Package 'aakmisc'

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Type Package

Title Miscellany for the King Lab

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Maintainer Aaron A. King <kingaa@umich.edu>

Description Miscellaneous tools, collected in one place.

URL http://github.com/kingaa/aakmisc

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BugReports http://github.com/kingaa/aakmisc/issues

Depends R(>= 3.4.0)

Imports methods, grid, curl, DBI, RPostgreSQL, plyr, ggplot2

Suggests scales, magrittr

License GPL-3

LazyLoad true

LazyData true

Encoding UTF-8

Collate 'db.R'
'tunnel.R'
'aaa.R'
'lazyload.R'
'matrix2latex.R'
'plotMatrix.R'
'random.R'
'scinot.R'
'trnc.R'

RoxygenNote 6.1.0

R topics documented:

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db *Interface with databases*

Description

Interface with project databases.

Usage

```
writeDBTable(name, value, overwrite = FALSE, append = FALSE,
  row.names = FALSE, host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

getQuery(statement, host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

getMLEs(host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

recMLEs(mle, host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

recScript(files, host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

dropScript(script, host = getOption("aakmisc.dbhost", "localhost"),
```

```
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

listScripts(host = getOption("aakmisc.dbhost", "localhost"),
  dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)

catScript(script, file = "", host = getOption("aakmisc.dbhost",
  "localhost"), dbname = getOption("aakmisc.dbname", NULL),
  port = getOption("aakmisc.port", 5432),
  user = getOption("aakmisc.user", NULL), ...)
```

Arguments

`name, value`	Name and contents of table to create.
`overwrite, append, row.names`	See `dbWriteTable`.
`host`	Hostname on which to connect to the PostgreSQL server.
`dbname`	Name of PostgreSQL database.
`port`	Port on which to connect to PostgreSQL database. If NULL, a random port number will be used.
`user`	Username to use in conneting to PostgreSQL database. If NULL, Sys.getenv("USER") will be used.
`...`	Additional arguments will be passed to `dbConnect`.
`statement`	SQL statement passed to `dbGetQuery`.
`mle`	A data-frame of MLEs to be recorded.
`files`	Files containing R scripts to be recorded.
`script`	Name of script.
`file`	File to which the script will be written. See `cat`.

Author(s)

Aaron A. King

Examples

```
## Not run:
startTunnel()
listScripts()
stopTunnel()

## End(Not run)
```

lazyload *Functions for lazy-loading knitr caches.*

Description

These functions are helpful for loading cached chunks into an interactive session.

Usage

```
lazyload_cache_dir(path = "./cache", envir = parent.frame(),
  ask = FALSE, verbose = getOption("verbose", FALSE),
  full.names = TRUE, ...)

lazyload_cache_labels(labels, path = "./cache/",
  envir = parent.frame(), verbose = getOption("verbose", FALSE),
  filter, full.names = TRUE, ...)
```

Arguments

path	the path to the cache directory
envir	the environment to load the objects into
ask	if TRUE, interactively ask whether to load each database discovered in path
verbose	if TRUE, display the names of chunk labels being loaded
full.names	use the full name, i.e., include the path, for the chunk label? This argument is passed to list.files.
...	additional arguments passed to list.files
labels	character vector; chunk labels to load
filter	optional function; passed to lazyLoad. When called on a character vector of object names, this function should return a logical vector: objects for which this is TRUE will be loaded.

Details

Use lazyload_cache_dir to load a whole directory of cached objects.

Use lazyload_cache_labels to load and explicit set of cached chunks.

Value

Both functions return NULL, invisibly.

Author(s)

Peter DeWitt (https://github.com/dewittpe).

matrix2latex *matrix2latex*

Description

Format a matrix for latex.

Usage

```
matrix2latex(x, type = "pmatrix")
```

Arguments

x	matrix
type	latex matrix environment

plotMatrix *A scatterplot matrix with densities on the diagonal.*

Description

A special scatterplot matrix.

