

Package ‘functional’

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Type Package

Title Curry, Compose, and other higher-order functions

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Description Curry, Compose, and other higher-order functions

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 Compose

Compose an arbitrary number of functions.

Description

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

Examples

```
car <- function(list) list[[1]]
cdr <- function(list) list[2:length(list)]
cadr <- Compose(cdr, car)
stopifnot(cadr(c(1,2,3)) == 2)
```

 Curry

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

Description

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

Usage

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

Arguments

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

Value

A new function partially determined

Examples

```
double <- Curry(`*`, e1=2)
stopifnot(double(4) == 8)
```

CurryL	<i>Lazy curry; thanks, Jamie!</i>	<i><https://github.com/klutometis/R-functional/issues/1></i>
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Description

Lazy curry; thanks, Jamie! <<https://github.com/klutometis/R-functional/issues/1>>

Usage

```
CurryL(FUN, ...)
```

Arguments

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

Examples

```
# day is not defined; thanks, Jamie Folsom.
CurryL(function(...) match.call(),
         x=5,
         y=as.Date(day))(z=as.Date(day, "%Y"))
```

Identity	<i>Identity function.</i>
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Description

Is concatenation benign?

Usage

```
Identity(...)
```

Arguments

...	tautological arguments
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Value

The tautologized arguments, concatenated

Examples

```
list.copy <- function(list)
  Reduce(Identity, list)

list <- c(1, 2, 3)
stopifnot(list.copy(list) == list)
```

multi.argument.Compose

Composition with multiple arguments.

Description

Thanks, Alexander Davis!

Usage

```
multi.argument.Compose(...)
```

Arguments

... the functions to be composed

Value

A composed function

Examples

```
f <- function(x, y) x+y
g <- function(x) x*2
stopifnot(multi.argument.Compose(f, g)(1,1) == 4)
```

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

Examples

```
is.even <- function(a) a%%2 == 0
is.odd <- Negate(is.even)
stopifnot(Reduce(`&&`, Map(is.odd, c(1, 3, 5))))
```

Swap	<i>Thanks, Gabor; see <http://stackoverflow.com/a/23726989>: swaps the first two arguments in a function.</i>
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Description

Thanks, Gabor; see <<http://stackoverflow.com/a/23726989>>: swaps the first two arguments in a function.

Usage

```
Swap(f)
```

Arguments

f The function whose arguments to swap

Value

A function with swapped arguments

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