

# Package ‘roxygen’

August 28, 2008

**Version** 0.1

**License** GPL (>= 2)

**Description** A Doxygen-like in-source documentation system for Rd, collation, namespace and callgraphs.

**Title** Literate Programming in R

**Author** Peter Danenberg <pcd@roxygen.org>, Manuel Eugster  
<Manuel.Eugster@stat.uni-muenchen.de>

**Maintainer** Peter Danenberg <pcd@roxygen.org>

**URL** <http://roxygen.org>

**Suggests** Rgraphviz (>= 1.19.2)

**Collate** 'functional.R' 'list.R' 'roxygen.R' 'string.R' 'parse.R' 'roclet.R' 'callgraph.R' 'description.R'  
'collate.R' 'namespace.R' 'Rd.R' 'roxygenize.R'

## R topics documented:

assign.parent . . . . .	3
caar . . . . .	4
cadar . . . . .	4
caddr . . . . .	5
cadr . . . . .	5
car . . . . .	6
cat.description . . . . .	6
cdddr . . . . .	7
cddr . . . . .	7
cdr . . . . .	8
Compose . . . . .	8
copy.dir . . . . .	9
Curry . . . . .	9
debug . . . . .	10
description.dependencies . . . . .	10
DESCRIPTION.FILE . . . . .	11
DOC.DIR . . . . .	11
first.non.null . . . . .	11
guess.name . . . . .	11

Identity	12
include	12
INST.DIR	12
is.assignment	13
is.even	13
is.function.definition	14
is.nil	14
is.null.string	15
is.odd	15
LINE.DELIMITER	15
make.callgraph.roclet	16
make.collate.roclet	16
make.description.parser	17
make.namespace.roclet	18
make.Rd.roclet	19
make.roclet	21
MAN.DIR	22
MATTER	22
NAMESPACE.FILE	22
Negate	22
nil	22
NIL.STRING	23
noop.description	23
nwords	23
pairwise	24
parse.assignee	24
parse.call	25
parse.default	25
parse.description.file	26
parse.description	26
parse.description.text	27
parse.element	27
parse.error	28
parse.file	28
parse.files	29
parse.formals	29
parse.message	30
parse.name.description	30
parse.name	31
parse.preref	31
parser.default	32
parse.ref.list	32
parse.ref.preref	33
parse.ref	33
parse.ref.scref	34
parse.refs	34
parser.preref	35
parser.scref	35
parse.scref	35
parse.text	36
parse.toggle	36
parse.value	37

parse.warning	37
preorder.flatten.expression	38
preorder.walk.expression	38
preref.parsers	38
prerefs	39
R.DIR	39
Reduce.paste	39
register.parser	40
register.parsers	40
register.preref.parser	41
register.preref.parsers	41
register.scref.parser	42
register.scref.parsers	42
ROXYGEN.DIR	42
roxygenize	43
roxygen-package	43
roxygen	44
SPACE	44
src.lines	45
srcref.parsers	45
strcar	45
strcdr	46
strcons	46
strmap	47
substr.regexpr	47
TAG.DELIMITER	48
trim.left	48
trim	48
trim.right	49
word.ref	49
zip.c	50
zip.list	50
zip	51
<b>Index</b>	<b>52</b>

---

assign.parent	<i>Assign a variable in the parent environment when «-...</i>
---------------	---

---

## Description

Assign a variable in the parent environment when <<- doesn't see to work.

## Usage

```
assign.parent(var, value, env)
```

## Arguments

var	string of the variable to assign
value	value to be assigned
env	environment of the assignment (environment())

**Value**

NULL

---

caar

*Composite car/cdr...*

---

**Description**

Composite *car/cdr*

**Usage**

`caar(list)`

**Arguments**

`list`                      the list from which to extract

**Value**

The extracted elements

---

cadar

*Composite car/cdr...*

---

**Description**

Composite *car/cdr*

**Usage**

`cadar(list)`

**Arguments**

`list`                      the list from which to extract

**Value**

The extracted elements

---

caddr	<i>Composite car/cdr..</i>
-------	----------------------------

---

**Description**

Composite `car/cdr`

**Usage**

```
caddr(list)
```

**Arguments**

<code>list</code>	the list from which to extract
-------------------	--------------------------------

**Value**

The extracted elements

---

cadr	<i>Composite car/cdr..</i>
------	----------------------------

---

**Description**

Composite `car/cdr`

**Usage**

```
cadr(list)
```

**Arguments**

<code>list</code>	the list from which to extract
-------------------	--------------------------------

**Value**

The extracted elements

---

car	<i>First element of a list...</i>
-----	-----------------------------------

---

**Description**

First element of a list

**Usage**

```
car(list)
```

**Arguments**

list	the list to first
------	-------------------

**Value**

The first element

---

cat.description	<i>Print the field-value pair to a given file or standard out.</i>
-----------------	--

---

**Description**

Print the field-value pair to a given file or standard out.

**Usage**

```
cat.description(field, value, file)
```

**Arguments**

field	the field to be printed
value	the value to be printed
file	the file whither to print (a blank string being standard out)

**Value**

NULL

---

cdddr	<i>Composite car/cdr...</i>
-------	-----------------------------

---

**Description**

Composite `car/cdr`

**Usage**

```
cdddr(list)
```

**Arguments**

`list`                      the list from which to extract

**Value**

The extracted elements

---

cddr	<i>Composite car/cdr...</i>
------	-----------------------------

---

**Description**

Composite `car/cdr`

**Usage**

```
cddr(list)
```

**Arguments**

`list`                      the list from which to extract

**Value**

The extracted elements

---

cdr	<i>Return elements after the first of a list.</i>
-----	---

---

**Description**

Return elements after the first of a list.

