

# Package ‘fuj’

March 6, 2023

**Type** Package

**Title** Functions and Utilities for Jordan

**Version** 0.1.2

**Maintainer** Jordan Mark Barbone <jmbarbone@gmail.com>

**Description** Provides core functions and utilities for packages and other code developed by Jordan Mark Barbone.

**License** MIT + file LICENSE

**Encoding** UTF-8

**Language** en-US

**RoxygenNote** 7.2.3

**Depends** R (>= 3.6)

**Suggests** covr, spelling, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**URL** <https://jmbarbone.github.io/fuj/>

**NeedsCompilation** no

**Author** Jordan Mark Barbone [aut, cph, cre]  
(<<https://orcid.org/0000-0001-9788-3628>>)

**Repository** CRAN

**Date/Publication** 2023-03-06 14:50:02 UTC

## R topics documented:

alias_arithmetic . . . . .	2
alias_extract . . . . .	2
collapse . . . . .	3
exattr . . . . .	4
flip . . . . .	4
if_null . . . . .	5
list0 . . . . .	6
match_ext . . . . .	7

muffle . . . . .	8
names . . . . .	9
new_condition . . . . .	10
os . . . . .	11
quick_df . . . . .	11
require_namespace . . . . .	12
struct . . . . .	13
%colons% . . . . .	14

<b>Index</b>	<b>16</b>
--------------	-----------

---

alias_arithmetic	<i>Arithmetic wrappers</i>
------------------	----------------------------

---

### Description

Arithmetic wrappers

### Value

See [base::Arithmetic](#)

### Examples

```

add(7, 2) # +
subtract(7, 2) # -
multiply(7, 2) # *
divide(7, 2) # /
raise_power(7, 2) # ^
remainder(7, 2) # %%
divide_int(7, 2) # %/%

```

---

alias_extract	<i>Extract and replace aliases</i>
---------------	------------------------------------

---

### Description

Extract and replace aliases

### Value

See [base::Extract](#)

**Examples**

```
df <- quick_df1(a = 1:5, b = 6:10)
# alias of `[`
subset1(df, 1)
subset1(df, 1, )
subset1(df, , 1)
subset1(df, , 1, drop = FALSE)

# alias of `[[`
subset2(df, 1)
subset2(df, 1, 2)

# alias of `$`
subset3(df, a)
subset3(df, "b")
subset3(df, "foo")

# alias of `[<-`
subassign1(df, "a", , 2)
```

---

collapse

*Collapse*

---

**Description**

Simple wrapper for concatenating strings

**Usage**

```
collapse(..., sep = "")
```

**Arguments**

... one or more R objects, to be converted to character vectors.  
sep a character string to separate the terms. Not [NA\\_character\\_](#).

**Value**

A character vector of concatenated values. See [base::paste](#) for more details.

**Examples**

```
collapse(1:10)
collapse(list("a", b = 1:2))
collapse(quick_df1(a = 1:3, b = 4:6), sep = "-")
```

---

exattr	<i>Exact attributes</i>
--------	-------------------------

---

**Description**

Get the exact attributes of an object

**Usage**

```
exattr(x, which)
```

```
x %attr% which
```

**Arguments**

x                    an object whose attributes are to be accessed.

which                a non-empty character string specifying which attribute is to be accessed.

**Value**

See [base::attr](#)

**Examples**

```
foo <- struct(list(), "foo", aa = TRUE)
attr(foo, "a") # TRUE : partial match successful
exattr(foo, "a") # NULL : partial match failed
exattr(foo, "aa") # TRUE : exact match
```

---

flip	<i>Flip</i>
------	-------------

---

**Description**

Flip an object.

**Usage**

```
flip(x, ...)
```

```
## Default S3 method:
```

```
flip(x, ...)
```

```
## S3 method for class 'matrix'
```

```
flip(x, by = c("rows", "columns"), keep_rownames = NULL, ...)
```

```
## S3 method for class 'data.frame'
```

```
flip(x, by = c("rows", "columns"), keep_rownames = NULL, ...)
```

**Arguments**

x	An object
...	Additional arguments passed to methods
by	Flip by "rows" or "columns" (partial matches accepted)
keep_rownames	Logical, if TRUE will not reset row names; NULL

**Value**

A vector of values, equal length of x that is reversed or a data frame with flipped rows/columns

**Examples**

```
flip(letters[1:3])
flip(seq.int(9, -9, by = -3))
flip(head(iris))
flip(head(iris), keep_rownames = TRUE)
flip(head(iris), by = "col")
```

---

if\_null

*Default value for NULL or no length*


---

**Description**

Replace if NULL or not length

**Usage**

```
x %||% y
```

```
x %|||% y
```

```
x %len% y
```

**Arguments**

x, y	If x is NULL returns y; otherwise x
------	-------------------------------------

**Details**

A mostly copy of rlang's %||% except does not use `rlang::is_null()`, which, currently, calls the same primitive `base::is.null` function.