Usage

```
plotMatrix(data, ...)

## S3 method for class 'list'
plotMatrix(data, marg.exp = 0.02, labels = names(data),
  alpha = 1, pch = 16, size = unit(2, "mm"), ...)

## S3 method for class 'data.frame'
plotMatrix(data, marg.exp = 0.02,
  labels = names(data), alpha = 1, pch = 16, size = unit(2, "mm"),
  ...)

## S3 method for class 'aakplot'
print(x, newpage = is.null(vp), vp = NULL, ...)
```

Arguments

data	Data to plot.
...	optional arguments, passed to hist.
marg.exp	Fraction by which to expand the plot at the margins.
labels	Names of variables plotted.
alpha, pch, size	Refer to the plotted points in the scatterplots.
x	plotMatrix object to display.
newpage	logical; if TRUE, grid.newpage() will be called before the graphics are drawn.
vp	viewport to use. See viewport.

Author(s)

Aaron A. King <kingaa at umich dot edu>

Examples

```
  ## Not run:
x <- data.frame(a=rexp(n=1000,rate=1/3),b=rnorm(1000))
mutate(x,c=a+b^2,d=a-b^3) -> x

print(plotMatrix(x,alpha=0.2))

g <- plotMatrix(
                x[-2],
                labels=c(
                  expression(alpha),
                  expression(beta),
                  expression(phi)
                  ),
                alpha=0.3
                )
print(g)

print(plotMatrix(as.list(x),alpha=0.2,breaks='scott'))

## End(Not run)
```

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random *Functions for generating and working with truly random integers.*

Description

Functions for generating and working with truly random seeds.

Usage

```
random.org(n = 10, rnd = "new")

urandom(n = 10)

rngControl(expr, seed = NULL)

rngSeeds(n, seed = NULL)
```

Arguments

n	Number of integers required.
rnd	random.org parameter
expr	Expression to be evaluated with RNG control.
seed	RNG seed.

Details

`random.org` gets seeds from `random.org`.

`urandom` gets seeds locally from '`/dev/urandom`' on *nix systems.

`rngControl` is a function to control RNG for the evaluation of an expression.

`rngSeeds` generates RNG seeds using `runif`. It is included for situations when neither `random.org` nor `urandom` is available.

Value

integers suitable for use as RNG seeds

Author(s)

Aaron A. King

References

`http://www.random.org`

Examples

```
## Not run:
random.org(n=5)
seed <- urandom(n=1)
seeds <- rngSeeds(5,seed=seed)
set.seed(seed)
runif(5)
rngControl(runif(5),seed=seed[1])
rngControl(runif(5),seed=seed[1])
runif(5)
```

```
  set.seed(seed)
  runif(5)
  runif(5)

## End(Not run)
```

`scinot` *Scientific notation.*

Description

Format using scientific notation.

Usage

```
scinot(x, digits = 2, format = c("expression", "latex", "math"),
  simplify = FALSE)
```

Arguments

`x`	number(s) to format.
`digits`	number of significant digits in mantissa.
`format`	format specification. `format="expression"` results in an R expression. `format="latex"` results in a latex expression. `format="math"` is like "latex" but wraps the text in "$".
`simplify`	logical. If `simplify=TRUE`, then 1×10^n is simplified to 10^n.

Author(s)

Aaron A. King

See Also

`scientific`

Examples

```
x <- c(0.0309595,8577676.441,10000)
scinot(x[2],4)
scinot(x[1],2,"latex")
sapply(x,scinot,digits=3,format='math')
scinot(x,digits=0,simplify=FALSE)
scinot(x,digits=0,simplify=TRUE)
```

trnc *Truncation of plots.*

Description

Truncate to the specified window.

Usage

```
trnc(x, range = c(0, 1), only.finite = TRUE)
```

Arguments

x	Numeric vector of values to manipulate.
range	Numeric vector of length two giving desired output range.
only.finite	if TRUE (the default), will only modify finite values.

Details

trnc is a function for truncating data to a specified window. It is suitable for use in scale_{x,y}_{continuous,discrete}, for example.

Author(s)

Aaron A. King <kingaa at umich dot edu>

See Also

censor

Examples

```
trnc(c(-1,0.5,1,2,NA))
```

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