**Usage**

```
cdr(list)
```

**Arguments**

list	the list from which to extract
------	--------------------------------

**Value**

The elements after the first, or `nil` if only one

---

Compose	<i>Compose an arbitrary number of functions.</i>
---------	--

---

**Description**

Compose an arbitrary number of functions. My Happy Hacking keyboard gave out during the writing of this procedure; moment of silence, please.

**Usage**

```
Compose(...)
```

**Arguments**

...	the functions to be composed
-----	------------------------------

**Value**

A composed function



---

copy.dir	<i>Recursively copy a directory thither; optionally unlinking...</i>
----------	--

---

**Description**

Recursively copy a directory thither; optionally unlinking the target first; optionally overwriting; optionally verbalizing.

**Usage**

```
copy.dir(source, target, unlink.target=FALSE, overwrite=FALSE,
         verbose=FALSE)
```

**Arguments**

source	the source directory
target	the target directory
unlink.target	delete target directory first?
overwrite	overwrite target files?
verbose	verbalize transaction?

**Value**

NULL

**Note**

Not tested on non-linux platforms

---

Curry	<i>Pre-specify a procedures named parameters, returning a new procedure.</i>
-------	--

---

**Description**

Pre-specify a procedures named parameters, returning a new procedure.

**Usage**

```
Curry(FUN, ...)
```

**Arguments**

FUN	the function to be curried
...	the determining parameters

**Details**

Thanks, Byron Ellis. <https://stat.ethz.ch/pipermail/r-devel/2007-November/047318.html>

**Value**

A new function partially determined

---

debug	<i>Convenience function to print variable-value pairs.</i>
-------	--

---

**Description**

Convenience function to print variable-value pairs.

**Usage**

```
debug(...)
```

**Arguments**

...                    named variable of the form a=b, ...

**Value**

NULL

---

description.dependencies	<i>Gather a DESCRIPTION's dependencies from the...</i>
--------------------------	--

---

**Description**

Gather a 'DESCRIPTION's dependencies from the Package, Depends, Imports, Suggests, and Enhances fields.

**Usage**

```
description.dependencies(description.file)
```

**Arguments**

description.file  
                  the 'DESCRIPTION' to parse

**Value**

A list of dependencies

**TODO**

Test this!

---

DESCRIPTION.FILE	Whither to copy collate...
------------------	----------------------------

---

**Description**

Whither to copy collate

---

DOC.DIR	Whither to install docs...
---------	----------------------------

---

**Description**

Whither to install docs

---

first.non.null	Find the first non-null argument.
----------------	-----------------------------------

---

**Description**

Find the first non-null argument.

**Usage**

```
first.non.null(...)
```

**Arguments**

...	the arguments
-----	---------------

**Value**

The first non-null argument

---

guess.name	Pluck name from a hierarchy of candidates; viz.
------------	---

---

**Description**

Pluck name from a hierarchy of candidates; viz. name, assignee, S4class, S4method, S4generic.

**Usage**

```
guess.name(partitum)
```

**Arguments**

partitum	the parsed elements
----------	---------------------

**Value**

The guessed name (possibly NULL)

---

Identity	<i>Identity function.</i>
----------	---------------------------

---

**Description**

Identity function.

**Usage**

Identity(...)

**Arguments**

...                   tautological arguments

**Details**

Is concatenation benign?

**Value**

The tautologized arguments, concatenated

---

include	<i>Collate value parser...</i>
---------	--------------------------------

---

**Description**

Collate value parser

**See Also**

make.collate.roclet

---

INST.DIR	<i>Whither to copy installables...</i>
----------	--

---

**Description**

Whither to copy installables

---

is.assignment	<i>Whether the expression implies assignment by &lt;- or =.</i>
---------------	---

---

**Description**

Whether the expression implies assignment by <- or =.

**Usage**

```
is.assignment (expression)
```

**Arguments**

expression      the expression to check for assignment

**Value**

Whether or not the expression assigns by <- =

---

is.even	<i>Is a number even?</i>
---------	--------------------------

---

**Description**

Is a number even?

**Usage**

```
is.even(a)
```

**Arguments**

a                      the number to test

**Value**

Whether the number is even

---

```
is.function.definition
```

*Whether the expression assigns function...*

---

**Description**

Whether the expression assigns function

**Usage**

```
is.function.definition(expression)
```

**Arguments**

`expression`      the expression to check for assignment

**Value**

Whether the expression assigns a function

---

```
is.nil
```

*Whether a list is empty.*

---

**Description**

Whether a list is empty.

**Usage**

```
is.nil(list)
```

**Arguments**

`list`              the list to test

**Value**

Whether the list is empty

---

is.null.string	<i>Does the string contain no matter, but very well [:space:]?</i>
----------------	--

---

**Description**

Does the string contain no matter, but very well [:space:]?

**Usage**

```
is.null.string(string)
```

**Arguments**

string	the string to check
--------	---------------------

**Value**

TRUE if the string contains words, otherwise FALSE

---

is.odd	<i>Is a number odd?</i>
--------	-------------------------

---

**Description**

Is a number odd?

**Usage**

```
is.odd(a)
```

**Arguments**

a	the number to test
---	--------------------

**Value**

Whether the number is odd

---

LINE.DELIMITER	<i>Sequence that distinguishes roxygen comment from normal comment.</i>
----------------	---

---

**Description**

Sequence that distinguishes roxygen comment from normal comment.

---

```
make.callgraph.roclet
```

*Make a callgraph roclet which produces a static call graph...*

---

### Description

Make a callgraph roclet which produces a static call graph from a given function at a given depth with or without primitives.

