

# Package ‘gbRd’

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**Type** Package

**Title** Utilities for Processing Rd Objects and Files

**Version** 0.4.12

**Description** Provides utilities for processing Rd objects and files.  
Extract argument descriptions and other parts of the help pages of  
functions.

**Imports** tools

**License** GPL (>= 2)

**LazyLoad** yes

**NeedsCompilation** no

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R Core Team [cph] (Extracted some non-exported functions from base R)

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## Contents

gbRd-package . . . . .	2
Rdo_args2txt . . . . .	2
Rdo_args2txt_list . . . . .	3
Rdo_create . . . . .	4
Rdo_get_args . . . . .	5
Rdo_section . . . . .	6
Rd_fun . . . . .	7
Rd_help2txt . . . . .	9
Rd_title . . . . .	10

<b>Index</b>	<b>12</b>
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 gbRd-package

*Utilities for processing Rd objects and files*


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### Description

Provides utilities for processing Rd objects and files. Extract argument descriptions and other parts of the help pages of functions. The main purpose of the functions is to facilitate extraction of descriptions of function arguments for presentation of simplified usage descriptions.

### Author(s)

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 Rdo\_args2txt

*Extract the descriptions of one or more arguments of a function*


---

### Description

Extract help descriptions of one or more arguments of a function and return them as a string.

### Usage

```
Rdo_args2txt(rdo, arg, title = "Hhh", name = "Aa", type = "text")
```

### Arguments

rdo	the documentation for the topic, typically an Rd object but may be anything that <a href="#">Rd_fun</a> accepts: Rd object, name of a function, or the value returned by help.
arg	name(s) of argument(s) to describe, a character vector, see also Details section
title	Title, a string
name	name, a string
type	type of the help, defaults to "text"

### Details

The title and name fields are there, since descriptions of arguments usually do not use the same header as the description of the corresponding function.

The current defaults show that this is still not finished.

### Value

A string (character vector of length one).

**Author(s)**

Georgi N. Boshnakov

**See Also**[Rdo\\_args2txt\\_list](#)**Examples**

```
# ?seq
cat(Rdo_args2txt("seq", c("by", "...")))
cat(Rdo_args2txt("seq", c("from", "by")))
```

Rdo\_args2txt\_list

*Extract the descriptions of the arguments of a function***Description**

Collect the descriptions of the arguments of a function in a named list with one element per argument.

**Usage**

```
Rdo_args2txt_list(x, arg, ...)
```

**Arguments**

x	help object, may be any of the types that <a href="#">Rd_fun</a> accepts: Rd object, name of a function, or the the value returned by help.
arg	A character vector naming the arguments to describe. If arg is missing, descriptions of all arguments are extracted.
...	additional arguments to pass to <a href="#">Rdo_args2txt</a>

**Details**

If several arguments are described in a single documentation entry, then the whole text of the entry is given for each of the arguments.

**Value**

A named list with one entry (a string) for each of the requested arguments.

**Author(s)**

Georgi N. Boshnakov

**See Also**[Rdo\\_args2txt](#)**Examples**

```
# each arg always gets an individual entry in the list;
# compare:
Rdo_args2txt_list("seq", c("from", "to", "by"))
# to:
cat(Rdo_args2txt("seq", c("from", "to", "by")))
```

---

Rdo\_create*Create basic Rd objects*

---

**Description**

Create basic Rd objects with fields title, name and arguments.

**Usage**

```
Rdo_create(arguments, title = "Dummy title", name = "dummy name")

Rdo_empty(rdtag)
```

**Arguments**

arguments	The argument field of an Rd object
title	the title, a string
name	the name, a string
rdtag	a value for "Rd_tag", a string.

**Details**

Rdo\_create is an auxiliary function used to prepare arguments for a call to Rd\_help2txt since the latter works on Rd objects or text but not on Rd sections.

Rdo\_empty creates an empty object of class "Rd" if rdtag is missing. If rdtag is supplied the object is a list with attribute "Rd\_tag" set to rdtag.

**Value**

an Rd object or a list with attribute "Rd\_tag".

**Author(s)**

Georgi N. Boshnakov

**Examples**

```
require(tools) # for Rd2txt
a1 <- Rdo_get_args("seq")
a1
Rdo_create(a1)
Rd2txt(Rdo_create(a1))

a2 <- Rdo_get_args("seq", c("from", "to", "by"))
a2
Rdo_create(a2)
Rd2txt(Rdo_create(a2))

Rdo_empty()
class(Rdo_empty())
str(Rdo_empty())
```

---

Rdo\_get\_args

---

*Extract argument description from a help topic*


---

**Description**

Extract argument description from a help topic.

**Usage**

```
Rdo_get_args(rd, args, ...)
Rdo_get_arg(rd, arg)
```

**Arguments**

rd	the documentation for the topic, typically an Rd object but may be anything that <a href="#">Rd_fun</a> accepts.
arg	an argument name, a string
args	names of arguments to describe, a character vector, see also Details section
...	not used

**Details**

If arguments is missing, descriptions of all arguments are returned.

