Package ‘downsize’

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Title A Tool to Downsize Large Analysis Projects for Testing

Version 0.2.3

Description Toggles the test and production versions of a large data analysis project.

License GPL (>= 3)

Depends R (>= 3.0.0)

Imports magrittr, R.utils, utils

Suggests knitr, rmarkdown, testthat

VignetteBuilder knitr

URL https://github.com/wlandau/downsize

BugReports https://github.com/wlandau/downsize/issues

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R topics documented:

arg_small *Internal utility function.*

Description

Utility function. Make downsized object out of argument `small` to `downsize`.

Usage

```
arg_small(args)
```

Arguments

`args`	named list of arguments to `downsize`

See Also

`help_downsize`

check_args *Internal utility function.*

Description

Utility function. Checks that arguments are valid.

Usage

```
check_args(args)
```

Arguments

args named list of arguments to downsize

See Also

help_downsize

downsize *Function* downsize. *Main function of the* downsize *package.*

Description

Replace big with a downsized object if the downsize argument (or the downsize global option) is TRUE. The downsize global option can be toggled with functions test_mode and production_mode. Use the help_downsize function to get more help.

Usage

```
downsize(
  big,
  small = NULL,
  downsize = getOption("downsize"),
  warn = TRUE,
  random = FALSE,
  length = NULL,
  dim = NULL,
  ncol = NULL,
  nrow = NULL
)
```

Arguments

big Object to return if downsize is FALSE or NULL.

small Object to return if downsize is TRUE and all subsetter arguments such as length and dim are NULL.

downsize TRUE/FALSE value (NULL counts as FALSE), whether to replace big with a downsized object. Defaults to the global option downsize, which you can check with getOption("downsize") or the my_mode function and set with functions downsize, test_mode or production_mode.

warn TRUE/FALSE option to warn the user if big and small are identical or big is smaller in memory than small.

random If TRUE, take a random subset of big instead of the first few elements. For example, if nrow == 3, take a random 3 rows instead of the first 3.

length Downsize big to this length if downsize is TRUE.

dim Downsize big to these dimensions if downsize is TRUE.

ncol Downsize big to this number of columns if downsize is TRUE.

nrow Downsize big to this number of rows if downsize is TRUE.

Details

Use the help_downsize function to get more help. If the downsize argument is TRUE, a downsized replacement for big will be returned. In this case, argument small takes precedence over subsetter arguments such as dim, length, nrow, and ncol. That is, if small is not NULL, then small will be returned even if dim is not NULL. If the downsize argument is not set manually, the downsize global option will be used. The downsize global option can be toggled with functions test_mode and production_mode.

Value

A downsized object if downsize is TRUE and big otherwise.

See Also

help_downsize, test_mode, production_mode, my_mode

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downsize_error *Internal utility function.*

Description

Utility function. Throw an error when downsizing fails.

Usage

```
downsize_error(arg_name)
```

Arguments

arg_name	name of an argument to downsize

See Also

help_downsize

`ds` *Function* `ds`. *Deprecated.*

Description

Deprecated. Use function `downsize` instead. See `help_downsize` for help.

Usage

```
ds(
  big,
  small = NULL,
  downsize = getOption("downsize"),
  warn = TRUE,
  random = FALSE,
  length = NULL,
  dim = NULL,
  ncol = NULL,
  nrow = NULL
)
```

Arguments

`big` Object to return if `downsize` is `FALSE` or `NULL`.

`small` Object to return if `downsize` is `TRUE` and all subsetter arguments such as `length` and `dim` are `NULL`.

`downsize` `TRUE`/`FALSE` value (`NULL` counts as `FALSE`), whether to replace `big` with a downsized object. Defaults to the global option `downsize`, which you can check with `getOption("downsize")` or the `scaling` function and set with functions `downsize`, `scale_down` or `scale_up`.

`warn` `TRUE`/`FALSE` option to warn the user if `big` and `small` are identical or `big` is smaller in memory than `small`.

`random` If `TRUE`, take a random subset of `big` instead of the first few elements. For example, if `nrow` == 3, take a random 3 rows instead of the first 3.

`length` Downsize `big` to this length if `downsize` is `TRUE`.

`dim` Downsize `big` to these dimensions if `downsize` is `TRUE`.

`ncol` Downsize `big` to this number of columns if `downsize` is `TRUE`.

`nrow` Downsize `big` to this number of rows if `downsize` is `TRUE`.

Value

A downsized object if `downsize` is `TRUE` and `big` otherwise.

See Also

`help_downsize`, `downsize`, `scale_down`, `scale_up`, `scaling`

`help_downsize` *Function* `help_downsize`

Description

Prints links for tutorials, troubleshooting, bug reports, etc.

