Package ‘pander’

November 6, 2018

Title An R 'Pandoc' Writer
Type Package
Encoding UTF-8
Description Contains some functions catching all messages, 'stdout' and other useful information while evaluating R code and other helpers to return user specified text elements (like: header, paragraph, table, image, lists etc.) in 'pandoc' markdown or several type of R objects similarly automatically transformed to markdown format. Also capable of exporting/converting (the resulting) complex 'pandoc' documents to e.g. HTML, 'PDF', 'docx' or 'odt'. This latter reporting feature is supported in brew syntax or with a custom reference class with a smarty caching 'backend'.

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License AGPL-3 | file LICENSE
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add.blank.lines

Description

 Adds a line break before and after the character string(s).

Usage

 add.blank.lines(x)

Arguments

 x character vector
add.significance.stars

Add significance stars

Description

This function adds significance stars to passed p value(s) as: one star for value below 0.05, two for 0.01 and three for 0.001.

Usage

add.significance.stars(p, cutoffs = c(0.05, 0.01, 0.001))

Arguments

p numeric vector or tabular data
cutoffs the cutoffs for the 1/2/3 significance stars

Value

character vector

cache.off Toggle cache

Description

This function is just a wrapper around evalsOptions to switch pander’s cache on or off easily, which might be handy in some brew documents to prevent repetitive strain injury :)
coef_mat

Calculate coef matrix for models from rms package Forked from prModFit from rms

Description

Calculate coef matrix for models from rms package Forked from prModFit from rms

Usage

c coef_mat(obj, coefs)

Arguments

obj       object list
coefs     numeric value if to print only the first n regression coefficients in the model.

Value

coefficients matrix

emphasize.rows

Emphasize rows/columns/cells

Description

Storing indexes of cells to be (strong) emphasized of a tabular data in an internal buffer that can be released and applied by pandoc.table, pander or evals later.

Usage

emphasize.rows(x)
emphasize.cols(x)
emphasize.cells(x)
emphasize.strong.rows(x)
emphasize.strong.cols(x)
emphasize.strong.cells(x)
emphasize.italics.rows(x)
eval.msgs

emphasize.italics.cols(x)
emphasize.italics.cells(x)
emphasize.verbatim.rows(x)
emphasize.verbatim.cols(x)
emphasize.verbatim.cells(x)

Arguments

x vector of row/columns indexes or an array like returned by which(..., arr.ind = TRUE)

Examples

```r
## Not run:
nt <- data.frame(x = c(1,1,1,1), y = c(0,1,0,1,0))
emphasize.cols(t)
emphasize.rows(t)
pandoc.table(n)

emphasize.strong.cells(which(n == 1, arr.ind = TRUE))
pander(n)

## End(Not run)
```

eval.msgs Evaluate with messages

Description

This function takes text(s) of R code and evals all at one run - returning a list with four elements. See Details.

Usage

`eval.msgs(src, env = NULL, showInvisible = FALSE, graph.unify = evalsOptions("graph.unify"))`

Arguments

`src` character values containing R code
`env` environment where evaluation takes place. If not set (by default), a new temporary environment is created.
`showInvisible` return invisible results?
`graph.unify` should eval.msgs try to unify the style of (lattice and ggplot2) plots? If set to TRUE (by default), some panderoptions() would apply. Please note that this argument has no effect on base plots, use evals instead.
Details

eval.msgs returns a detailed list of the result of evaluation:

- **src** - character vector of specified R code.
- **result** - result of evaluation. NULL if nothing is returned. If any R code returned an R object while evaluating then the last R object will be returned as a raw R object. If a graph is plotted in the end of the given R code (remember: last R object), it would be automatically printed (see e.g. lattice and ggplot2).
- **output** - character vector of printed version (capture.output) of result
- **type** - class of generated output. 'NULL' if nothing is returned, 'error' if some error occurred.
- **msg** - possible messages grabbed while evaluating specified R code with the following structure:
  - **messages** - character vector of possible diagnostic message(s)
  - **warnings** - character vector of possible warning message(s)
  - **errors** - character vector of possible error message(s)
- **stdout** - character vector of possibly printed texts to standard output (console)

Value

a list of parsed elements each containing: **src** (the command run), **result** (R object: NULL if nothing returned), **print**ed output, **type** (class of returned object if any), informative/warning and error messages (if any returned by the command run, otherwise set to NULL) and possible stderr value. See Details above.