### Usage

```
make.callgraph.roclet(dependencies, dir=., verbose=TRUE)
```

### Arguments

<code>dependencies</code>	packages required to evaluate interesting functions
<code>dir</code>	the directory to place the callgraphs in
<code>verbose</code>	announce what we're doing

### Details

The callgraph roclet supports the following tags:

`@callGraph` Create a call graph of the default depth, excluding primitive functions.

`@callGraphPrimitives` Create a call graph of the default depth, including primitive functions.

`@callGraphDepth` Change the depth of the callgraph from the default of 2.

The callgraph roclet is awkward in the sense that it requires a function's package to be loadable; which means, like calling LaTeX multiple times, one has to run roxygen on a package, install it, run roxygen again to get the callgraphs, and possibly install the package again.

### TODO

`index.html` 'index.html' in 'inst/doc' for callgraphs, possibly with thumbnails in png

Text-only option Option for text-only callgraphs (which are clearer, in my opinion)

---

```
make.collate.roclet
```

*Make collate roclet which parses the given files; topologically...*

---

### Description

Make collate roclet which parses the given files; topologically sorting `@includes`, and either merging the `Collate:` directive with a pre-existing 'DESCRIPTION' or writing to standard out.

### Usage

```
make.collate.roclet(merge.file, target.file, verbose=TRUE)
```



**Arguments**

<code>merge.file</code>	'DESCRIPTION' file with which to merge directive; or NULL for none
<code>target.file</code>	whither to cat directive (whether merged or not); blank line is standard out
<code>verbose</code>	whether to describe what we're doing with the target.file

**Details**

Each `@include` tag should specify the filename of one intrapackage dependency; multiple `@include` tags may be given.

Contains the member function `parse` which parses an arbitrary number of files, and `parse.dir` which recursively parses a directory tree.

**Value**

Rd roclet

**See Also**

[make.roclet](#)

**Examples**

```
#' `example-a.R`, `example-b.R` and `example-c.R` reside
#' in the `example` directory, with dependencies
#' a -> {b, c}. This is `example-a.R`.
#' @include example-b.R
#' @include example-c.R
roxygen()

roclet <- make.collate.roclet()
## Not run: roclet$parse.dir('example')
```

---

```
make.description.parser
```

*Make a parser to parse DESCRIPTION files.*

---

**Description**

Make a parser to parse 'DESCRIPTION' files.

**Usage**

```
make.description.parser(parse.default=cat.description,
  pre.parse=noop.description, post.parse=noop.description)
```

**Arguments**

<code>parse.default</code>	the default parser receiving a field and value
<code>pre.parse</code>	a function receiving the parsed fields before individual parsing
<code>post.parse</code>	a function receiving the parsed fields after individual parsing

**Details**

Contains the member functions `register.parser`, taking a field and parser; and `parse`, taking the parsed fields from `parse.description.file` or similar.

**Value**

NULL

---

```
make.namespace.roclet
```

*Make a namespace roclet which parses the given files and writes a list of..*

---

**Description**

Make a namespace roclet which parses the given files and writes a list of namespace directives to a given file or standard out; see *Writing R Extensions* (<http://cran.r-project.org/doc/manuals/R-exts.pdf>) for details.

**Usage**

```
make.namespace.roclet(outfile, verbose=TRUE)
```

**Arguments**

<code>outfile</code>	whither to send output; blank string means standard out
<code>verbose</code>	whether to announce what we're doing with the <i>outfile</i>

**Details**

The namespace roclet supports the following tags:

Roxygen tag	'NAMESPACE' equivalent
@export	export
@exportClass	exportClasses
@exportMethod	exportMethod
@exportPattern	exportPattern
@S3method	S3method
@import	import
@importFrom	importFrom
@importClassesFrom	importClassesFrom
@importMethodsFrom	importMethodsFrom

`@export` May be specified with or without value; if unadorned, roxygen will try to guess the exported value by assignee, `setMethod`, `setClass`, etc. Otherwise, `@export f g ...` translates to `export(f, g, ...)`.

`@exportClass` Overrides `setClass`.

`@exportMethod` Overrides `setMethod` or `setGeneric`.

`@exportPattern` See "1.6.2 Registering S3 methods" from *Writing R Extensions*.

`@S3method` Overrides the export of an S3 method.

@import See “1.6.1 Specifying imports and exports” from *Writing R Extensions*.

@importFrom See “1.6.1 Specifying imports and exports” from *Writing R Extensions*.

@importClassesFrom See “1.6.6 Name spaces with formal classes and methods” from *Writing R Extensions*.

@importMethodsFrom See “1.6.6 Name spaces with formal classes and methods” from *Writing R Extensions*.

## Value

Namespace roclet

## Examples

```
#' An example file, example.R, which imports
#' packages foo and bar
#' @import foo bar
roxygen()

#' An exportable function
#' @export
fun <- function() {}

roclet <- make.namespace.roclet()
## Not run: roclet$parse('example.R')
```

---

make.Rd.roclet	<i>Make an Rd roclet which parses the given files and, if specified, populates...</i>
----------------	---

---

## Description

Make an Rd roclet which parses the given files and, if specified, populates the given subdirectory with Rd files; or writes to standard out. See *Writing R Extensions* (<http://cran.r-project.org/doc/manuals/R-exprs.pdf>) for details.