Usage

```
help_downsize()
```

See Also

`downsize`, `scale_down`, `scale_up`, `scaling`

`make_small` *Internal utility function.*

Description

Utility function. Inside function `downsize`, make "small" out of "big" by subsetting or some other method. This is called if any of the subsetting arguments to `downsize` are set (length, dim, etc.)

Usage

```
make_small(args)
```

Arguments

`args`	named list of arguments to `downsize`

See Also

`help_downsize`

my_mode *Function* my_mode

Description

Check whether the current workflow is production mode or test mode. Use the help_downsize function to get more help.

Usage

```
my_mode()
```

Details

Use the help_downsize function to get more help.

Value

"test mode" if getOption("downsize") is TRUE and "production mode" if getOption("downsize") is FALSE or NULL.

See Also

help_downsize, downsize, test_mode, production_mode

production_mode *Function* production_mode

Description

Calls options(downsize = FALSE) to scale up a workflow to production mode. This affects the downsize function. Use the help_downsize function to get more help.

Usage

```
production_mode()
```

Details

Use the help_downsize function to get more help.

See Also

help_downsize, downsize, test_mode, my_mode

scale_down *Deprecated function* scale_down

Description

Deprecated. Use test_mode instead. Calls options(downsize = TRUE) to scale down a workflow. This affects the downsize function. Use the help_downsize function to get more help.

Usage

```
scale_down()
```

Details

Use the help_downsize function to get more help.

See Also

help_downsize, test_mode scaling

scale_up *Deprecated function* scale_up

Description

Deprecated. Use production_mode instead. Calls options(downsize = FALSE) to scale up a workflow. This affects the downsize function. Use the help_downsize function to get more help.

Usage

```
scale_up()
```

Details

Use the help_downsize function to get more help.

See Also

help_downsize, production_mode

scaling *Deprecated function* scaling

Description

Deprecated. Use my_mode instead. Checks whether the current workflow is scaled up or down. Use the help_downsize function to get more help.

Usage

```
scaling()
```

Details

Use the help_downsize function to get more help.

Value

"scaled down" if getOption("downsize") is TRUE and "scaled up" if getOption("downsize") is FALSE or NULL.

See Also

help_downsize, my_mode

should_downsize *Internal utility function.*

Description

Utility function. TRUE/FALSE: should the downsize function return a downsized replacement for "big"?

Usage

```
should_downsize(downsize)
```

Arguments

downsize	argument to downsize

See Also

help_downsize

subset_dim *Internal utility function.*

Description

Utility function. Subset an object x with a dim attribute (matrix/array/data.frame/etc.) and return another with dimensions pmin(dim, dim(x))

Usage

```
subset_dim(x, dim, random)
```

Arguments

x	object to subset
dim	new dimensions
random	logical, whether to take a random subset or just the head.

See Also

help_downsize

subset_length *Internal utility function.*

Description

Utility function. Subset a vector/list/etc. x and return another with length min(length, length(x))

Usage

```
subset_length(x, length, random)
```

Arguments

x	object to subset
length	new length
random	logical, whether to take a random subset or just the head.

See Also

help_downsize

`subset_ncol` *Internal utility function.*

Description

Utility function. Subset an object `x` with columns and return another with min(ncol, ncol(x)) columns.

Usage

```
subset_ncol(x, ncol, random)
```

Arguments

`x`	object to subset
`ncol`	new number of columns
`random`	logical, whether to take a random subset or just the head.

See Also

`help_downsize`

`subset_nrow` *Internal utility function.*

Description

Utility function. Subset an object `x` with rows and return another with min(nrow, nrow(x)) columns.

Usage

```
subset_nrow(x, nrow, random)
```

Arguments

`x`	object to subset
`nrow`	new number of rows
`random`	logical, whether to take a random subset or just the head.

See Also

`help_downsize`

subset_single_dim *Internal utility function.*

Description

Utility function. Same as subset_dim, but along the single dimension with index `which_dim`.

Usage

```
subset_single_dim(x, which_dim, dim_length, random)
```

Arguments

`x`	object to subset
`which_dim`	index of dimension along which to subset
`dim_length`	new length/size of the dimension of `x` with index `which_dim`
`random`	logical, whether to take a random subset or just the head.

See Also

`help_downsize`

test_mode *Function* `test_mode`

Description

Calls `options(downsize = TRUE)` to scale down a workflow to test mode. This affects the `downsize` function. Use the `help_downsize` function to get more help.

Usage

```
test_mode()
```

Details

Use the `help_downsize` function to get more help.

See Also

`help_downsize`, `downsize`, `production_mode`, `my_mode`, `my_mode`

use_arg_small *Internal utility function.*

Description

Utility function. Should the "small" argument to `downsize` be used? Returns `TRUE` if none of the subsetting arguments (length, dim, etc.) or similar is set.

Usage

```
use_arg_small(args)
```

Arguments

`args`	named list of arguments to `downsize`

See Also

`help_downsize`

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