

Package ‘argparser’

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Type Package

Title Command-Line Argument Parser

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Description Cross-platform command-line argument parser written purely in R with no external dependencies. It is useful with the Rscript front-end and facilitates turning an R script into an executable script.

URL <https://bitbucket.org/djhshih/argparser>

BugReports <https://bitbucket.org/djhshih/argparser/issues>

Depends methods

License GPL (>= 3)

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R topics documented:

add.argument	2
add_argument	3
arg.parser	4
argparser	5
arg_parser	5
include	6
parse.args	6
parse_args	7
print.arg.parser	8
show_arg_labels	8
spaces	9

add.argument	<i>Add an argument to a parser.</i>
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Description

This function is deprecated. Use `add_argument` instead.

Usage

```
add.argument(  
    parser,  
    arg,  
    help,  
    default = NULL,  
    type = NULL,  
    flag = NULL,  
    short = NULL  
)
```

Arguments

parser	an <code>arg.parser</code> object
arg	argument name (use no prefix for positional arguments, <code>--</code> or <code>-</code> prefix for optional arguments or flags)
help	help description for the argument
default	default value for the argument [default: NA]
type	variable type of the argument (which can be inferred from <code>default</code>), assumed to be character otherwise
flag	whether argument is a flag (and does not consume a value) [default: FALSE]
short	short-form for flags and positional arguments; short-forms can be assigned automatically based on the first character of the argument name, unless a conflict arises with an existing short-form; to avoid conflicts, add the argument as early as possible

Value

an `arg.parser` object with the argument added

add_argument	<i>Add an argument to a parser.</i>
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Description

This function adds an argument to an `arg.parser` object and returns the modified object.

Usage

```
add_argument(
    parser,
    arg,
    help,
    default = NULL,
    type = NULL,
    nargs = NULL,
    flag = NULL,
    short = NULL
)
```

Arguments

parser	an <code>arg.parser</code> object
arg	argument name (use no prefix for positional arguments, <code>--</code> or <code>-</code> prefix for optional arguments or flags)
help	help description for the argument
default	default value for the argument [default: NA]
type	variable type of the argument (which can be inferred from <code>default</code>); assumed to be character otherwise
nargs	number of argument values (which can be inferred from <code>default</code>); set to <code>Inf</code> for an indefinite number; an optional argument with an indefinite number of values may need to be followed by another optional argument or flag (e.g. <code>--</code>) to separate the indefinite optional argument from possible position arguments
flag	whether argument is a flag (and does not consume a value) [default: FALSE]; during argument parsing, a flag argument is FALSE by default if it is not set
short	short-form for flags and positional arguments; short-forms can be assigned automatically based on the first character of the argument name, unless a conflict arises with an existing short-form; to avoid conflicts, add the argument as early as possible

Details

This function supports multiple arguments in a vector. To ensure that the argument variable type is set correctly, either specify `type` directly or supply `default` argument values as a list. Argument names that contain dash `-` in the stem are converted to `_`.

Value

an `arg.parser` object with the argument added

Examples

```
p <- arg_parser("A text file modifying program")

# Add a positional argument
p <- add_argument(p, "input", help="input file")

# Add an optional argument
p <- add_argument(p, "--output", help="output file", default="output.txt")

# Add a flag
p <- add_argument(p, "--append", help="append to file", flag=TRUE)

# Add multiple arguments together
p <- add_argument(p,
  c("ref", "--date", "--sort"),
  help = c("reference file", "date stamp to use", "sort lines"),
  flag = c(FALSE, FALSE, TRUE))

# Print the help message
print(p)
```

`arg.parser`

Create an argument parser.

Description

This function is deprecated. Use `arg_parser` instead.

Usage

```
arg.parser(description, name = NULL)
```

Arguments

<code>description</code>	description of the program
<code>name</code>	name of the program

Value

a new `arg.parser` object

argparser	<i>Command-line argument parser</i>
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Description

argparser provides functions for parsing command-line arguments.

Details

To use the parser,

1. create an `arg.parser` object with [arg_parser](#);
2. add arguments to the parser with [add_argument](#);
3. call [parse_args](#) to parse the command line arguments.

To execute the script, invoke `Rscript`. Alternatively on Linux, insert a shebang on the first line (`#!/usr/bin/env Rscript`) and `chmod +x` the script,

arg_parser	<i>Create an argument parser.</i>
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Description

This function creates an `arg.parser` object. It infers the program name from the file name of the invoked script.

Usage

```
arg_parser(description, name = NULL, hide.opts = FALSE)
```

Arguments

<code>description</code>	description of the program
<code>name</code>	name of the program
<code>hide.opts</code>	hide the <code>--opts</code> argument

Details

The argument parser will be created by default with two arguments: `--help` and `--opts`. The latter argument can be used for loading a list of argument values that are saved in a RDS file.

Value

a new `arg.parser` object

Examples

```
p <- arg_parser("A test program")
```

include	<i>Include R script file</i>
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Description

Include R script with behaviour similar to C++ #include "header.h", by searching in the directory where the current script file resides.

Usage

```
include(file)
```

Arguments

file	name
------	------

parse.args	<i>Parse arguments with a parser.</i>
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Description

This function is deprecated. Use parse_args instead.

Usage

```
parse.args(parser, argv = commandArgs(trailingOnly = TRUE))
```

Arguments

parser	an arg.parser object
argv	a character vector to parse (arguments and values should already be split by whitespace)

Value

a list with argument values

parse_args	<i>Parse arguments with a parser.</i>
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Description

This function uses an `arg.parser` object to parse command line arguments or a character vector.

Usage

```
parse_args(parser, argv = commandArgs(trailingOnly = TRUE))
```

Arguments

parser	an <code>arg.parser</code> object
argv	a character vector to parse (arguments and values should already be split by whitespace)

Value

a list with argument values

Examples

```
p <- arg_parser('pi')
p <- add_argument(p, "--digits",
  help="number of significant digits to print", default=7)

## Not run:
# If arguments are passed from the command line,
# then we would use the following:
argv <- parse_args(p)

## End(Not run)

# For testing purposes, we can pass a character vector:
argv <- parse_args(p, c("-d", "30"))

# Now, the script runs based on the passed arguments
digits <- if (argv$digits > 22) 22 else argv$digits
print(pi, digits=digits)

## Not run:
# We can also save an argument list for later use
saveRDS(argv, "arguments.rds")

# To use the saved arguments, use the --opts argument at the command line
#$ ./script.R --opts arguments.rds

## End(Not run)
```

print.arg.parser *Print the help message for an arg.parser.*

Description

This function prints the help message.

Usage

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

Arguments

x	an arg.parser object
...	unused arguments

Details

At the command line, we would use the --help or -help flag to print the help message: \$ script --help

show_arg_labels *Extract label and help strings from parser.*

Description

Extract label and help strings from parser.

Usage

```
show_arg_labels(parser)
```

Arguments

parser	arg.parser object
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Value

a list containing a reg.args, flags, and opt.args list, which each containing a label string and a help string

spaces	<i>Space string.</i>
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Description

Space string.

Usage

spaces(n)

Arguments

n number of spaces

Value

a character string containing n spaces

Index

`add.argument`, [2](#)
`add_argument`, [3](#), [5](#)
`arg.parser`, [4](#)
`arg_parser`, [5](#), [5](#)
`argparser`, [5](#)

`include`, [6](#)

`parse.args`, [6](#)
`parse_args`, [5](#), [7](#)
`print.arg.parser`, [8](#)

`show_arg_labels`, [8](#)
`spaces`, [9](#)