Effort is made to handle the case when two or more arguments are described in a single entry. In that case it is not possible to disentangle the description automatically. So, the description is returned as is. Also, only one copy of the description is returned, see the examples with the from and to arguments of function seq.

The ... argument is handled, as well, give it as the string ... in args.

Rdo\_get\_arg simply calls Rdo\_get\_args and returns the first element of its value. This means that arg is expected to be of length one, but this is not enforced. Note also that Rdo\_get\_arg is not completely equivalent to calling Rdo\_get\_args with length(args)=1.

**Value**

For `Rdo_get_args`, an Rd fragment representing the (part of) help section \arguments containing descriptions of the requested arguments.

For `Rdo_get_arg` an Rd fragment representing the help for a single argument.

**Author(s)**

Georgi N. Boshnakov

**Examples**

```
h1 <- help("seq")
Rdo_get_args(h1)
Rdo_get_args(h1, "by")
Rdo_get_args(h1, "length.out")
Rdo_get_args(h1, "...")
Rdo_get_args(h1, "from")
Rdo_get_args(h1, c("from", "by"))
Rdo_get_args(h1, c("from", "to"))

Rdo_get_args("seq")
Rdo_get_args("seq", "by")
Rdo_get_args("seq", "length.out")
Rdo_get_args("seq", "...")
Rdo_get_args("seq", "from")
Rdo_get_args("seq", c("from", "by"))
Rdo_get_args("seq", c("from", "to"))
```

---

Rdo\_section

---

*Extract a section element from an Rd object or Rd fragment*


---

**Description**

Extract a section element from an Rd object or Rd fragment.

**Usage**

```
Rdo_section(rdo, sec)
```

**Arguments**

<code>rdo</code>	an Rd object or fragment
<code>sec</code>	the required section, a string

**Details**

If the class or the "Rd\_tag" attribute of `rdo` is "Rd" the required section is extracted. Otherwise, if this attribute is equal to `sec`, then `rdo` is returned.

In all other cases it is assumed that `rdo` is the contents of the required section, its "Rd\_tag" attribute is set to `sec` and returned without further modification.

**Value**

An Rd fragment for use as a section element of an Rd object

**Note**

This function is intended for use by other functions which work with Rd objects.

**Author(s)**

Georgi N. Boshnakov

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Rd\_fun

---

*Return all or selected sections of a help topic as an Rd object*


---

**Description**

Return all or selected sections of a help topic as an Rd object. The help topic may be an Rd object, a character string (for the `help` function), or the value returned by the `help` function.

**Usage**

```
Rd_fun(x, topic, pkgname = "", help_type = "text", verbose = FALSE,
       try.all.packages = FALSE, keep_section = TRUE)
```

**Arguments**

<code>x</code>	the help object. Its class may be "Rd", "character", or "help_files_with_topic".
<code>topic</code>	unused, see Details
<code>pkgname</code>	unused, see Details
<code>help_type</code>	type of help, see Details and <a href="#">help</a> .
<code>verbose</code>	logical value, see <a href="#">help</a> .
<code>try.all.packages</code>	logical value, see <a href="#">help</a> .
<code>keep_section</code>	the section(s) to keep. If it is a character vector of length at least one, the sections listed in it (plus <code>\title</code> and <code>\name</code> ) are kept in the result, the rest are dropped. Otherwise all sections are returned.

**Details**

If the class of `x` is neither "Rd" nor "help\_files\_with\_topic", `x` is assumed to be appropriate for a call to `help`. The call is made to obtain an object of class "help\_files\_with\_topic", which is then processed as below. Arguments `help_type`, `verbose` and `try.all.packages` are used only in this case.

If the class of `x` is "help\_files\_with\_topic" (usually the result of a call to `help`), then an Rd object is obtained using `tools::fetchRdDB`.

The Rd object (`x` itself or the one obtained as described above) is examined and sections are retained or dropped as specified by argument `keep_section`. Sections `\title` and `\name` are always kept in the returned value since otherwise the Rd object is considered invalid by (some of?) the system functions.

**Value**

an Rd object

**Note**

Note that `help` works with 'installed' help. So, when the Rd object is obtained via a call to `help` it will not necessarily be the one that would be obtained from the original Rd file if that contains `\Sexpr` instructions with `stage=build` or `stage=install` optional argument. This is not a problem for the intended purpose of this package to allow for extraction of pieces of the help for selective display and related run-time actions. For manipulation of source Rd files one can supply an Rd object obtained by `parse_Rd`-ying it.

FIXME: I wrote this function in a hurry when it turned out that the help system has changed in R version 2.10, needs clean up.

todo: In recent versions of R, `help` may return more than one file (see paths in this function's source), this needs to be handled.

