

Package ‘dang’

December 18, 2025

Type Package

Title 'Dang' Associated New Goodies

Version 0.0.17

Date 2025-12-18

Description A collection of utility functions.

URL <https://github.com/eddelbuettel/dang>,
<https://dirk.eddelbuettel.com/code/dang.html>

BugReports <https://github.com/eddelbuettel/dang/issues>

Suggests anytime, data.table, zoo, xts, TTR, quantmod

LinkingTo tidyCpp

License GPL (>= 2)

RoxygenNote 6.0.1

NeedsCompilation yes

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Crucial hint about 'dev.hold()' and 'dev.flush()'),

Bill Dunlap [ctb] ('str.language' function),
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Basis of 'cranORCIDs' function)

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Repository CRAN

Date/Publication 2025-12-18 20:10:02 UTC

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alphavantage	<i>Retrieve real-time data from AlphaVantage</i>
--------------	--

Description

Fetch a real-time market data series from AlphaVantage

Usage

alphavantage(sym)

Arguments

sym Character value for the ticker

Details

Several optional parameters could be set, but are not currently.

Value

A data.table object

Author(s)

Dirk Eddelbuettel

as.data.table.xts	<i>Convert an xts object into a data.table</i>
-------------------	--

Description

Convert an xts object into a data.table

Usage

```
## S3 method for class 'xts'
as.data.table(x)

as.data.table(x)

## Default S3 method:
as.data.table(x, ...)
```

Arguments

x An xts object

... Catch-all arguments passed on to methods

Details

This is still experimental. Note that all four *added* columns are keys to the data.table object, and that setNumericRounding(0) is executed too,

Value

A data.table object with new columns date, time, micros, pt providing, respectively the data as IDate, time as ITime, microseconds (rounded) and numeric POSIXct.

Author(s)

Dirk Eddelbuettel

assignFormals	<i>Assign formal arguments from function</i>
---------------	--

Description

Debugging helper to assign formals from function

Usage

```
assignFormals(f, env = .GlobalEnv)
```

Arguments

f	A function
env	An environment to assign the values to, defaults to global environment,

Details

(Beta) Attempt get default values from a given function, extracting its arguments and assigning which should help in debugging via `browser()` and other helper functions.

Value

Nothing, but a side effect of assignment in global environment

Author(s)

Dirk Eddelbuettel

checkCRANStatus	<i>Maintainer Status at CRAN</i>
-----------------	----------------------------------

Description

Report Maintainer Status at CRAN

Usage

```
checkCRANStatus(email, cache, cache.life = 24 * 3600)
```

Arguments

email	A character variable with the maintainer email
cache	A character variable with an optional cache file, default value is to use a file inside the per-session temporary directory
cache.life	A numeric timeout, defaults to one day

Details

This function retrieves the maintainer status (given an email) at CRAN. Values are optionally cached; the default cache location is inside the per-session temporary directory as R should not write elsewhere.

Value

Nothing, the sideeffect of the display is the main effect

Author(s)

Brodie Gaslam (with minor modifications by Dirk Eddelbuettel)

checkPackageAsciiCode *checkPackageAsciiCode*

Description

Check a package directory for non-ASCII characters in source files.

Usage

```
checkPackageAsciiCode(dir, respect_quotes = FALSE)
```

Arguments

dir	Character variable with path to directory to be checked
respect_quotes	Logical variable whether quotes need to be checked

Details

The function is a renamed and slightly edited copy of the base R function `.check_package_ASCII_code`. It uses an unexported C function, also included, from base R, called as `_check_nonASCII`.

Value

A vector of things that are wrong per this function, also displayed on standard output

Author(s)

Dirk Eddelbuettel for this version, R Core for the underlying code

Examples

```
## Not run:
checkPackageAsciiCode(".", FALSE)

## End(Not run)
```

cranORCIDs	<i>Get ORCID IDs known at CRAN</i>
------------	------------------------------------

Description

This function returns a three-column data frame with first name, family name and orcid for all maintainers with (optional) ORCID fields at CRAN.

Usage

```
cranORCIDs()
```

Value

A data frame with three columns given (ie first name), family (name) and oid.