**Value**

x if it is not NULL or has length, depending on check

**Examples**

```
# replace NULL
NULL %||% 1L
2L %||% 1L

# replace empty
"" %|||% 1L
NA %|||% 1L
double() %|||% 1L
NULL %|||% 1L

# replace no length
logical() %len% TRUE
```

---

list0

*Listing for dots*

---

**Description**

Tries to not complain about empty arguments

**Usage**

```
list0(...)
```

**Arguments**

... Arguments to collect in a list

**Value**

A list of ...

**Examples**

```
try(list(1, ))
list0(1, )
```

## Description

Non matching alternatives and supplementary functions.

## Usage

```
is_in(x, table)
```

```
is_out(x, table)
```

```
x %out% table
```

```
is_within(x, table)
```

```
x %wi% table
```

```
is_without(x, table)
```

```
x %wo% table
```

```
no_match(x, table)
```

```
any_match(x, table)
```

## Arguments

x                   vector or NULL: the values to be matched. [Long vectors](#) are supported.

table               vector or NULL: the values to be matched against. [Long vectors](#) are not supported.

## Details

Contrast with [base::match\(\)](#), [base::intersect\(\)](#), and [base::%in%\(\)](#). The functions of [%wi%](#) and [%wo%](#) can be used in lieu of [base::intersect\(\)](#) and [base::setdiff\(\)](#). The primary difference is that the base functions return only unique values, which may not be a desired behavior.

## Value

- [%out%](#): A logical vector of equal length of x, table
- [%wo%](#), [%wi%](#): A vector of values of x
- [any\\_match\(\)](#), [no\\_match\(\)](#): TRUE or FALSE
- [is\\_in\(\)](#): see [base::%in%\(\)](#)

**Examples**

```

1:10 %in% c(1, 3, 5, 9)
1:10 %out% c(1, 3, 5, 9)
letters[1:5] %wo% letters[3:7]
letters[1:5] %wi% letters[3:7]

# base functions only return unique values

      c(1:6, 7:2) %wo% c(3, 7, 12) # -> keeps duplicates
setdiff(c(1:6, 7:2),      c(3, 7, 12)) # -> unique values

      c(1:6, 7:2) %wi% c(3, 7, 12) # -> keeps duplicates
intersect(c(1:6, 7:2),      c(3, 7, 12)) # -> unique values

```

---

muffle

*Muffle messages*


---

**Description**

Aliases for `base::suppressMessages()` and `base::suppressWarnings()`

**Usage**

```
muffle(expr, fun, classes = "message")
```

```
wuffle(expr, fun, classes = "warning")
```

**Arguments**

expr	An expression to evaluate
fun	A function to <i>muffle</i> (or <i>wuffle</i> )
classes	A character vector of classes to suppress

**Value**

The result of `expr` or a function wrapping `fun`

**Examples**

```

# load function
foo <- function(...) {
  message("You entered :", paste0(...))
  c(...)
}

# wrap around function or muffle the function ti's

```



```
muffle(foo(1, 2))
muffle(fun = foo)(1, 2)
sapply(1:3, muffle(fun = foo))

# silence warnings
wuffle(as.integer("a"))
sapply(list(1, "a", "0", ".2"), wuffle(fun = as.integer))
```

---

names	<i>Set names</i>
-------	------------------

---

## Description

Sets or removes names

## Usage

```
set_names(x, nm = x)

remove_names(x)

x %names% nm

is_named(x, zero_ok = TRUE)
```

## Arguments

x	A vector of values
nm	A vector of names
zero_ok	If TRUE allows use of "" as a <i>special</i> name

## Value

x with nm values assigned to names (if x is NULL, NULL is returned)

## Examples

```
set_names(1:5)
set_names(1:5, c("a", "b", "c", "d", "e"))

x <- c(a = 1, b = 2)
remove_names(x)
x %names% c("c", "d")
is_named(x)
```

