery

.unlist Flatten Lists

<u>.userHooksEnv</u> Functions to Get and Set Hooks for Load, Attach, Detach and Unload

.valid.factor Factors

.\_\_H\_\_.cbind Combine R Objects by Rows or Columns .\_\_H\_\_.rbind Combine R Objects by Rows or Columns

/ Arithmetic Operators

<u>/.difftime</u> Time Intervals / Differences

Ox 1Numeric Constants1iNumeric Constants1LNumeric Constants:Colon Operator

Double Colon and Triple Colon OperatorsDouble Colon and Triple Colon Operators

Relational Operators
 Assignment Operators
 Assignment Operators
 Relational Operators
 Assignment Operators

Relational OperatorsRelational OperatorsRelational Operators

Extract or Replace A SlotExtract or Replace A Slot

Extract or Replace Parts of an Object

[.AsIs Inhibit Interpretation/Conversion of Objects[.data.frame Extract or Replace Parts of a Data Frame

[.Date Date Class

[.difftime Time Intervals / Differences

[.DlistExtract or Replace Parts of an Object[.DLLInfoListGet DLLs Loaded in Current Session[.factorExtract or Replace Parts of a Factor[.hexmodeDisplay Numbers in Hexadecimal[.listofExtract or Replace Parts of an Object

[.noquote Class for 'no quote' Printing of Character Strings

[.numeric\_version Numeric Versions

[.octmode Display Numbers in Octal

[.POSIXct Date-Time Classes[.POSIXlt Date-Time Classes

[.simple.list]Extract or Replace Parts of an Object[.table]Cross Tabulation and Table Creation

[.warnings Print Warning Messages

Extract or Replace Parts of an Object

-.data.frame

Extract or Replace Parts of a Data Frame

[<-.Date Date Class

**Solution** Extract or Replace Parts of a Factor

[<-.numeric version</th>Numeric Versions[<-.POSIXct</th>Date-Time Classes[<-.POSIXlt</th>Date-Time Classes

[[.data.frame] Extract or Replace Parts of an Object
Extract or Replace Parts of a Data Frame

[[.Date Date Class

[[.factor Extract or Replace Parts of a Factor

[[.numeric\_version]Numeric Versions[[.POSIXct]Date-Time Classes[[.POSIXlt]Date-Time Classes^Arithmetic Operators

<u>Quotes</u>

Parentheses and BracesLogical Operators

<u>lhexmode</u> Display Numbers in Hexadecimal

l.octmode Display Numbers in Octal

<u>></u>

\_

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