Package: GetoptLong (via r-universe)

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Type Package

Title Parsing Command-Line Arguments and Simple Variable Interpolation

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VignetteBuilder knitr

Description This is a command-line argument parser which wraps the powerful Perl module Getopt::Long and with some adaptations for easier use in R. It also provides a simple way for variable interpolation in R.

URL `https://github.com/jokergoo/GetoptLong`

SystemRequirements Perl, Getopt::Long

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Repository https://jokergoo.r-universe.dev

RemoteUrl https://github.com/jokergoo/getoptlong

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GetOptions *Wrapper of the Perl module `Getopt::Long` in R*

Description

Wrapper of the Perl module `Getopt::Long` in R

Usage

```
GetOptions(..., envir = parent.frame())
```

Arguments

`...`	Pass to `GetoptLong`.
`envir`	User's enrivonment where `GetoptLong` looks for default values and exports variables.

Details

This function is the same as `GetoptLong`. It is just to make it consistent as the `GetOptions()` subroutine in `Getopt::Long` module in Perl.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

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

GetoptLong *Wrapper of the Perl module* Getopt::Long *in R*

Description

Wrapper of the Perl module Getopt::Long in R

Usage

```
GetoptLong(..., help_head = NULL, help_foot = NULL, envir = parent.frame(),
    argv_str = NULL, template_control = list(),
    help_style = GetoptLong.options$help_style)
```

Arguments

...	Specification of options. The value can be a two-column matrix, a vector with even number of elements or a text template. See the vignette for detailed explanation.
help_head	Head of the help message when invoking Rscript foo.R --help.
help_foot	Foot of the help message when invoking Rscript foo.R --help.
envir	User's enrivonment where GetoptLong looks for default values and exports variables.
argv_str	A string that contains command-line arguments. It is only for testing purpose.
template_control	A list of parameters for controlling when the specification is a template.
help_style	The style of the help messages. Value should be either "one-column" or "two-column".

Details

Following shows a simple example. Put following code at the beginning of your script (e.g. foo.R):

```
library(GetoptLong)

cutoff = 0.05
GetoptLong(
    "number=i", "Number of items.",
    "cutoff=f", "Cutoff for filtering results.",
    "verbose",  "Print message."
)
```

Then you can call the script from command line either by:

```
Rscript foo.R --number 4 --cutoff 0.01 --verbose
Rscript foo.R --number 4 --cutoff=0.01 --verbose
Rscript foo.R -n 4 -c 0.01 -v
Rscript foo.R -n 4 --verbose
```

In this example, `number` is a mandatory option and it should only be in integer mode. `cutoff` is optional and it already has a default value 0.05. `verbose` is a logical option. If parsing is successful, two variables `number` and `verbose` will be imported into the working environment with the specified values. Value for `cutoff` will be updated if it is specified in command-line.

For advanced use of this function, please go to the vignette.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

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

`GetoptLong.options` *Global options for GetoptLong()*

Description

Global options for GetoptLong()

Usage

```
GetoptLong.options(..., RESET = FALSE, READ.ONLY = NULL, LOCAL = FALSE, ADD = FALSE)
```

Arguments

`...`	Options, see 'Details' section.
`RESET`	Whether to reset options to their default values.
`READ.ONLY`	Whether to only return read-only options.
`LOCAL`	Whether to switch local mode.
`ADD`	Whether to add new options.

Details

Supported global options are following:

- `config` Configuration of `Getopt::Long`, check `https://perldoc.pl/Getopt::Long#Configuring-Getopt::Long`.
- `template_tag` The tag for identifying specifications in the template. The format should be in `left_tag CODE right_tag`.
- `help_style` The style of the help message.

`GetoptLong.options(...)` should be put before calling `GetoptLong` function.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

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

`get_scriptdir` *Directory of current script*

Description

Directory of current script

Usage

```
get_scriptdir()
```

Value

If the R script is not run from the command-line, it returns `NULL`.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

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

`get_scriptname` *File name of current script*

Description

File name of current script

Usage

```
get_scriptname()
```

Value

If the R script is not run from the command-line, it returns `NULL`.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

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

---

qq — *Simple variable interpolation in texts*

Description

Simple variable interpolation in texts

Usage

```
qq(..., envir = parent.frame(), code.pattern = NULL, collapse = TRUE, sep = " ")
```

Arguments

`...`	Text string in which variables are marked with certain rules
`envir`	Environment where to look for variables. By default it is the environment where `qq` is envoked. It can also be a list in which element names are the variable names to be interpolated.
`code.pattern`	Pattern of marks for the variables. By default it is `@\\{CODE\\}` which means you can write your variable as `@{variable}`. This value can be a vector that all patterns are searched.
`collapse`	If variables return vector of length larger than one, whether collapse into one string or return a vector
`sep`	Separator character when there are multiple templates.

Details

I like variable interpolation in Perl. But in R, if you want to concatenate plain text and variables, you need to use functions such as `paste`. However, if there are so many variables, quotes, braces in the string you want to construct, it would be painful.