---

new_condition	<i>New condition</i>
---------------	----------------------

---

## Description

Template for a new condition. See more at [base::conditions](#)

## Usage

```
new_condition(  
  msg = "",  
  class = NULL,  
  call = NULL,  
  type = c("error", "warning", NA_character_),  
  message = msg,  
  pkg = TRUE  
)
```

## Arguments

msg, message	A message to print
class	Character string of a single condition class
call	A call expression
type	The type (additional class) of condition: either "error", "warning" or NA, which is treated as NULL
pkg	Control or adding package name to condition. If TRUE will try to get the current package name (via <code>.packageName</code> ) from, presumably, the developmental package. If FALSE, no package name is prepended to the condition class as a new class. Otherwise, a package can be explicitly set with a single length character.

## Details

The use of `.packageName` when `pkg = TRUE` may not be valid during active development. When the attempt to retrieve the `.packageName` object is unsuccessful, the error is quietly ignored. However, this should be successful once the package is build and functions can then utilize this created object.

## Value

A condition with the classes specified from `class` and `type`

## Examples

```
# empty condition  
x <- new_condition("informative error message", class = "foo")  
try(stop(x))  
  
# with pkg
```

```
x <- new_condition("msg", class = "foo", pkg = "bar")
# class contains multiple identifiers, including a "bar:fooError"
class(x)
# message contains package information at the end
try(stop(x))
```

---

os

*Determine operating systems*

---

### **Description**

Determine operating systems

### **Usage**

```
is_windows()
```

```
is_macos()
```

```
is_linux()
```

### **Value**

TRUE or FALSE

### **Examples**

```
is_windows()
is_macos()
is_linux()
```

---

quick\_df

*Quick DF*

---

### **Description**

This is a speedier implementation of `as.data.frame()` but does not provide the same sort of checks. It should be used with caution.

### **Usage**

```
quick_df(x = NULL)
```

```
empty_df()
```

```
quick_dfl(...)
```

**Arguments**

x                    A list or NULL (see return)  
 ...                  Columns as tag = value (passed to list())

**Value**

A data.frame; if x is NULL a data.frame with 0 rows and 0 columns is returned (similar to calling data.frame() but faster). empty\_df() returns a data.frame with 0 rows and 0 columns.

**Examples**

```
# unnamed will use make.names()
x <- list(1:10, letters[1:10])
quick_df(x)

# named is preferred
names(x) <- c("numbers", "letters")
quick_df(x)

# empty data.frame
empty_df() # or quick_df(NULL)
```

---

require_namespace	<i>Require namespace</i>
-------------------	--------------------------

---

**Description**

Require namespace

**Usage**

```
require_namespace(package, ...)
```

**Arguments**

package, ...      Package names

**Value**

TRUE (invisibly) if found; otherwise errors

**Examples**

```
isTRUE(require_namespace("base")) # returns invisibly
try(require_namespace("1package")) # (using a purposefully bad name)
```

---

struct	<i>Simple structures</i>
--------	--------------------------

---

**Description**

Create simple structures

**Usage**

```
struct(x, class, ..., .keep_attr = FALSE)
```

**Arguments**

x	An object; if NULL, coerced to <code>list()</code>
class	A vector of classes; can also be NULL
...	Named attributes to set to x; overwrites any attributes in x even if defined in <code>.keep_attr</code>
.keep_attr	Control for keeping attributes from x: TRUE will retain all attributes from x; a character vector will pick out specifically defined attributes to retain; otherwise only attributes defined in ... will be used

**Details**

Unlike `base::structure()` this does not provide additional checks for special names, performs no `base::storage.mode()` conversions for factors (x therefor has to be an integer), attributes from x are not retained, and class is specified outside of other attributes and assigned after `base::attributes()` is called.

Essentially, this is just a wrapper for calling `base::attributes()` then `base::class()`.

Note that `base::structure()` provides a warning when the first argument is NULL. `struct()` does not. The coercion from NULL to `list()` is done, and documented, in `base::attributes()`.

**Value**

An object with class defined as class and attributes ...