## Usage

```
make.Rd.roclet(subdir, verbose=TRUE)
```

## Arguments

subdir	directory into which to place the Rd files; if NULL, standard out.
verbose	whether to declare what we’re doing in the <i>subdir</i>

## Details

The first paragraph of a roxygen block constitutes its description, the subsequent paragraphs its details; moreover, the Rd roclet supports these tags:

Roxygen tag	Rd analogue
@author	\author
@aliases	\alias, ...
@concept	\concept
@example	<i>n/a</i>

```

@examples      \examples
@keywords      \keyword, ...
@method        \method
@name          \name
@note          \note
@param         \arguments{\item, ...}
@references    \references
@return        \value
@seealso       \seealso
@title         \title
@TODO          n/a
@usage         \usage

```

@author See “2.1.1 Documenting functions” from *Writing R Extensions*.

@aliases A default alias is plucked from the @name or assignee; otherwise, @alias a b ... translates to \alias{a}, \alias{b}, &c. If you specify one alias, however, specify them all.

@concept See “2.8 Indices” from *Writing R Extensions*.

@example Each @example tag specifies an example file relative to the package head; if the file resides in ‘tests’, for instance, it will be checked with R CMD check. The contents of the file will be concatenated under \examples{...}.

@examples Verbatim examples; see “2.1.1 Documenting functions” from *Writing R Extensions*.

@keywords @keywords a b ... translates to \keyword{a}, \keyword{b}, &c.

@method Use @method <generic> <class> to document S3 functions.

@name In the absense of an explicit @name tag, the name of an assignment is plucked from the assignee.

@note See “2.1.1 Documenting functions” from *Writing R Extensions*.

@param Each function variable should have a @param <variable> <description> specified.

@references See “2.1.1 Documenting functions” from *Writing R Extensions*.

@return The return value of the function, or NULL.

@seealso See “2.1.1 Documenting functions” from *Writing R Extensions*.

@title A default title is plucked from the first sentence of the description; that is, the first phrase ending with a period, question mark or newline. In the absence of a description, the title becomes the @name or assignee; lastly, it can be overridden with @title.

@TODO Note to developers to get off their asses.

@usage A default usage is construed from a function’s formals, but can be overridden with @usage (e.g. in the case of multiple functions in one Rd unit).

## Value

Rd roclet

## Examples

```

#' This sentence describes the function.
#'
#' Here are the details (notice the preceding blank
#' line); the name, title, usage and alias will be
#' automatically generated.
#'

```

```

#' @param a a parameter
#' @return NULL
f <- function(a=1) NULL

#' S3 functions require a @method tag for
#' the time being.
#'
#' @method specialize foo
#' @param f a generic foo
#' @param ... ignored
#' @return The specialized foo
specialize.foo <- function(f, ...)
  actually.specialize(f)

roclet <- make.Rd.roclet('man')
## Not run: roclet$parse('example.R')

```

---

make.roclet

*Abstract roclet that serves as a rudimentary API.*


---

## Description

Abstract roclet that serves as a rudimentary API.

## Usage

```
make.roclet(parse.default, pre.parse, post.parse, pre.files,
            post.files)
```

## Arguments

parse.default	the default parser taking key and value
pre.parse	a callback function taking a list of parsed elements; called before processing a file
post.parse	a callback function taking a list of parsed elements; called after processing a file
pre.files	a callback function with no arguments; called before any file has been parsed
post.files	a callback function with no arguments; called after every file has been parsed

## Details

Contains the following member functions:

```

register.parser takes key and parser
register.parsers takes parser and keys
register.default.parser takes a key
register.default.parsers take parsers
parse parses material contained in files

```

---

MAN.DIR	Whither to copy Rds...
---------	------------------------

---

**Description**

Whither to copy Rds

---

MATTER	Anti-anti-words...
--------	--------------------

---

**Description**

Anti-anti-words

---

NAMESPACE.FILE	Whither to copy namespace...
----------------	------------------------------

---

**Description**

Whither to copy namespace

---

Negate	Negate a function; borrowed from src/library/base/R/funprog...
--------	--

---

**Description**

Negate a function; borrowed from src/library/base/R/funprog.R for pre-2.7 Rs.

**Usage**

Negate(f)

**Arguments**

f                      the function to be negated

**Value**

The negated function

---

nil	The empty list...
-----	-------------------

---

**Description**

The empty list

---

NIL.STRING	<i>Analogue to the empty list...</i>
------------	--------------------------------------

---

**Description**

Analogue to the empty list

---

noop.description	<i>Description parser that does nothing...</i>
------------------	--

---

**Description**

Description parser that does nothing

**Usage**

```
noop.description(field, value)
```

**Arguments**

field	the field to be parsed
value	the value to be parsed

**Value**

NULL

---

nwords	<i>Number of words a string contains.</i>
--------	---

---

**Description**

Number of words a string contains.

**Usage**

```
nwords(string)
```

**Arguments**

string	the string whose words to count
--------	---------------------------------

**Value**

Number of words in the string

---

`pairwise`*Combine a list into pairwise elements; lists should...*

---

**Description**

Combine a list into pairwise elements; lists should be of the same length. In case of odd numbers of members, the last will be removed.

**Usage**

```
pairwise(list)
```

**Arguments**

`list`                      the list to be pairwise decomposed

**Value**

A list of pairwise elements

---

`parse.assignee`*Find the assignee of the expression...*

---

**Description**

Find the assignee of the expression

**Usage**

```
parse.assignee(expression)
```

**Arguments**

`expression`            the expression in which to find the assignee

**Value**

The expression's assignee



---

parse.call	<i>Parse a function call, paying special attention to...</i>
------------	--

---

**Description**

Parse a function call, paying special attention to assignments by `<-` or `=`.

**Usage**

```
parse.call(expressions)
```

**Arguments**

`expressions`    the expression to search through

**Value**

List of formals and assignee in case of assignment, the processed expression in case of non-assigning function calls (see `parse.srcref`).

