

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>

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arg_small	<i>Internal utility function.</i>
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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	<i>Internal utility function.</i>
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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	<i>Function downsize. Main function of the downsize package.</i>
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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

<code>big</code>	Object to return if <code>downsize</code> is <code>FALSE</code> or <code>NULL</code> .
<code>small</code>	Object to return if <code>downsize</code> is <code>TRUE</code> and all subsetter arguments such as <code>length</code> and <code>dim</code> are <code>NULL</code> .
<code>downsize</code>	<code>TRUE/FALSE</code> value (<code>NULL</code> counts as <code>FALSE</code>), whether to replace <code>big</code> with a downsized object. Defaults to the global option <code>downsize</code> , which you can check with <code>getOption("downsize")</code> or the my_mode function and set with functions downsize , test_mode or production_mode .
<code>warn</code>	<code>TRUE/FALSE</code> option to warn the user if <code>big</code> and <code>small</code> are identical or <code>big</code> is smaller in memory than <code>small</code> .
<code>random</code>	If <code>TRUE</code> , take a random subset of <code>big</code> instead of the first few elements. For example, if <code>nrow == 3</code> , take a random 3 rows instead of the first 3.
<code>length</code>	Downsize <code>big</code> to this length if <code>downsize</code> is <code>TRUE</code> .
<code>dim</code>	Downsize <code>big</code> to these dimensions if <code>downsize</code> is <code>TRUE</code> .
<code>ncol</code>	Downsize <code>big</code> to this number of columns if <code>downsize</code> is <code>TRUE</code> .
<code>nrow</code>	Downsize <code>big</code> to this number of rows if <code>downsize</code> is <code>TRUE</code> .

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](#)

<code>downsize_error</code>	<i>Internal utility function.</i>
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Description

Utility function. Throw an error when downsizing fails.

Usage

```
downsize_error(arg_name)
```

Arguments

<code>arg_name</code>	name of an argument to downsize
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See Also

[help_downsize](#)

<code>ds</code>	<i>Function ds. Deprecated.</i>
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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 <code>getOption("downsize")</code> 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 <code>nrow == 3</code> , 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	<i>Function</i> help_downsize
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Description

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

Usage

```
help_downsize()
```

See Also

[downsize](#), [scale_down](#), [scale_up](#), [scaling](#)

make_small	<i>Internal utility function.</i>
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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	<i>Function my_mode</i>
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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	<i>Function</i> production_mode
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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	<i>Deprecated function</i> scale_down
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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	<i>Deprecated function</i> scale_up
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Description

Deprecated. Use [production_mode](#) instead. Calls `options(downsized = 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	<i>Deprecated function</i> scaling
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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	<i>Internal utility function.</i>
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Description

Utility function. TRUE/FALSE: should the [downsize](#) function return a downsized replacement for "big"?

Usage

```
should_downsize(downsize)
```

Arguments

downsize	argument to downsize
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See Also

[help_downsize](#)

subset_dim	<i>Internal utility function.</i>
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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

<code>x</code>	object to subset
<code>dim</code>	new dimensions
<code>random</code>	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	<i>Internal utility function.</i>
-------------	-----------------------------------

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

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

See Also

[help_downsize](#)

subset_single_dim	<i>Internal utility function.</i>
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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

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

See Also

[help_downsize](#)

test_mode	<i>Function test_mode</i>
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Description

Calls `options(downsized = 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	<i>Internal utility function.</i>
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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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