**Examples**

```
x <- list(a = 1, b = 2)
# structure() retains the $names attribute of x but struct() does not
structure(x, class = "data.frame", row.names = 1L)
struct(x, "data.frame", row.names = 1L)
struct(x, "data.frame", row.names = 1L, names = names(x))

# structure() corrects entries for "factor" class
# but struct() demands the data to be an integer
structure(1, class = "factor", levels = "a")
try(struct(1, "factor", levels = "a"))
```

```

struct(1L, "factor", levels = "a")

# When first argument is NULL -- attributes() coerces
try(structure(NULL)) # NULL, no call to attributes()
struct(NULL, NULL) # list(), without warning
x <- NULL
attributes(x) <- NULL
x # NULL
attributes(x) <- list() # struct() always grabs ... into a list
x # list()

# Due to the use of class() to assign class, you may experience some
# other differences between structure() and struct()
x <- structure(1, class = "integer")
y <- struct(1, "integer")
str(x)
str(y)

all.equal(x, y)

# Be careful about carrying over attributes
x <- quick_df(list(a = 1:2, b = 3:4))
# returns empty data.frame
struct(x, "data.frame", new = 1)

# safely changing names without breaking rownames
struct(x, "data.frame", names = c("c", "d")) # breaks
struct(x, "data.frame", names = c("c", "d"), .keep_attr = TRUE)
struct(x, "data.frame", names = c("c", "d"), .keep_attr = "row.names")

# safely adds comments
struct(x, "data.frame", comment = "hi", .keep_attr = TRUE)
struct(x, "data.frame", comment = "hi", .keep_attr = c("names", "row.names"))

# assignment in ... overwrites attributes
struct(x, "data.frame", names = c("var1", "var2"), .keep_attr = TRUE)

```

---

%colons%

*Colons*

---

## Description

Get an object from a package

## Usage

package %colons% name

### **Arguments**

package	Name of the package
name	Name to retrieve

### **Details**

This is a work around to calling `:::`.

### **Value**

The variable name from package `package`

### **WARNING**

To reiterate from other documentation: it is not advised to use `:::` in your code as it will retrieve non-exported objects that may be more likely to change in their functionality than exported objects.

### **Examples**

```
identical("base" %colons% "mean", base::mean)  
"fuj" %colons% "colons_example" # unexported value
```

# Index

`%attr%` (`exattr`), 4  
`%len%` (`if_null`), 5  
`%names%` (`names`), 9  
`%out%` (`match_ext`), 7  
`%wi%` (`match_ext`), 7  
`%wo%` (`match_ext`), 7  
`%colons%`, 14

`add` (`alias_arithmetic`), 2  
`alias_arithmetic`, 2  
`alias_extract`, 2  
`any_match` (`match_ext`), 7

`base::%in%()`, 7  
`base::Arithmetic`, 2  
`base::attr`, 4  
`base::attributes()`, 13  
`base::class()`, 13  
`base::conditions`, 10  
`base::Extract`, 2  
`base::intersect()`, 7  
`base::is.null`, 5  
`base::match()`, 7  
`base::paste`, 3  
`base::setdiff()`, 7  
`base::storage.mode()`, 13  
`base::structure()`, 13  
`base::suppressMessages()`, 8  
`base::suppressWarnings()`, 8

`collapse`, 3

`divide` (`alias_arithmetic`), 2  
`divide_int` (`alias_arithmetic`), 2

`empty_df` (`quick_df`), 11  
`exattr`, 4

`flip`, 4

`if_null`, 5

`is_in` (`match_ext`), 7  
`is_linux` (`os`), 11  
`is_macos` (`os`), 11  
`is_named` (`names`), 9  
`is_out` (`match_ext`), 7  
`is_windows` (`os`), 11  
`is_within` (`match_ext`), 7  
`is_without` (`match_ext`), 7

`list0`, 6  
Long vectors, 7

`match_ext`, 7  
`muffle`, 8  
`multiply` (`alias_arithmetic`), 2

`NA_character_`, 3  
`names`, 9  
`new_condition`, 10  
`no_match` (`match_ext`), 7

`os`, 11

`quick_df`, 11  
`quick_df1` (`quick_df`), 11

`raise_power` (`alias_arithmetic`), 2  
`remainder` (`alias_arithmetic`), 2  
`remove_names` (`names`), 9  
`require_namespace`, 12

`set_names` (`names`), 9  
`struct`, 13  
`subassign1` (`alias_extract`), 2  
`subassign2` (`alias_extract`), 2  
`subassign3` (`alias_extract`), 2  
`subset1` (`alias_extract`), 2  
`subset2` (`alias_extract`), 2  
`subset3` (`alias_extract`), 2  
`subtract` (`alias_arithmetic`), 2

`wuffle` (`muffle`), 8