---

parse.default	<i>Default parser which simply emits the key and expression;...</i>
---------------	---

---

**Description**

Default parser which simply emits the key and expression; used for elements with optional values (like `@export`) where roclets can do more sophisticated things with `NULL`.

**Usage**

```
parse.default(key, rest)
```

**Arguments**

`key`                the parsing key  
`rest`               the expression to be parsed

**Value**

A list containing the key and expression (possibly null)

---

```
parse.description.file
```

*Convenience function to call...*

---

### Description

Convenience function to call `parse.description.text` with the given ‘DESCRIPTION’ file.

### Usage

```
parse.description.file(description.file)
```

### Arguments

```
description.file
```

the ‘DESCRIPTION’ file to be parsed

### Value

NULL

---

```
parse.description
```

*Parse description: the premier part of a roxygen block...*

---

### Description

Parse description: the premier part of a roxygen block containing description and option details separated by a blank roxygen line.

### Usage

```
parse.description(expression)
```

### Arguments

```
expression
```

the description to be parsed

### Value

A list containing the parsed description

---

`parse.description.text`

*Parse lines of text corresponding to a package DESCRIPTION file.*

---

### **Description**

Parse lines of text corresponding to a package DESCRIPTION file.

### **Usage**

`parse.description.text (description)`

### **Arguments**

`description`    the lines of tex

### **Value**

A list of values indexed by field

---

`parse.element`

*Parse a raw string containing key and expressions.*

---

### **Description**

Parse a raw string containing key and expressions.

### **Usage**

`parse.element (element)`

### **Arguments**

`element`            the string containing key and expressions

### **Value**

A list containing the parsed constituents

---

parse.error	<i>Centrally formatted error; stopping execution...</i>
-------------	---

---

**Description**

Centrally formatted error; stopping execution

**Usage**

```
parse.error(key, message)
```

**Arguments**

key	the offending key
message	the apposite message

**Value**

NULL

---

parse.file	<i>Parse a source file containing roxygen directives.</i>
------------	---

---

**Description**

Parse a source file containing roxygen directives.

**Usage**

```
parse.file(file)
```

**Arguments**

file	string naming file to be parsed
------	---------------------------------

**Value**

List containing parsed directives

---

parse.files	<i>Parse many files at one.</i>
-------------	---------------------------------

---

### Description

Parse many files at one.

### Usage

```
parse.files(...)
```

### Arguments

... files to be parsed

### Value

List containing parsed directives

### See Also

[parse.file](#)

---

parse.formals	<i>Find the formal arguments associated with a given...</i>
---------------	---

---

### Description

Find the formal arguments associated with a given expression (may be `NULL`).

### Usage

```
parse.formals(expressions)
```

### Arguments

expressions the expressions from which to extract formal arguments

### Value

The formal arguments of said expression or `NULL`

---

<code>parse.message</code>	<i>Centrally formatted message...</i>
----------------------------	---------------------------------------

---

**Description**

Centrally formatted message

**Usage**

`parse.message(key, message)`

**Arguments**

<code>key</code>	the offending key
<code>message</code>	the apposite message

**Value**

The formatted message

---

<code>parse.name.description</code>	<i>Parse an element containing a mandatory name...</i>
-------------------------------------	--

---

**Description**

Parse an element containing a mandatory name and description (such as `@param`).

**Usage**

`parse.name.description(key, rest)`

**Arguments**

<code>key</code>	the parsing key
<code>rest</code>	the expression to be parsed

**Value**

A list containing the key, name and description

---

parse.name	<i>Parse an element containing a single name and only a name;...</i>
------------	--

---

### Description

Parse an element containing a single name and only a name; extra material will be ignored and a warning issued.

### Usage

```
parse.name(key, name)
```

### Arguments

key	parsing key
name	the name to be parsed

### Value

A list containing key and name

---

parse.preref	<i>Resorts to the default parser but with a warning about the...</i>
--------------	--

---

### Description

Resorts to the default parser but with a warning about the unknown key.

### Usage

```
parse.preref(key, rest)
```

### Arguments

key	the parsing key
rest	the expression to be parsed

### Value

A list containing the key and expression (possibly null)

### See Also

[parse.default](#)

---

parser.default	<i>Default parser-lookup; if key not found, return...</i>
----------------	---

---

### Description

Default parser-lookup; if key not found, return the default parser specified.

### Usage

```
parser.default(table, key, default)
```

### Arguments

table	the parser table from which to look
key	the key upon which to look
default	the parser to return upon unsuccessful lookup

### Value

The parser

---

parse.ref.list	<i>Parse a preref/srcrefs pair..</i>
----------------	--------------------------------------

---

### Description

Parse a preref/srcrefs pair

### Usage

```
## S3 method for class 'list':
parse.ref (ref, ...)
```

### Arguments

ref	the preref/srcref pair
...	ignored

### Value

List combining the parsed preref/srcref



---

parse.ref.preref      *Parse a preref...*

---

### Description

Parse a preref

### Usage

```
## S3 method for class 'preref':
parse.ref (ref, ...)
```

### Arguments

ref	the preref to be parsed
...	ignored

### Value

List containing the parsed preref

---

parse.ref      *Parse either srcrefs, prerefs or pairs of the same.*

---

### Description

Parse either srcrefs, prerefs or pairs of the same.

### Usage

```
parse.ref (ref, ...)
```

### Arguments

ref	the srcref, preref or pair of the same
...	ignored

### Value

List containing the parsed srcref/preref

---

parse.ref.srcref	<i>Parse a srcref...</i>
------------------	--------------------------

---

**Description**

Parse a srcref

**Usage**

```
## S3 method for class 'srcref':  
parse.ref (ref, ...)
```

**Arguments**

ref	the srcref to be parsed
...	ignored

**Value**

List containing the parsed srcref

---

parse.refs	<i>Parse each of a list of preref/srcref pairs.</i>
------------	---

---

**Description**

Parse each of a list of preref/srcref pairs.

