Package ‘GetoptLong’

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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.

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R topics documented:

GetOptions ......................................................... 2
GetoptLong .......................................................... 2
GetoptLong.options ............................................... 4
get_scriptdir .................................................... 5
get_scriptname .................................................... 5
qq ................................................................. 6
qq.options .......................................................... 7
qqcat ............................................................... 8
source_script ..................................................... 9
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 environment 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 environment 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):

```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:

```bash
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

```r
# There is no example
NULL
```
**GetoptLong.options**

---

### 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**  
- **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
Simple variable interpolation in texts

**Description**

Simple variable interpolation in texts

**Usage**

\[
\texttt{qq(..., envir = parent.frame(), code.pattern = NULL, collapse = TRUE, sep = \"\")}
\]

**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 \texttt{qq} is invoked. 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 \texttt{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. \texttt{qq} will look up these variables in user’s environment and replace the variable marks with their real values.

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

**Author(s)**

Zuguang Gu <z.gu@dkfz.de>

**Examples**

```r
a = 1
b = "text"
qq("a = \@{a}, b = \"@{b}\")
qq("a = \@{a}" , "b = \'@{b}" , sep = \", \")
a = 1:2
```
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)
Print a string which has been interpolated with variables

Description
Print a string which has been interpolated 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.
source_script

Author(s)
Zuguang Gu <z.gu@dkfz.de>

Examples

```r
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

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

Arguments

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

Examples

```r
# There is no example
NULL
```
Index

cat, 8
get_scriptdir, 5
get_scriptname, 5
GetOptions, 2
GetoptLong, 2, 3, 4
GetoptLong.options, 4

paste, 6

qq, 6, 7, 8
qq.options, 7
qq.cat, 7, 8, 8

source, 9
source_script, 9
strwrap, 7, 8