**Author(s)**

Georgi N. Boshnakov

**Examples**

```
# 1st arg is name of a function
Rd_fun("data.frame",keep_section="\\arguments")
Rd_fun("seq",keep_section="\\arguments")

# 1st arg is the value of a call to help()
h1 <- help("seq")
class(h1)
Rd_fun(h1,keep_section="\\title") # note: in Rd file the number of
Rd_fun(h1,keep_section="\\arguments") # backslashes is twice that in
# the rendered doc.
```

Rd\_help2txt

*Extract selected help sections as text.***Description**

Extract selected help sections as text.

**Usage**

```
Rd_help2txt(x, topic, pkgname = "", help_type = "text",
            verbose = FALSE, try.all.packages = FALSE,
            keep_section = TRUE, omit_sec_header = FALSE)
```

**Arguments**

<code>x</code>	the help object. Its class may be "Rd", string or "help_files_with_topic".
<code>topic</code>	passed on to <code>Rd_fun</code>
<code>pkgname</code>	passed on to <code>Rd_fun</code>
<code>help_type</code>	passed on to <code>Rd_fun</code>
<code>verbose</code>	passed on to <code>Rd_fun</code>
<code>try.all.packages</code>	passed on to <code>Rd_fun</code>
<code>keep_section</code>	the section to keep. If it is a character vector of length at least one, the sections listed in it (plus <code>\title</code> and <code>\name</code> ) are kept in the result, the rest are dropped. Otherwise all sections are returned.
<code>omit_sec_header</code>	whether to omit or not the section header

**Details**

Basically, this function calls `Rd_fun` to get an Rd object containing the required help sections, then converts them to text with `tools::Rd2txt`. At this point however unwanted sections may be present since `tools::Rd2txt` requires `\title` and `\name`. If `\title` is not an element of `keep_section`, it should be dropped. Other header information is dropped if `omit_sec_header = TRUE`. The way this is done is crude and based on inspection. It would be better done using the Rd object but then I might need to, effectively reprogram `Rd2txt`.

FIXME: The above was done for version R-2.10 (I think), see if a more modular version is available in current versions of R. Also, it is tested only with `help_type="text"`.

FIXME: Arguments whose description is marked "passed on to `Rd_fun`" could be replaced by a "..." argument.

**Value**

A character vector containing the text of the selected help sections.

**Note**

In R-2.12.0 the function `tools::Rd2txt` acquired a `fragment` argument. So, `tools::Rd2txt` now works with fragments and can be used directly in many cases.

**Author(s)**

Georgi N. Boshnakov

**Examples**

```
# 1st arg is the name of a function
Rd_help2txt("data.frame",keep_section="\arguments")

Rd_help2txt("seq",keep_section="\examples")
Rd_help2txt("seq",keep_section="\examples",omit_sec_header=TRUE)
```

---

Rd_title	<i>Wrap an object so that it can be used as a section element of an Rd object.</i>
----------	--

---

**Description**

Wrap an object so that it can be used as a section element of an Rd object.

**Usage**

```
Rdo_set_sectag(s,sectag,eltag)
Rd_title(s)
Rd_name(s)
Rd_args(s)
```

**Arguments**

s	the object to be wrapped, often a string, see Details
sectag	the section tag, a string
eltag	the element tag, a string

**Details**

`Rdo_set_sectag` sets attribute "Rd\_tag" of the object `s` to `eltag`, then wraps `s` in `list()` with "Rd\_tag" attribute `sectag`.

The remaining functions provide one-argument access for some frequently used special cases. `eltag` is "TEXT" for `Rd_title` and "VERB" for `Rd_name` and `Rd_args`. The values of `sectag` are `\title`, `\name` and `\arguments`, respectively.

**Value**

A tagged list as described in Details.

**Author(s)**

Georgi N. Boshnakov

**Examples**

```
Rd_title("My seq")  
Rd_name("myseq")
```

```
"a" %in% letters
```

```
# to do: more examples
```

# Index

- \* **Rd**
  - Rd\_fun, [7](#)
  - Rd\_help2txt, [9](#)
  - Rd\_title, [10](#)
  - Rdo\_args2txt, [2](#)
  - Rdo\_args2txt\_list, [3](#)
  - Rdo\_create, [4](#)
  - Rdo\_get\_args, [5](#)
  - Rdo\_section, [6](#)
- \* **package**
  - gbRd-package, [2](#)
- gbRd (gbRd-package), [2](#)
- gbRd-package, [2](#)
- help, [7](#)
- Rd\_args (Rd\_title), [10](#)
- Rd\_fun, [2](#), [3](#), [5](#), [7](#)
- Rd\_help2txt, [9](#)
- Rd\_name (Rd\_title), [10](#)
- Rd\_title, [10](#)
- Rdo\_args2txt, [2](#), [3](#), [4](#)
- Rdo\_args2txt\_list, [3](#), [3](#)
- Rdo\_create, [4](#)
- Rdo\_empty (Rdo\_create), [4](#)
- Rdo\_get\_arg (Rdo\_get\_args), [5](#)
- Rdo\_get\_args, [5](#)
- Rdo\_section, [6](#)
- Rdo\_set\_sectag (Rd\_title), [10](#)