**Usage**

```
parse.refs (preref.srcrefs)
```

**Arguments**

preref.srcrefs	list of preref/srcref pairs
----------------	-----------------------------

**Value**

List combining parsed preref/srcrefs

---

parser.preref	<i>Preref parser-lookup; defaults to parse...</i>
---------------	---

---

### Description

Preref parser-lookup; defaults to parse.preref.

### Arguments

key                      the key upon which to look

### Value

The parser

---

parser.srcref	<i>Srcref parser-lookup; defaults to parse...</i>
---------------	---

---

### Description

Srcref parser-lookup; defaults to parse.srcref.

### Arguments

key                      the key upon which to look

### Value

The parser

---

parse.srcref	<i>By default, srcrefs are ignored; this parser returns nil.</i>
--------------	--

---

### Description

By default, srcrefs are ignored; this parser returns nil.

### Usage

```
parse.srcref(pivot, expression)
```

### Arguments

pivot                    the parsing pivot  
 expression              the expression to be parsed

### Value

nil

---

parse.text	<i>Text-parsing hack using tempfiles for more facility.</i>
------------	---

---

**Description**

Text-parsing hack using tempfiles for more facility.

**Usage**

```
parse.text(...)
```

**Arguments**

...	lines of text to be parsed
-----	----------------------------

**Value**

The parse tree

---

parse.toggle	<i>Turn a binary element on; parameters are ignored.</i>
--------------	--

---

**Description**

Turn a binary element on; parameters are ignored.

**Usage**

```
parse.toggle(key, rest)
```

**Arguments**

key	parsing key
rest	the expression to be parsed

**Value**

A list with the key and TRUE

---

parse.value	<i>Parse an element with a mandatory value.</i>
-------------	---

---

### Description

Parse an element with a mandatory value.

### Usage

```
parse.value(key, rest)
```

### Arguments

key	the parsing key
rest	the expression to be parsed

### Value

A list containing the key and value

---

parse.warning	<i>Centrally formatted warning...</i>
---------------	---------------------------------------

---

### Description

Centrally formatted warning

### Usage

```
parse.warning(key, message)
```

### Arguments

key	the offending key
message	the apposite message

### Value

NULL

---

`preorder.flatten.expression`  
*Flatten a nested expression into a list, preorderly.*

---

**Description**

Flatten a nested expression into a list, preorderly.

**Usage**

`preorder.flatten.expression(expression)`

**Arguments**

`expression`      the root of the expression to be flattened

**Value**

A list containing the flattened expression

---

`preorder.walk.expression`  
*Recursively walk an expression (as returned by parse) in...*

---

**Description**

Recursively walk an expression (as returned by parse) in preorder.

**Usage**

`preorder.walk.expression(proc, expression)`

**Arguments**

`proc`              the procedure to apply to each subexpression  
`expression`      the root of the expression

**Value**

NULL

---

`preref.parsers`      *Preref parser table...*

---

**Description**

Preref parser table

**TODO**

number parser?

---

prerefs	<i>Comment blocks (possibly null) that precede a file's expressions.</i>
---------	--

---

**Description**

Comment blocks (possibly null) that precede a file's expressions.

**Usage**

```
prerefs(srcfile, srcrefs)
```

**Arguments**

srcfile	result of running srcfile on an interesting file
srcrefs	the resultant srcrefs

**Value**

A list of prerefs that resemble srcrefs in form, i.e. with srcfile and lloc

---

R.DIR	<i>Whence to copy source code...</i>
-------	--------------------------------------

---

**Description**

Whence to copy source code

---

Reduce.paste	<i>Ad-hoc abstraction to paste processed list-elements together.</i>
--------------	--

---

**Description**

Ad-hoc abstraction to paste processed list-elements together.

**Usage**

```
Reduce.paste(proc, elts, sep)
```

**Arguments**

proc	the procedure to apply to the elements
elts	the elements to be processed
sep	the glue to joined the processed elements

**Value**

The processed elements as a glued string

---

register.parser	Register a parser with a table...
-----------------	-----------------------------------

---

**Description**

Register a parser with a table

**Usage**

```
register.parser(table, key, parser)
```

**Arguments**

table	the table under which to register
key	the key upon which to register
parser	the parser callback to register; a function taking key and expression

**Value**

NULL

---

register.parsers	Register many parsers at once.
------------------	--------------------------------

---

**Description**

Register many parsers at once.

**Usage**

```
register.parsers(table, parser, ...)
```

**Arguments**

table	the table under which to register
parser	the parser to register
...	the keys upon which to register

**Value**

NULL



---

`register.preref.parser`*Specifically register a preref parser...*

---

**Description**

Specifically register a preref parser

**Arguments**

<code>key</code>	the key upon which to register
<code>parser</code>	the parser callback to register; a function taking <code>key</code> and <code>expression</code>

**Value**

NULL

**See Also**

[register.parser](#)

---

`register.preref.parsers`*Register many preref parsers at once.*

---

**Description**

Register many preref parsers at once.

**Arguments**

<code>parser</code>	the parser to register
<code>...</code>	the keys upon which to register

**Value**

NULL

---

```
register.srcref.parser
```

*Specifically register a srcref parser..*

---

### Description

Specifically register a srcref parser

### Arguments

key	the key upon which to register
parser	the parser callback to register; a function taking key and expression

### Value

NULL

### See Also

[register.parser](#)

---

```
register.srcref.parsers
```

*Register many srcref parsers at once.*

---

### Description

Register many srcref parsers at once.