Author(s)

Kurt Hornik (plus small tweaks by Dirk Eddelbuettel)

See Also

A new function `tools::CRAN_authors_db()` in r-devel as of August 2024.

demotivate	<i>Display a demotivating quote</i>
------------	-------------------------------------

Description

Display a demotivating quote to remind the users of the harsh reality econometric and statistical practice.

Usage

```
demotivate(x, width = NULL)
```

Arguments

- x A index value chosen to select a quote; if not given a quote is chosen randomly.
- width The desired display width.

Details

This function is a port of demotivate command for 'Stata' from the ado file at <http://fmwww.bc.edu/repec/bocode/d/demotivate.ado>.

Value

The formatted is returned invisibly.

Author(s)

Dirk Eddelbuettel for this function, and Kevin Denny for the 'Stata' original.

See Also

<https://ideas.repec.org/c/boc/bocode/s458576.html>

Examples

```
demotivate()
```

getGitRoot

Are we in a git repository?

Description

The `getGitRoot()` function recursively ascends the filesystem tree from the given directory until it either finds a directory `.git`, or the top-level directory to abort the search. The root directory of the git repository is returned, with an empty string in the case of no repository. The `inGit()` function turns this into boolean predicate returning either `TRUE` or `FALSE`.

Usage

```
getGitRoot(cwd = getwd())
```

```
inGit(cwd = getwd())
```

Arguments

`cwd` The start directory, default to the current working directory

Value

For `getGitRoot()`, the path of the directory containing the `.git` directory, ie the project root directory, or an empty string in case the search started outside a git directory. The `inGit()` function returns a boolean as to whether a git repository was found or not.

Author(s)

Dirk Eddelbuettel

Examples

```
inGit()
```

intradayMarketMonitor	<i>Intra-day market monitor</i>
-----------------------	---------------------------------

Description

Intra-day Market Monitor for Security Prices

Usage

```
intradayMarketMonitor(symbol = "^GSPC", defaultTZ = "America/Chicago",
  sleep = 10)
```

Arguments

symbol	A character variable with symbol understood by getQuote from package quantmod , default value is “^GSPC”.
defaultTZ	A character variable with the (local) timezone used for displaying the data, default value is “America/Chicago”.
sleep	An optional numerical value for the delay between updates, default is 10.

Details

This function periodically queries a public data source for a current price of given symbol and updates an intra-daily chart for that security. A working example is symbol “^GSPC” for the S&P500 index which can be obtained in real-time during (New York) trading hours. Other symbols may work.

An alternate version offering 24-hour coverage, for example for futures on Globex, is being prepared.

The function could be further generalized in numerous way and should be considered ‘alpha’. Current default values are a 15 second sleep, and fixed cut-off times for market open/close states corresponding to NYSE hours. The data history is reset to the two most recent days at the close, and the data is snapshot to file (with the filename derived from the symbol, and the path given by `tools::R_user_dir`). These parameters might become configuration parameters in the future.

Value

Nothing is returned, but a display of the current price and the recent history is updated, and the loops loops ‘forever’.

Author(s)

Dirk Eddelbuettel extending and refactoring the original code by Josh Ulrich

See Also

<https://gist.github.com/joshuaulrich/ee11ef67b1461df399b84efd3c8f9f67#file-intraday-sp500-r>

Examples

```
if (requireNamespace("quantmod", quietly)) {           # only suggested packages used
  suppressMessages({library(xts);library(quantmod)})    # dampen noise, add dang as needed
  intradayMarketMonitor()
}
```

isConnected

Is the current session (networked) and connected?

Description

Function to (heuristically) test for a network connection by attempting to connect to a given website.

Usage

```
isConnected(site = "https://www.google.com")
```

Arguments

site Character variable with site to try to connect to, defaults to `http://www.google.com`

Details

The main page of Google is used as a proxy for overall network connectivity as Google is generally 'network-close' and the page is relatively small. If a network is unavailable this fails generally already on domain name service resolution. Special thanks to Barry and Brodie for a very helpful discussion re-discovering this function.

