Package ‘downsize’

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Title  A Tool to Downsize Large Workflows for Testing
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Description  Toggles the test and production versions of a large workflow.
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
RoxygenNote  5.0.1

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arg_small

Description
Utility function. Make downsized object out of argument small to \texttt{downsize}.

Usage
\texttt{arg\_small(args)}

Arguments
\begin{itemize}
  \item \texttt{args} named list of arguments to \texttt{downsize}
\end{itemize}

See Also
\texttt{help\_downsize}

check_args

Description
Utility function. Checks that arguments are valid.

Usage
\texttt{check\_args(args)}

Arguments
\begin{itemize}
  \item \texttt{args} named list of arguments to \texttt{downsize}
\end{itemize}
**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

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
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

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

Description

Deprecated function. Use \texttt{production\_mode} instead. Calls \texttt{options(downsize = FALSE)} to scale up a workflow. This affects the \texttt{downsize} function. Use the \texttt{help\_downsize} function to get more help.

Usage

scale_up()

Details

Use the \texttt{help\_downsize} function to get more help.

See Also

\texttt{help\_downsize, production\_mode}

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scaling

Description

Deprecated function. Use \texttt{my\_mode} instead. Checks whether the current workflow is scaled up or down. Use the \texttt{help\_downsize} function to get more help.

Usage

scaling()

Details

Use the \texttt{help\_downsize} function to get more help.

Value

"scaled down" if \texttt{getOption("downsize")} is TRUE and "scaled up" if \texttt{getOption("downsize")] is FALSE or NULL.

See Also

\texttt{help\_downsize, my\_mode}
should_downsize

**Description**

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

**Usage**

```r
should_downsize(downsize)
```

**Arguments**

- `downsize`: argument to `downsize`

**See Also**

`help_downsize`

---

subset_dim

**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**

```r
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 \( \min(\text{length}, \text{length}(x)) \).

**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 \( \min(\text{ncol}, \text{ncol}(x)) \) 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
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