See Also

evals

Examples

```r
## Not run:
eval.msgs('1:5')
eval.msgs('x <- 1:5')
eval.msgs('lm(mtcars$hp ~ mtcars$wt')

## plots
eval.msgs('plot(runif(100))')
eval.msgs('histogram(runif(100))')

## error handling
eval.msgs('runif(23)')
eval.msgs('runif is a nice function')
eval.msgs('no.R.object.like.that')

## messages
eval.msgs(c('message("FOO")', '1:2'))
eval.msgs(c('warning("FOO")', '1:2'))
eval.msgs(c('message("FOO");message("FOO");warning("FOO")', '1:2'))
```
```r
evals('warning(d);warning(f);1')

# stdout
evals('cat(writing to console)')
evals('cat(writing to console);1:4')

# End(Not run)
```

### evals

**Evaluate and Process R Code**

**Description**

This function takes either a vector/list of strings with actual R code, which it to be parsed to separate elements. Each list element is evaluated in a special environment, and a detailed list of results is returned for each logical part of the R code: a character value with R code, resulting R object, printed output, class of resulting R object, possible informative/warning/error messages and anything written to stdout. If a graph is plotted in the given text, the returned object is a string specifying the path to the saved file. Please see Details below. If `parse` option set to FALSE, then the returned list's length equals to the length of the parsed input - as each string is evaluated as separate R code in the same environment. If a nested list of R code or a concatenated string (separated by `\n` or `\`) is provided like `list(c('runif(1)', 'runif(1)'))` with `parse=FALSE`, then everything is evaluated at one run so the length of returned list equals to one or the length of the provided nested list. See examples below.

**Usage**

```r
evals(txt, parse = evalsOptions("parse"),
   cache = evalsOptions("cache"),
   cache.mode = evalsOptions("cache.mode"),
   cache.dir = evalsOptions("cache.dir"),
   cache.time = evalsOptions("cache.time"),
   cache.copy.images = evalsOptions("cache.copy.images"),
   showInvisible = FALSE, classes = evalsOptions("classes"),
   hooks = evalsOptions("hooks"), length = evalsOptions("length"),
   output = evalsOptions("output"), env = NULL,
   graph.unify = evalsOptions("graph.unify"),
   graph.name = evalsOptions("graph.name"),
   graph.dir = evalsOptions("graph.dir"),
   graph.output = evalsOptions("graph.output"),
   width = evalsOptions("width"), height = evalsOptions("height"),
   res = evalsOptions("res"), hi.res = evalsOptions("hi.res"),
   hi.res.width = evalsOptions("hi.res.width"), hi.res.height = 960 *
   (height/width), hi.res.res = res * (hi.res.width/width),
   graph.env = evalsOptions("graph.env"),
   graph.recordplot = evalsOptions("graph.recordplot"),
   graph.RDS = evalsOptions("graph.RDS"), log = evalsOptions("log"),
   ...
```

Arguments

txt
a character vector containing R code. This could be a list/vector of lines of code or a simple string holding R code separated by ; or \n.

parse
if TRUE the provided txt elements would be merged into one string and parsed to logical chunks. This is useful if you would want to get separate results of your code parts - not just the last returned value, but you are passing the whole script in one string. To manually lock lines to each other (e.g. calling a plot and on next line adding an abline or text to it), use a plus char (+) at the beginning of each line which should be evaluated with the previous one(s). If set to FALSE, evals would not try to parse R code, it would get evaluated in separate runs - as provided. Please see examples below.

