Package ‘settings’

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Type Package

Title Software Option Settings Manager for R

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Author Mark van der Loo

Maintainer Mark van der Loo <mark.vanderloo@gmail.com>

Description Provides option settings management that goes beyond R's default 'options' function. With this package, users can define their own option settings manager holding option names, default values and (if so desired) ranges or sets of allowed option values that will be automatically checked. Settings can then be retrieved, altered and reset to defaults with ease. For R programmers and package developers it offers cloning and merging functionality which allows for conveniently defining global and local options, possibly in a multilevel options hierarchy. See the package vignette for some examples concerning functions, S4 classes, and reference classes. There are convenience functions to reset par() and options() to their 'factory defaults'.

URL https://github.com/markvanderloo/settings

BugReports https://github.com/markvanderloo/settings/issues

License GPL-3

VignetteBuilder knitr

Imports grDevices, graphics

Suggests knitr, rmarkdown, tinytest

RoxygenNote 7.1.1

NeedsCompilation no

Repository CRAN

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clone_and_merge

Create a local, altered copy of an options manager

Description

Local options management.

Usage

clone_and_merge(options, ...)

Arguments

options A function as returned by options_manager or clone_and_merge.
...
Options to be merged, in the form of [name]=[value] pairs.

Value

A option manager like options, with possibly different settings.

Details

This function creates a copy of the options manager options, with the same defaults. However, the current settings may be altered by passing extra arguments. Its intended use is to allow for easy merging of local options with global settings in a function call.

Some more examples can be found in the vignette: vignette('settings', package='options').

See Also

options_manager, reset, defaults
Examples

# Create global option manager.
opt <- options_manager(foo=1,bar='a')

# create an altered copy
loc_opt <- clone_and_merge(opt, foo=2)

# this has no effect on the 'global' version
opt()
# but the local version is different
loc_opt()

# we alter the global version and reset the local version
opt(foo=3)
reset(loc_opt)
opt()
loc_opt()

# create an options manager with some option values limited
opt <- options_manager(prob=0.5,y='foo',z=1,
  allowed=list(
    prob = inrange(min=0,max=1)
  , y     = inlist("foo","bar")
  )
)

# change an option
opt(prob=0.8)
opt("prob")
## Not run:
# this gives an error
opt(prob=2)

## End(Not run)

---

defaults

Request default option values

Description

Request default option values

Usage

defaults(options)

Arguments

options An option manager, as returned by options_manager or clone_and_merge
is_setting

Value
A list.

See Also
reset

inlist
Option checkers

Description
These functions return a function that is used by the options manager internally to check whether an option set by the user is allowed.

Usage
inlist(...) inrange(min = -Inf, max = Inf)

Arguments
... comma-separated list of allowed values.
min minimum value (for numeric options)
max maximum value (for numeric options)

See Also
options_manager for examples.

is_setting
Find out if we're setting or getting

Description
Utility function checking if we're setting or getting.

Usage
is_setting(...) 

Arguments
... [key]=[value] pairs of options
Value

logical, TRUE if ... represents set-options, FALSE if ... represents get-options. An error is thrown if it cannot be determined.

See Also

stop_if_reserved

options_manager

Create a new options manager.

Description

Set up a set of options with default values and retrieve a manager for it.

Usage

options_manager(..., .list, .allowed)

Arguments

... Comma separated [name]=[value] pairs. These will be the names and default values for your options manager.

.list optional List of [name]=[value] pairs. Will be concatenated with arguments in ...

.allowed list of named functions that check an option (see 'checking options')

Value

A function that can be used as a custom options manager. It takes as arguments a comma separated list of option names (character) to retrieve options or [name]=[value] pairs to set options.

Details

The function options_manager creates an option management function. The returned function can be used to set, get, or reset options. The only restriction of the package is that the following words cannot be used as names for options:

__reset __defaults

For more details and extensive examples see the vignette by copy-pasting this command:

texttt{vignette("settings",package = "settings")

Checking options

Option values can be checked automatically by supplying the options manager with a named list of functions (.allowed) that take an option value and throw an error if it is out-of-range. The functions inlist and inrange are convenience functions that create such checking functions for you.
See Also

Reset to default values: \texttt{reset}.

Retrieve default values: \texttt{defaults}

Create a local, possibly altered copy: \texttt{clone_and_merge}

Examples

\begin{verbatim}
# create an options register
my_options <- options_manager(foo=1,bar=2,baz='bob')

### Retrieving options
my_options() # retrieve the full options list.
my_options('baz')
my_options('foo')

# When multiple options are retrieved, the result is a list
my_options('foo','baz')

### Setting global options
my_options(foo=3,baz='pete')
my_options()
### Reset options to default.
reset(my_options)
my_options()

### Limit the possible values for an option.
my_options <- options_manager( fu="bar",.allowed = list(fu=inlist("foo","bar")) )
\end{verbatim}

---

\texttt{reset} \hspace{1cm} \textit{Reset options to default values}

Description

Reset options to default values

Usage

\texttt{reset(options)}

Arguments

\begin{verbatim}
options \hspace{1cm} An option manager, as returned by \texttt{options_manager} or \texttt{clone_and_merge}
\end{verbatim}

Value

The list of reset options, invisibly.
reset_options

See Also
defaults

reset_options

Reset general options in 'options' to factory defaults.

Description
Reset general options in 'options' to factory defaults.

Usage
reset_options()

See Also
reset_par

reset_par

Reset graphical options in 'par' to factory defaults.

Description
Reset the par to R’s defaults.

Usage
reset_par()

Details
Some of par’s settings are readonly. These are obviously not reset.
Settings stored in par are device-dependent. In practice, most settings in par are initially the same accross devices. Exceptions we noted are:

• bg: background color
• fin: figure region dimensions
• mai: margin size (inches)
• pin: current plot dimensions (inches)
• plt: coordinates of the plot region as fractions of the current figure region
• ps: point size of text (but not symbos)

Consequently, these options are currently not reset by calling reset_par()

See Also
reset_options, par
settings

Convenient options settings management for R

Description
Convenient options settings management for R

Details
Reset graphical options of par or options to their factory settings using reset_par or reset_par.
Create your own option settings manager with options_manager for projects with many options.
Clone and merge an options manager for easy hierarchical options management using clone_and_merge.
See the vignette for examples, type
vignette("settings",package = "settings")
at the command-line.

stop_if_reserved

Check for reserved option names.

Description
Utility function checking for reserved names.

Usage
stop_if_reserved(...)

Arguments
...
    Comma-separated [key]=[value] pairs

Value
logical, indicating if any of the keys was reserved (invisibly).

Details
This is a utility function that checks if the keys of the key-value pairs ... contain reserved words.
The reserved words are
.__defaults, __reserved.
If reserved words are encountered in the input an error thrown. The package vignette has examples of its use:
vignette('settings',package='options')
stop_if_reserved

See Also

   is_setting
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