### Arguments

parser	the parser to register
...	the keys upon which to register

### Value

NULL

---

```
ROXYGEN.DIR
```

*Whither to copy package...*

---

### Description

Whither to copy package

---

roxygenize	<i>Process a package with the Rd, namespace and collate roclets.</i>
------------	--

---

**Description**

Process a package with the Rd, namespace and collate roclets.

**Usage**

```
roxygenize(package.dir, roxygen.dir, copy.package=TRUE, overwrite=TRUE,
  unlink.target=FALSE)
```

**Arguments**

package.dir	the package's top directory
roxygen.dir	whither to copy roxygen files; defaults to 'package.roxygen'.
copy.package	copies the package over before adding/manipulating files.
overwrite	overwrite target files
unlink.target	unlink target directory before processing files

**Value**

NULL

**TODO**

Options to enable/disable specific roclet (`--no-callgraphs`, etc.)

---

roxygen-package	<i>Literate Programming in R</i>
-----------------	----------------------------------

---

**Description**

Roxygen is a Doxygen-like documentation system for R; allowing in-source specification of Rd files, collation and namespace directives.

**Details**

Package:	Roxygen
Type:	Package
Version:	0.1
Date:	2008-08-25
License:	GPL (>= 2)
LazyLoad:	yes

Roxygen is run on a package (hereafter <package>) by R CMD roxygen <package> or Rcmd roxygen.sh <package> on Windows. By default, it creates a directory '`<package>.roxygen`'

with the complete package cum populated Rd files, ‘NAMESPACE’, etc.; but can also operate de-  
structively on the package itself with the ‘-d’ option.

See the vignette (‘roxygen.pdf’) or manual (‘roxygen-manual.pdf’) for details.

**Author(s)**

Peter Danenberg <pcd@roxygen.org>, Manuel Eugster <Manuel.Eugster@stat.uni-muenchen.de>  
Maintainer: Peter Danenberg <pcd@roxygen.org>

**See Also**

See `make.Rd.roclet`, `make.namespace.roclet`, `make.collate.roclet`, `make.callgraph.roclet`  
for an overview of roxygen tags.  
See `roxygenize` for an alternative to ‘R CMD roxygen’.

**Examples**

```
## To process a package in `pkg`, run `R CMD roxygen pkg`; or:  
## Not run: roxygenize('pkg')
```

---

roxygen	<i>No-op for sourceless files...</i>
---------	--------------------------------------

---

**Description**

No-op for sourceless files

**Value**

NULL

---

SPACE	<i>Absence of words...</i>
-------	----------------------------

---

**Description**

Absence of words

---

src.lines	<i>Extract the source code from parsed elements...</i>
-----------	--

---

**Description**

Extract the source code from parsed elements

**Usage**

```
src.lines(partitum)
```

**Arguments**

partitum	the parsed elements
----------	---------------------

**Value**

The lines of source code

---

srcref.parsers	<i>Srcref parser table...</i>
----------------	-------------------------------

---

**Description**

Srcref parser table

---

strcar	<i>First word in a string.</i>
--------	--------------------------------

---

**Description**

First word in a string.

**Usage**

```
strcar(string)
```

**Arguments**

string	the string whose word to finde
--------	--------------------------------

**Value**

The first word

---

strcdr	<i>Words after first in a string.</i>
--------	---------------------------------------

---

**Description**

Words after first in a string.

**Usage**

```
strcdr(string)
```

**Arguments**

string	the string whose words to find
--------	--------------------------------

**Value**

The words after first in the string

---

strcons	<i>Join two string.</i>
---------	-------------------------

---

**Description**

Join two string.

**Usage**

```
strcons(consor, consee, sep)
```

**Arguments**

consor	the joining string
consee	the joined string
sep	the intervening space

**Value**

The joined strings

---

`strmap`*Map through the words in a string, joining the mapped...*

---

**Description**

Map through the words in a string, joining the mapped words with a separator.

**Usage**

```
strmap(proc, sep, string)
```

**Arguments**

<code>proc</code>	procedure to apply to each word
<code>sep</code>	the separator joining the mapped words
<code>string</code>	the string to be mapped

**Details**

General enough to be designated ‘map’: isn’t it closer to a specialized reduce?

**Value**

Mapped words separated by `sep`

---

`substr.regexpr`*Actually do the substring representation that...*

---

**Description**

Actually do the substring representation that `regexpr` should do; does not acknowledge groups, since `regexpr` doesn’t.

**Usage**

```
substr.regexpr(pattern, text)
```

**Arguments**

<code>pattern</code>	the pattern to match
<code>text</code>	the text to match against

**Value**

The matched substring

---

<code>TAG.DELIMITER</code>	<i>Symbol that delimits tags.</i>
----------------------------	-----------------------------------

---

**Description**

Symbol that delimits tags.

---

<code>trim.left</code>	<i>Trim [:space:] to the left of a string.</i>
------------------------	--

---

**Description**

Trim [:space:] to the left of a string.

**Usage**

```
trim.left(string)
```

**Arguments**

<code>string</code>	the string to be trimmed
---------------------	--------------------------

**Value**

A left-trimmed string

---

<code>trim</code>	<i>Trim [:space:] on both sides of a string.</i>
-------------------	--

---

**Description**

Trim [:space:] on both sides of a string.

**Usage**

```
trim(string)
```

**Arguments**

<code>string</code>	the string to be trimmed
---------------------	--------------------------

**Value**

A trimmed string



---

trim.right	<i>Trim [:space:] to the right of a string.</i>
------------	---

---

**Description**

Trim [:space:] to the right of a string.