cache
caching the result of R calls if set to TRUE. Please note the caching would not work if parse set to FALSE or syntax error is to be found.

cache.mode
cached results could be stored in an environment in current R session or let it be permanent on disk.

cache.dir
path to a directory holding cache files if cache.mode set to disk. Default to .cache in current working directory.

cache.time
number of seconds to limit caching based on proc.time. If set to 0, all R commands, if set to Inf, none is cached (despite the cache parameter).

cache.copy.images
copy images to new file names if an image is returned from the disk cache? If set to FALSE (default), the cached path would be returned.

showinvisible
return invisible results?

classes
a vector or list of classes which should be returned. If set to NULL (by default) all R objects will be returned.

hooks
list of hooks to be run for given classes in the form of list(class = fn). If you would also specify some parameters of the function, a list should be provided in the form of list(fn = param1, param2=NULL) etc. So the hooks would become list(class1=list(fn, param1, param2=NULL), ...). See example below. A default hook can be specified too by setting the class to 'default'. This can be handy if you do not want to define separate methods/functions to each possible class, but automatically apply the default hook to all classes not mentioned in the list. You may also specify only one element in the list like: hooks=list('default' = pander_return). Please note, that nor error/warning messages, nor stdout is captured (so: updated) while running hooks!

length
any R object exceeding the specified length will not be returned. The default value (Inf) does not filter out any R objects.

output
a character vector of required returned values. This might be useful if you are only interested in the result, and do not want to save/see e.g. messages or printed output. See examples below.

env
environment where evaluation takes place. If not set (by default), a new temporary environment is created.
Should `evals` try to unify the style of (base, lattice and ggplot2) plots? If set to TRUE, some `panderOptions()` would apply. By default this is disabled not to freak out useRs :)  

Set the file name of saved plots which is `tempfile` by default. A simple character string might be provided where `%d` would be replaced by the index of the generating txt source, `%n` with an incremented integer in graph.dir with similar file names and `%t` by some unique random characters. While running in `Pandoc.brew` other indices could be triggered like `%i` and `%I`.  

Path to a directory where to place generated images. If the directory does not exist, `evals` try to create that. Default set to plots in current working directory.  

Set the required file format of saved plots. Currently it could be any of `grDevices`': `png`, `bmp`, `jpeg`, `jpg`, `tiff`, `svg` or `pdf`.  

Width of generated plot in pixels for even vector formats  

Height of generated plot in pixels for even vector formats  

Nominal resolution in ppi. The height and width of vector images will be calculated based in this.  

Generate high resolution plots also? If set to TRUE, each R code parts resulting an image would be run twice.  

Width of generated high resolution plot in pixels for even vector formats  

Height of generated high resolution plot in pixels for even vector formats. This value can be left blank to be automatically calculated to match original plot aspect ratio.  

Nominal resolution of high resolution plot in ppi. The height and width of vector plots will be calculated based in this. This value can be left blank to be automatically calculated to fit original plot scales.  

Save the environments in which plots were generated to distinct files (based on `graph.name`) with `env` extension?  

Save the plot via `recordPlot` to distinct files (based on `graph.name`) with recodplot extension?  

Save the raw R object returned (usually with `lattice` or `ggplot2`) while generating the plots to distinct files (based on `graph.name`) with RDS extension?  

An optionally passed `logger name` from `futile.logger` to record all info, trace, debug and error messages. Logging to the console can be done by specifying e.g. `flog.namespace()`, and log to a file by previously calling `flog.append` and `appendeer.file` on the given `logger name`.  

Optional parameters passed to graphics device (e.g. `bg`, `pointsize` etc.)

### Details

As `evals` tries to grab the plots internally, pleas do not run commands that set graphic device or `dev.off`. E.g. running `evals(c('png("/tmp/x.png")', 'plot(1:10)', 'dev.off()'))` would fail. Printing of lattice and ggplot2 objects is not needed, `evals` would deal with that automatically.
The generated image file(s) of the plots can be fine-tuned by some specific options, please check out `graph.output`, `width`, `height`, `res`, `hi.res`, `hi.res.width`, `hi.res.height` and `hi.res.res` parameters. Most of these options are better not to touch, see details of parameters below.