This function allows you to construct strings as in Perl style. Variables are marked in the text with certain rule. `qq` will look up these variables in user's environment and replace the variable marks with their real values.

For more explaination of this function, please refer to vignette.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
a = 1
b = "text"
qq("a = @{a}, b = '@{b}'")
qq("a = @{a}", "b = '@{b}'", sep = ", ")

a = 1:2
qq("a = @{a}, b = '@{b}'")
qq("a = @{a}, b = '@{b}'", collapse = FALSE)

a = 1
qq("a = `a`, b = '`b`'", code.pattern = "`CODE`")
```

`qq.options` *Global options for qq() related functions*

Description

Global options for qq() related functions

Usage

```
qq.options(..., RESET = FALSE, READ.ONLY = NULL, LOCAL = FALSE, ADD = FALSE)
```

Arguments

`...`	Options, see 'Details' section.
`RESET`	Whether to reset options to their default values.
`READ.ONLY`	Whether to only return read-only options.
`LOCAL`	Whether to switch local mode.
`ADD`	Whether to add new options.

Details

Supported options are following:

`cat_prefix` prefix of the string which is printed by `qqcat`

`cat_verbose` whether to print text by `qqcat`

`cat_strwrap` whether call `strwrap` to wrap the string

`code.pattern` code pattern for variable interpolation

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
a = 1
qq.options(cat_prefix = "[INFO] ")
qqcat("a = @{a}\n")
qq.options(cat_verbose = FALSE)
qqcat("a = @{a}\n")
qq.options(RESET = TRUE)
qq.options(code.pattern = "`CODE`")
qqcat("a = `a`\n")
qq.options(RESET = TRUE)
```

---

qqcat *Print a string which has been intepolated with variables*

Description

Print a string which has been intepolated with variables

Usage

```
qqcat(..., envir = parent.frame(), code.pattern = NULL, file = "",
    sep = " ", fill = FALSE, labels = NULL, append = FALSE, cat_prefix = NULL,
    strwrap = qq.options("cat_strwrap"), strwrap_param = list(), sep2 = "")
```

Arguments

`...`	text string in which variables are marked with certain rules
`envir`	environment where to look for those variables
`code.pattern`	pattern of marks for the variables
`file`	pass to `cat`
`sep`	pass to `cat`
`fill`	pass to `cat`
`labels`	pass to `cat`
`append`	pass to `cat`
`cat_prefix`	prefix string. It is prior than `qq.options(cat_prefix)`.
`strwrap`	whether call `strwrap` to wrap the string
`strwrap_param`	parameters sent to `strwrap`, must be a list
`sep2`	Separation character when there are multiple templates.

Details

This function is a shortcut of

```
cat(qq(text, envir, code.pattern), ...)
```

Additionally, you can add global prefix:

```
 qq.options("cat_prefix" = "[INFO] ")
qq.options("cat_prefix" = function(x) format(Sys.time(), "[%Y-%m-%d %H:%M:%S] "))
 qq.options("cat_prefix" = NULL)
```

You can also add local prefix by specifying `cat_prefix` in `qqcat`.

```
qqcat(text, cat_prefix = "[INFO] ")
```

Please refer to `qq` to find more details.

Author(s)

Zuguang Gu <z.gu@dkfz.de>

Examples

```
a = 1
b = "text"
qqcat("a = @{a}, b = '@{b}'\n")
qqcat("a = `a`, b = '`b`'\n", code.pattern = "`CODE`")

qq.options("cat_prefix" = function(x) format(Sys.time(), "[%Y-%m-%d %H:%M:%S] "))
qqcat("a = @{a}, b = '@{b}'\n")
Sys.sleep(2)
qqcat("a = @{a}, b = '@{b}'\n")
qq.options(RESET = TRUE)
```

`source_script` *Source the R script with command-line arguments*

Description

Source the R script with command-line arguments

Usage

```
source_script(file, ..., argv_str = NULL)
```

Arguments

`file`	The R script
`...`	Pass to `source`.
`argv_str`	The command-line arguments.

Examples

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

`subCommands` *Setting sub commands*

Description

Setting sub commands

Usage

```
subCommands(..., help_head = NULL, help_foot = NULL, argv_str = NULL)
```

Arguments

`...`	Specification of commands. See section Details.
`help_head`	Head of the help message when invoking `Rscript foo.R`.
`help_foot`	Foot of the help message when invoking `Rscript foo.R`.
`argv_str`	A string that contains command-line arguments. It is only for testing purpose.

Details

The format of input can be one of the following:

1. A matrix with two columns. Then the first column contains paths of the scripts and the second column contains the description of the subcommand. The basenames of path in the first column by removing the suffix are taken as the sub commands. 2. A matrix with three columns. The the first column contains the sub commands, the second column contains corresponding script paths and the third column contains descriptions of the sub commands. 3. A vector with length as multiples of 2. In this case, every two elements are grouped and concatenated into a matrix by rows. Then it follows the rule 1. 4. A vector with length as multiples of 3. In this case, every three elements are grouped and concatenated into a matrix by rows. Then it follows the rule 2.

Examples

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

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