Value

A boolean value indicating networking status

Author(s)

Dirk Eddebuettel

limitDataTableCores	<i>Set data.table threads respecting default settings</i>
---------------------	---

Description

Set threads for data.table respecting possible local settings

Usage

```
limitDataTableCores(ncores, verbose = FALSE)
```

Arguments

ncores	A numeric or character variable with the desired count of threads to use
verbose	A logical value with a default of 'FALSE' to operate more verbosely

Details

This function set the number of threads **data.table** will use while reflecting two possible machine-specific settings from the environment variable 'OMP_THREAD_LIMIT' as well as the R option 'Ncpus' (uses e.g. for parallel builds).

Value

The return value of the **data.table** function setDTthreads which is called as a side-effect.

Author(s)

Dirk Eddelbuettel

ls.objects	<i>List largest objects and show memory use</i>
------------	---

Description

List object and memory used by these objects

Usage

```
ls.objects(pos = 1, pattern, order.by, decreasing = FALSE, head = FALSE,
  n = 5)
```

```
lsos(..., n = 10)
```

```
showMemoryUse(sort = "size", decreasing = FALSE, limit)
```

Arguments

pos	Position in search path, defaults to 1
pattern	Pattern argument pass on to ls
order.by	Optional sort order column
decreasing	Optional switch for decreasing or increasing sort order
head	Optional switch to show head(..., n)
n	Number of elements to show, default to 5
...	Passed through from lsos to ls.objects
sort	Sort columns, defaults to 'size'
limit	Optional cap on displayed number of items

Details

These helper functions have evolved over the years; some were also posted on StackOverflow in response to <https://stackoverflow.com/questions/1358003/tricks-to-manage-the-available-memory-in-an-r-session>

Value

The displayed data.frame is returned to, the main purpose effect however is the displayed information

Author(s)

Dirk Eddelbuettel, based on and extending code in mailing list posts by Petr Pikal and David Hinds

motivate	<i>Display a motivating quote</i>
----------	-----------------------------------

Description

Display a motivating quote for users.

Usage

```
motivate(x, width = NULL)
```

Arguments

x	A index value chosen to select a quote; if not given a quote is chosen randomly.
width	The desired display width.

Details

This function is a port of motivate command for 'Stata' from the ado file at <http://fmwww.bc.edu/repec/bocode/m/motivate.ado>

Value

The formatted is returned invisibly.

Author(s)

Dirk Eddelbuettel for this function, and Kabira Namit for the 'Stata' original.

See Also

<https://ideas.repec.org/c/boc/bocode/s458565.html>

Examples

```
motivate()
```

plotOBOS

Plot Overbought/Oversold Regions for A Stock or ETF

Description

Compute and display overbought and oversold regions

Usage

```
plotOBOS(symbol, n = 50, type = c("sma", "ema", "zlema", "hma"),
  years = 1, blue = TRUE, current = TRUE, title = symbol,
  ticks = TRUE, axes = TRUE)
```

Arguments

symbol	A (required) character string for stock symbol, or alternatively a xts or zoo object with data
n	An optional integer for the moving average length, defaults to 50
type	An optional character string for the type of moving average; currently supported are 'SMA', 'EMA', 'ZLEMA', and 'HMA'.
years	An optional numeric or integer value for the number of years of data to display, defaults to one
blue	An optional boolean determining whether blue or gray tones are used, defaults to true implying blue tones
current	An optional boolean determining whether the current date is the end date
title	An optional character string for the plot title, defaults to the symbol
ticks	An optional boolean indicating whether ticks are plotted, passed on to plot.xts, defaults to true
axes	An optional boolean indicating whether axes are plotted, passed on to plot.xts, defaults to true

Details

This function computes a smoothed version of the price using a moving average (with one of several possible methods) as well as a standard deviation band, and displays one and two standard deviations around the smoothed price.

Value

NULL as the function is invoked for the side effect of the plot

Author(s)

Dirk Eddelbuettel

print.xts

Printing helper function for xts object

Description

Print helper function for xts objects.

Usage

```
## S3 method for class 'xts'  
print(x, ..., n = 10)
```

Arguments

x	An xts objects
...	Ignored, but needed for consistency with print generic.
n	The default number of lines to display, default is 10.

Value

The return from print

Author(s)

Dirk Eddelbuettel

readAndConvert

readAndConvert

Description

Read a file in a different encoding and return it as UTF-8 using iconv

Usage

```
readAndConvert(filename, encoding = "")
```

Arguments

filename	Character variable with path a file with text in encoding
encoding	Optional character variable with the encoding, if unset via the default empty string value no conversion is attempted.