Returned result values: list with the following elements

- `src` - character vector of specified R code.
- `result` - result of evaluation. `NULL` if nothing is returned. If any R code returned an R object while evaluating then the last R object will be returned as a raw R object. If a graph is plotted in the given text, the returned object is a string (with class set to `image`) specifying the path to the saved image file. If graphic device was touched, then no other R objects will be returned.
- `output` - character vector of printed version (capture.output) of `result`
- `type` - class of generated output. 'NULL' if nothing is returned, 'error' if some error occurred.
- `msg` - possible messages grabbed while evaluating specified R code with the following structure:
  - `messages` - character vector of possible diagnostic message(s)
  - `warnings` - character vector of possible warning message(s)
  - `errors` - character vector of possible error message(s)
- `stdout` - character vector of possibly printed texts to standard output (console)

By default `evals` tries to cache results. This means that if evaluation of some R commands take too much time (specified in `cache.time` parameter), then `evals` would save the results in a file and return from there on next exact R code’s evaluation. This caching algorithm tries to be smart as checks not only the passed R commands, but all variables inside that and saves the hash of those.

Technical details of the caching algorithm:

- Each passed R chunk is parsed to single commands.
- Each parsed command’s part (let it be a function, variable, constant etc.) evaluated (as a name) separately to a list. This list describes the unique structure and the content of the passed R commands, and has some IMHO really great benefits (see examples below).
- A hash if computed to each list element and cached too in `pander`’s local environments. This is useful if you are using large data frames, just imagine: the caching algorithm would have to compute the hash for the same data frame each time it’s touched! This way the hash is recomputed only if the R object with the given name is changed.
- The list is serialized and an SHA-1 hash is computed for that - which is unique and there is no real risk of collision.
- If `evals` can find the cached results in a file named to the computed hash, then it is returned on the spot.
- Otherwise the call is evaluated and the results are optionally saved to cache (e.g. if `cache` is active, if the `proc.time()` of the evaluation is higher then it is defined in `cache.time` etc.).

This is a quite secure way of caching, but if you would encounter any issues, just set `cache` to `FALSE` or tweak other cache parameters. While setting `cache.dir`, please do think about what you are doing and move your `graph.dir` accordingly, as `evals` might result in returning an image file path which is not found any more on your file system!
Also, if you have generated a plot and rendered that to e.g. png before and later try to get e.g. pdf - it would fail with cache on. Similarly you cannot render a high resolution image of a cached image, but you have to (temporary) disable caching.

The default evals options could be set globally with evalsoptions, e.g. to switch off the cache just run evalsoptions('cache', FALSE).

Please check the examples carefully below to get a detailed overview of evals.

Value

a list of parsed elements each containing: src (the command run), result (R object: NULL if nothing returned, path to image file if a plot was generated), printed output, type (class of returned object if any), informative/awarning and error messages (if any returned by the command run, otherwise set to NULL) and possible stdoutt value. See Details above.

See Also

eval.msgs evalsoptions

Examples

## Not run:
# parsing several lines of R code
txt <- readLines(textConnection('x <- rnorm(100)
  runif(10)
  warning('Lorem ipsum foo-bar-foo!')
  plot(1:10)
  qplot(rating, data = movies, geom = 'histogram')
  y <- round(runif(100))
  cor.test(x, y)
  crl <- cor.test(runif(10), runif(10))
  table(mtcars$am, mtcars$cyl)
  ggplot(mtcars) + geom_point(aes(x = hp, y = mpg)))
evals(txt)

## parsing a list of commands
txt <- list('df <- mtcars',
  c('plot(mtcars$hp, pch = 19)','text(mtcars$hp, label = rownames(mtcars), pos = 4)'),'ggplot(mtcars) + geom_point(aes(x = hp, y = mpg)'))
evals(txt)