**Usage**

```
trim.right(string)
```

**Arguments**

string	the string to be trimmed
--------	--------------------------

**Value**

A right-trimmed string

---

word.ref	<i>Find the nth word in a string.</i>
----------	---------------------------------------

---

**Description**

Find the nth word in a string.

**Usage**

```
word.ref(string, n)
```

**Arguments**

string	the string to search in
n	the nth word to find

**Value**

A list containing:

start	the first letter of the word.
end	the last letter of the word.

Undefined if no such word; though end may be less than start in such a case.

---

`zip.c`*Zip using c.*

---

**Description**

Zip using `c`.

**Usage**

```
zip.c(...)
```

**Arguments**

`...` the lists to be zipped

**Value**

A list of tuples

**See Also**

[zip](#)

---

`zip.list`*Zip using list.*

---

**Description**

Zip using `list`.

**Usage**

```
zip.list(...)
```

**Arguments**

`...` the lists to be zipped

**Value**

A list of tuples

**See Also**

[zip](#)

---

`zip`*Zip  $n$  lists together into tuples of...*

---

**Description**

Zip  $n$  lists together into tuples of length  $n$ .

**Usage**

```
zip(zipper, ...)
```

**Arguments**

<code>zipper</code>	the zipping function
<code>...</code>	the lists to be zipped

**Value**

A list of tuples

# Index

## \*Topic package

- roxygen-package, 41
- aliases (*make.Rd.roclet*), 17
- assign.parent, 1
- author (*make.Rd.roclet*), 17
- caar, 2
- cadar, 2
- caddr, 3
- cadr, 3
- callGraph
  - (*make.callgraph.roclet*), 14
- callGraphDepth
  - (*make.callgraph.roclet*), 14
- callGraphPrimitives
  - (*make.callgraph.roclet*), 14
- car, 4
- cat.description, 4
- cdddr, 5
- cddr, 5
- cdr, 6
- Compose, 6
- concept (*make.Rd.roclet*), 17
- copy.dir, 7
- Curry, 7
- debug, 8
- description.dependencies, 8
- DESCRIPTION.FILE, 9
- DOC.DIR, 9
- example (*make.Rd.roclet*), 17
- examples (*make.Rd.roclet*), 17
- export (*make.namespace.roclet*), 16
- exportClass
  - (*make.namespace.roclet*), 16
- exportMethod
  - (*make.namespace.roclet*), 16
- exportPattern
  - (*make.namespace.roclet*), 16
- first.non.null, 9
- guess.name, 9
- Identity, 10
- import (*make.namespace.roclet*), 16
- importClassesFrom
  - (*make.namespace.roclet*), 16
- importFrom
  - (*make.namespace.roclet*), 16
- importMethodsFrom
  - (*make.namespace.roclet*), 16
- include, 10
- INST.DIR, 10
- is.assignment, 11
- is.even, 11
- is.function.definition, 12
- is.nil, 12
- is.null.string, 13
- is.odd, 13
- keywords (*make.Rd.roclet*), 17
- LINE.DELIMITER, 13
- make.callgraph.roclet, 14, 42
- make.collate.roclet, 14, 42
- make.description.parser, 15
- make.namespace.roclet, 16, 42
- make.Rd.roclet, 17, 42
- make.roclet, 15, 19
- MAN.DIR, 20
- MATTER, 20
- method (*make.Rd.roclet*), 17
- name (*make.Rd.roclet*), 17
- NAMESPACE.FILE, 20
- Negate, 20
- nil, 20
- NIL.STRING, 21
- noop.description, 21
- note (*make.Rd.roclet*), 17
- nwords, 21
- pairwise, 22
- param (*make.Rd.roclet*), 17
- parse.assignee, 22
- parse.call, 23
- parse.default, 23, 29

- parse.description, 24
- parse.description.file, 16, 24
- parse.description.text, 24, 25
- parse.element, 25
- parse.error, 26
- parse.file, 26, 27
- parse.files, 27
- parse.formals, 27
- parse.message, 28
- parse.name, 29
- parse.name.description, 28
- parse.preref, 29
- parse.ref, 31
- parse.ref.list, 30
- parse.ref.preref, 31
- parse.ref.srcref, 32
- parse.refs, 32
- parse.srcref, 33
- parse.text, 34
- parse.toggle, 34
- parse.value, 35
- parse.warning, 35
- parser.default, 30
- parser.preref, 33
- parser.srcref, 33
- preorder.flatten.expression, 36
- preorder.walk.expression, 36
- preref.parsers, 36
- prerefs, 37
  
- R.DIR, 37
- Reduce.paste, 37
- references (*make.Rd.roclet*), 17
- register.parser, 38, 39, 40
- register.parsers, 38
- register.preref.parser, 39
- register.preref.parsers, 39
- register.srcref.parser, 40
- register.srcref.parsers, 40
- return (*make.Rd.roclet*), 17
- roxygen, 42
- roxygen-package, 41
- ROXYGEN.DIR, 40
- roxygenize, 41, 42
  
- S3method (*make.namespace.roclet*), 16
- seealso (*make.Rd.roclet*), 17
- setClass (*make.Rd.roclet*), 17
- setGeneric (*make.Rd.roclet*), 17
- setMethod (*make.Rd.roclet*), 17
- SPACE, 42
- src.lines, 43
- srcref.parsers, 43
- strcar, 43
- strodr, 44
- strcons, 44
- strmap, 45
- substr.regexpr, 45
  
- TAG.DELIMITER, 46
- title (*make.Rd.roclet*), 17
- TODO (*make.Rd.roclet*), 17
- trim, 46
- trim.left, 46
- trim.right, 47
  
- usage (*make.Rd.roclet*), 17
  
- word.ref, 47
  
- zip, 48, 49
- zip.c, 48
- zip.list, 48