Details

The function is an adapted version of the one in the Rcpp Gallery post at <https://gallery.rcpp.org/articles/iconv-via-r-header/> which is itself based on <https://dewey.dunnington.ca/post/2021/using-rs-cross-platform-iconv-wrapper-from-cpp11/>. It is however worth pointing out that ‘iconv’ results have been seen to vary across operating systems. While it is *portable* it does not guarantee identical outcomes across implementations: results on Windows have different from those on Unix OSs.

Value

A character variable with converted file content.

reorderMicrobenchmarkResults

Reorder microbenchmark Results

Description

Reorder microbenchmark results

Usage

```
reorderMicrobenchmarkResults(res, ordervar = "median")
```

```
rnr(res, ordervar = "median")
```

Arguments

res	An object returned from ‘microbenchmark::microbenchmark’
ordervar	An option character variable selecting a column to order on, defaults to ‘median’

Details

The lovely ‘microbenchmark’ package returns its result is a simple structure with ‘factor’ variable which it leaves unordered. The printed as well as plotted results become a little more expressive if an order is added, which this helper function does.

‘rmr’ can be used as a shorter alias

Value

A modified version of ‘res’ with an ordering by ‘order’

rollMinMax	<i>Rolling Minimum or Maximum over a Fixed Window</i>
------------	---

Description

This implementation is minimal without error checking, or NA handling. It is taken from the **ichimoku** package which had several more complicated variants, and is reused here with just **tidy-Cpp**.

Usage

```
rollMinMax(x, window, min = TRUE)
```

Arguments

x	A numeric vector.
window	An interger with the size of the rolling window.
min	A logical which, if true, selects minimum, else maximum

Details

The **ichimoku** variant is by Charlie Gao and credits Andrew Uhl for the initial implementation.

Value

A vector of the same length as ‘x’ with elements 1 to (length(window) - 1) containing NAs.

Author(s)

Dirk Eddelbuettel for this version, extending earlier by Charlie Gao crediting Andrew Uhl.

shadowedPackages	<i>Find Shadowed Packages</i>
------------------	-------------------------------

Description

Return a data.table object with ‘shadowed’ packages, meaning package which are installed in more than directory on the .libPaths.

Usage

```
shadowedPackages()
```

Details

The function relies on the base R functions `installed.packages()` to find all packages, as well as the base R ability to compare version numbers (once properly converted to `package_version` type).

Value

data.table object with packages that are shadowed

Author(s)

Dirk Eddelbuettel

silent	<i>Silently load a library</i>
--------	--------------------------------

Description

Silently attach a library to the search path.

Usage

```
silent(...)
```

Arguments

...	Passed though
-----	---------------

Details

This function wraps `suppressMessages` around the call to `library`

Value

Nothing, but the desired library is attached

Author(s)

Dirk Eddelbuettel

str.language	<i>Print a parse tree</i>
--------------	---------------------------

Description

Print a parse tree

Usage

```
## S3 method for class 'language'
str(expr, name = "", indent = 0)
```

Arguments

expr	An R language expression to be parse and displayed
name	An optional character value with default "" to annotate the display
indent	An optional numeric value with default 0 to provide additional indentation

Value

The expression, invisibly

Author(s)

Bill Dunlap (and posted to r-devel on 4 Feb 2022)

wday	<i>wday</i>
------	-------------

Description

Return the day of the week as an integer

Usage

```
wday(date = Sys.Date())
```

Arguments

date A Date object, with the current date as the default

Details

This function simply wraps around the `as.POSIXlt` function and returns its `wday` field.

Value

A integer with the weekday component of the date

ymd	<i>Format a Date(time) object as ymd</i>
-----	--

Description

Format a `Date(time)` object as `ymd`

Usage

```
ymd(pt)
```

Arguments

pt A `POSIXt` Datetime or a `Date` object

Value

A character object formatted as ‘YYYYMMDD’

Author(s)

Dirk Eddelbuettel

Examples

```
if (requireNamespace("anytime", quietly=TRUE)) {
  ymd(anytime::anytime("2016-09-01 10:11:12.123456"))
  ymd(anytime::anydate("2016-Sep-01"))
}
```

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