## the same commands in one string but also evaluating the `plot` with `text`
## (note the leading `+` on the beginning of `text...` line)
txt <- 'df <- mtcars
  plot(mtcars$hp, pch = 19)
  +text(mtcars$hp, label = rownames(mtcars), pos = 4)
  ggplot(mtcars) + geom_point(aes(x = hp, y = mpg))'
evals(txt)

## but it would fail without parsing
evals(txt, parse = FALSE)

## handling messages
evals('message(20)')
evals('message(20); message(20)', parse = FALSE)

## adding a caption to a plot
evals('set.caption("FOO"); plot(1:10)')
## 'plot' is started with a '*' to eval the codes in the same chunk
## (no extra chunk with NULL result)
evals('set.caption("FOO"); +plot(1:10)')

## handling warnings
evals('chisq.test(mtcars$gear, mtcars$hp)')
evals(list(c('chisq.test(mtcars$gear, mtcars$am)', 'pi',
  'chisq.test(mtcars$gear, mtcars$hp)')), parse = FALSE)
evals(c('chisq.test(mtcars$gear, mtcars$am)', 'pi',
  'chisq.test(mtcars$gear, mtcars$hp)'))

## handling errors
evals('runif(20)')
evals('Old MacDonald had a farm...')
evals('# Some comment')
evals(c('runif(20)', 'Old MacDonald had a farm?'))
evals(list(c('runif(20)', 'Old MacDonald had a farm?')), parse = FALSE)
evals(c('mean(1:10)', 'no.R.function()'))
evals(list(c('mean(1:10)', 'no.R.function()')), parse = FALSE)
evals(c('no.R.object', 'no.R.function()', 'very.mixed.up(stuff)'))
evals(list(c('no.R.object', 'no.R.function()', 'very.mixed.up(stuff)')), parse = FALSE)
evals(c('no.R.object', 'Old MacDonald had a farm...', 'pi'))
evals('no.R.object; Old MacDonald had a farm...; pi', parse = FALSE)
evals(list(c('no.R.object', 'Old MacDonald had a farm...', 'pi')), parse = FALSE)

## graph options
evals('plot(1:10)')
evals('plot(1:10); plot(2:20)')
evals('plot(1:10)', graph.output = 'jpg')
evals('plot(1:10)', height = 800)
evals('plot(1:10)', height = 800, hi.res = TRUE)
evals('plot(1:10)', graph.output = 'pdf', hi.res = TRUE)
evals('plot(1:10)', res = 30)
evals('plot(1:10)', graph.name = 'myplot')
evals(list('plot(1:10)', 'plot(2:20)'), graph.name = 'myplots-%%d')
evals('plot(1:10)', graph.env = TRUE)
evals('x <- runif(100); plot(x)', graph.env = TRUE)
evals(c('plot(1:10)', 'plot(2:20)'), graph.env = TRUE)
evals(c('x <- runif(100)', 'plot(x)', 'y <- runif(100)', 'plot(y)'), graph.env = TRUE)
evals(list(
  c('x <- runif(100)', 'plot(x)'),
  c('y <- runif(100)', 'plot(y)'),
  graph.env = TRUE, parse = FALSE)
evals('plot(1:10)', graph.recordplot = TRUE)
## unprinted lattice plot
evals('histogram(mtcars$hp)', graph.recordplot = TRUE)
## caching

system.time(evals('plot(mtcars)'))
system.time(evals('plot(mtcars)')) # running again to see the speed-up :)
system.time(evals('plot(mtcars)', cache = FALSE)) # cache disabled

## caching mechanism does check what's inside a variable:

```r
data(mtcars)  # create mtcars data frame
x <- mtcars  # assign mtcars to x
evals('plot(x)')
# plot mtcars data frame
x <- cbind(mtcars, mtcars)  # combine mtcars with itself
evals('plot(x)')
x <- mtcars  # assign mtcars to x again
system.time(evals('plot(x)'))
```

