Package 'GlobalOptions'

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Type Package

Title Generate Functions to Get or Set Global Options

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Depends R (>= 3.3.0), methods

Imports utils

Suggests testthat (>= 1.0.0), knitr, markdown, GetoptLong

VignetteBuilder knitr

Description It provides more configurations on the option values such as validation
and filtering on the values, making options invisible or private.

URL https://github.com/jokergoo/GlobalOptions

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.DollarNames.GlobalOptionsFun

The .DollarNames method for the GlobalOptionsFun class

Description

The .DollarNames method for the GlobalOptionsFun class

Usage

```
## S3 method for class 'GlobalOptionsFun'
.DollarNames(x, pattern = "")
```

Arguments

x   the object returned by [set_opt](set_opt) or setGlobalOptions.

pattern   pattern, please ignore it.

Details

This makes the option object looks like a list that it allows option name completion after $.

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example
NULL
```

.v   *Get value of other options*

Description

Get value of other options

Usage

```
.v(opt_name, name_is_character = NA)
```

Arguments

opt_name   name of the option, can be quoted or not quoted.

name_is_character

                whether opt_name is a character, only used internally.

Details

When setting one option, the value can be dependent on other option names. The current value of other option can be accessed by v(nm) or v$nm.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1, b = function() .v$a*2)
opt$b
opt(a = 2); opt$b
```

---

dump_opt   *Print all fields of a single option*

Description

Print all fields of a single option

Usage

```
dump_opt(opt, opt_name)
```

Arguments

opt   the option object returned by set_opt or setGlobalOptions.

opt_name   a single name of the option.

Details

Actually this function is identical to `opt[opt_name]`.

Author(s)

z.gu@dkfz.de

Examples

```
opt = set_opt(a = 1, b = "b")
dump_opt(opt, "a")
dump_opt(opt, "b")
```

---

names.GlobalOptionsFun

Option names

Description

Option names

Usage

```
## S3 method for class 'GlobalOptionsFun'
names(x)
```

Arguments

x   the option object returned by [set_opt](set_opt) or setGlobalOptions.

Value

A vector of option names

Examples

```
opt = set_opt(
    a = 1,
    b = "text"
)
names(opt)
```

---

print.GlobalOptionsFun

Print the GlobalOptionsFun object

Description

Print the GlobalOptionsFun object

Usage

```
## S3 method for class 'GlobalOptionsFun'
print(x, ...)
```

Arguments

x	the option object returned by [set_opt](#) or [setGlobalOptions](#).
...	other arguments

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example
NULL
```

---

setGlobalOptions   *Produce a function which can get or set global options*

Description

Produce a function which can get or set global options

Usage

```
setGlobalOptions(...)
```

Arguments

...	specification of options, see 'details' section

Details

The function has a short name [set_opt](set_opt).

The most simple way is to construct an option function (e.g. opt()) as:

```
opt = set_opt(
    "a" = 1,
    "b" = "text"
)
```

Then users can get or set the options by

```
opt()
opt("a")
opt$a
opt[["a"]]
opt(c("a", "b"))
opt("a", "b")
opt("a" = 2)
opt$a = 2
opt[["a"]] = 2
opt("a" = 2, "b" = "new_text")
```

Options can be reset to their default values by:

```
opt(RESET = TRUE)
```

The value for each option can be set as a list which contains more configurations of the option:

```
opt = set_opt(
    "a" = list(.value = 1,
               .length = 1,
               .class = "numeric",
               .validate = function(x) x > 0)
)
```

The different fields in the list can be used to filter or validate the option values.

.value The default value.

.length The valid length of the option value. It can be a vector, the check will be passed if one of the length fits.

.class The valid class of the option value. It can be a vector, the check will be passed if one of the classes fits.

.validate Validation function. The input parameter is the option value and should return a single logical value.

.failed_msg Once validation failed, the error message that is printed.

.filter Filtering function. The input parameter is the option value and it should return a filtered option value.

.read.only Logical. The option value can not be modified if it is set to TRUE.

.visible Logical. Whether the option is visible to users.

.private Logical. The option value can only be modified in the same namespace where the option function is created.

.synonymous a single option name which should have been already defined ahead of current option. The option specified will be shared by current option.

.description a short text for describing the option. The description is only used when printing the object.

For more detailed explanation, please go to the vignette.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(
    a = 1,
    b = "text"
)
opt
# for more examples, please go to the vignette
```

---

set_opt   *Produce a function which can get or set global options*

Description

Produce a function which can get or set global options

Usage

```
set_opt(...)
```

Arguments

...   all go to setGlobalOptions

Details

This is just a short name for setGlobalOptions.

Author(s)

z.gu@dkfz.de

Examples

```
# There is no example
NULL
```

[.GlobalOptionsFun   *Get a single GlobalOption object*

Description

Get a single GlobalOption object

Usage

```
## S3 method for class 'GlobalOptionsFun'
x[nm]
```

Arguments

x   the option object returned by [set_opt](#) or [setGlobalOptions](#).

nm   a single name of the option.

Details

This function is only used internally.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1, b = "b")
opt["a"]
opt["b"]
```

[[.GlobalOptionsFun *Get option value by subset operator*

Description

Get option value by subset operator

Usage

```
## S3 method for class 'GlobalOptionsFun'
x[[nm]]
```

Arguments

x	the option object returned by [set_opt](#) or [setGlobalOptions](#).
nm	a single option name.

Details

opt[["a"]] is same as opt("a") or opt$a.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt[["a"]]
```

[[<-.GlobalOptionsFun *Set option value by subset operator*

Description

Set option value by subset operator

Usage

```
## S3 replacement method for class 'GlobalOptionsFun'
x[[nm]] <- value
```

Arguments

x	the option object returned by [set_opt](#) or [setGlobalOptions](#).
nm	a single option name.
value	the value which is assigned to the option.

Details

opt[["a"]] = 1 is same as opt("a" = 1) or opt$a = 1.

Author(s)

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Examples

```
opt = set_opt(a = 1)
opt[["a"]] = 2
opt$a
```

$.GlobalOptionsFun   *Get option value by dollar symbol*

Description

Get option value by dollar symbol

Usage

```
## S3 method for class 'GlobalOptionsFun'
x$nm
```

Arguments

x   the object returned by set_opt or setGlobalOptions.

nm   a single option name.

Details

opt$a is same as opt("a").

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt$a
```

$.InternalOptionValue   *Get value of other options*

Description

Get value of other options

Usage

```
## S3 method for class 'InternalOptionValue'
x$nm
```

Arguments

x	should always be .v
nm	name of the option

Details

.v$nm is basically a short version of .v(nm).

Author(s)

Zuguang Gu <z.gu@dkfz.de>

See Also

.v

Examples

```
# There is no example
NULL
```

$<-.GlobalOptionsFun   *Set option value by dollar symbol*

Description

Set option value by dollar symbol

Usage

```
## S3 replacement method for class 'GlobalOptionsFun'
x$nm <- value
```

Arguments

x	the object returned by [set_opt](#) or [setGlobalOptions](#).
nm	a single option name.
value	the value which is assigned to the option.

Details

opt$a = 1 is same as opt("a" = 1).

Note you cannot reconfigure the option by assigning a configuration list.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
opt = set_opt(a = 1)
opt$a = 2
opt$a
```

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