## stress your CPU - only once!

```r
evals('x <- sapply(rep(mtcars$hp, 1e3), mean)')  # run it again!
```

## play with cache

```r
require(lattice)
evals('histogram(rep(mtcars$hp, 1e5))')
```

## nor run the below call (that would return the cached version of the above call :)

```r
f <- function() { return(mean(mtcars$hp)) }  # define function
A <- rep(1, 1e5)  # create a vector of 1s
B <- 1e5  # assign 1e5 to B
f(g(A, B))  # call function
```

## or switch off cache globally:

```r
evalsOptions('cache', FALSE)
```

## and switch on later

```r
evalsOptions('cache', TRUE)
```

## evaluate assignments inside call to evals

```r
evalsOptions('cache.time', 0)
x <- 2  # assign 2 to x
evals('x <- x^2')[[1]]$result
```

## returning only a few classes

```r
txt <- readLines(textConnection('rnorm(100)
  list(x = 10:1, y = 'Godzilla!')
  c(1, 2, 3)
  matrix(0, 3, 5)'))
evals(txt, classes = 'numeric')
evals(txt, classes = c('numeric', 'list'))
```

## hooks

```r
txt <- 'runif(1:4); matrix(runif(25), 5, 5); 1:5'
hooks <- list('numeric' = round, 'matrix' = pander_return)
evals(txt, hooks = hooks)
```

## using pander's default hook
```r
evals(txt, hooks = list('default' = pander_return))
evals('22/7', hooks = list('numeric' = round))
evals('matrix(runif(25), 5, 5)', hooks = list('matrix' = round))

## setting default hook
evals(c('runif(10)', 'matrix(runif(9), 3, 3)'),
      hooks = list('default' = round))

## round all values except for matrices
evals(c('runif(10)', 'matrix(runif(9), 3, 3)'),
      hooks = list(matrix = 'print', 'default' = round))

# advanced hooks
hooks <- list('numeric' = list(round, 2), 'matrix' = list(round, 1))
evals(txt, hooks = hooks)

# return only returned values
evals(txt, output = 'result')

# return only messages (for checking syntax errors etc.)
evals(txt, output = 'msg')

# check the length of returned values and do not return looong R objects
runif(10), length = 5)

# note the following will not be filtered!
matrix(1,1,1), length = 1)

# if you do not want to let such things be eval-ed in the middle of a string
# use it with other filters :)
matrix(1,1,1), length = 1, classes = 'numeric')

# hooks & filtering
matrix(5,5,5),
      hooks = list('matrix' = pander_return),
      output = 'result')

# eval-ing chunks in given environment
myenv <- new.env()
evals('x <- c(0,10)', env = myenv)
evals('mean(x)', env = myenv)
rm(myenv)

# note: if you had not specified 'myenv', the second 'evals' would have failed
x <- c(0,10)
evals('mean(x)')

# log
x <- evals('1:10', log = 'foo')
# trace log
evalsOptions('cache.time', 0)
x <- evals('1:10', log = 'foo')
x <- evals('1:10', log = 'foo')
# log to file
t <- tempfile()
```
evalsOptions

```r
def.appended(appender.file(t), name = 'evals')
x <- evals('1:10', log = 'evals')
readLines(t)
# permanent log for all events
evalsOptions('log', 'evals')
flog.threshold(TRACE, 'evals')
evals('foo')
```

## End(Not run)

<table>
<thead>
<tr>
<th>evalsOptions</th>
<th>Querying/setting evals option</th>
</tr>
</thead>
</table>

**Description**

To list all evals options, just run this function without any parameters provided. To query only one value, pass the first parameter. To set that, use the value parameter too.

**Usage**

`evalsOptions(o, value)`

**Arguments**

- `o` option name (string). See below.
- `value` value to assign (optional)

**Details**

The following evals options are available:

- **parse**: if `TRUE` the provided `txt` elements would be merged into one string and parsed to logical chunks. This is useful if you would want to get separate results of your code parts - not just the last returned value, but you are passing the whole script in one string. To manually lock lines to each other (e.g. calling a plot and on next line adding an abline or text to it), use a plus char (`+`) at the beginning of each line which should be evaluated with the previous one(s). If set to `FALSE`, evals would not try to parse R code, it would get evaluated in separate runs - as provided. Please see examples of `evals`.

- **cache**: caching the result of R calls if set to `TRUE`.

- **cache.mode**: cached results could be stored in an environment in `current` R session or let it be permanent on disk.

- **cache.dir**: path to a directory holding cache files if cache.mode set to disk. Default to `.cache` in current working directory.

- **cache.time**: number of seconds to limit caching based on `proc.time`. If set to `0`, all R commands, if set to `Inf`, none is cached (despite the cache parameter).

- **cache.copy.images**: copy images to new files if an image is returned from cache? If set to `FALSE` (default) the "old" path would be returned.
• **classes**: a vector or list of classes which should be returned. If set to **NULL** (by default) all R objects will be returned.

• **hooks**: list of hooks to be run for given classes in the form of `list(class = fn)`. If you would also specify some parameters of the function, a list should be provided in the form of `list(fn, param1, param2=NULL)` etc. So the hooks would become `list(class1=list(fn, param1, param2=NULL)`, `list(class2=list(fn, param1, param2=NULL))` etc. See examples of `evals`. A default hook can be specified too by setting the class to `'default'`. This can be handy if you do not want to define separate methods/functions to each possible class, but automatically apply the default hook to all classes not mentioned in the list. You may also specify only one element in the list like: `hooks=list('default' = pander_return)`. Please note, that neither error/warning messages, nor stdout is captured (so: updated) while running hooks!

• **length**: any R object exceeding the specified length will not be returned. The default value (`Inf`) does not filter out any R objects.

• **output**: a character vector of required returned values. This might be useful if you are only interested in the result, and do not want to save/see e.g. messages or printed output. See examples of `evals`.

• **graph.unify**: boolean (default: `FALSE`) that determines if `evals` should try to unify the style of `base`, `lattice` and `ggplot2` plots? If set to `TRUE`, some `panderOptions()` would apply.

• **graph.name**: set the file name of saved plots which is `tempfile` by default. A simple character string might be provided where `%d` would be replaced by the index of the generating `txt` source, `%n` with an incremented integer in `graph.dir` with similar file names and `%t` by some random characters. A function’s name to be evaluated can be passed here too.

• **graph.dir**: path to a directory where to place generated images. If the directory does not exist, `evals` try to create that. Default set to `plots` in current working directory.

• **graph.output**: set the required file format of saved plots. Currently it could be any of `grDevices`: `png`, `bmp`, `jpeg`, `jpg`, `tiff`, `svg` or `pdf`. Set to `NA` not to save plots at all and tweak that setting with `capture.plot()` on demand.

• **width**: width of generated plot in pixels for even vector formats

• **height**: height of generated plot in pixels for even vector formats

• **res**: nominal resolution in ppi. The height and width of vector images will be calculated based in this.

• **hi.res**: generate high resolution plots also? If set to `TRUE`, each R code parts resulting an image would be run twice.

• **hi.res.width**: width of generated high resolution plot in pixels for even vector formats. The height and `res` of high resolution image is automatically computed based on the above options to preserve original plot aspect ratio.

• **graph.env**: save the environments in which plots were generated to distinct files (based on `graph.name`) with `env` extension?

• **graph.recordplot**: save the plot via `recordPlot` to distinct files (based on `graph.name`) with `recodplot` extension?

• **graph.RDS**: save the raw R object returned (usually with `lattice` or `ggplot2`) while generating the plots to distinct files (based on `graph.name`) with `RDS` extension?

• **log**: `NULL` or an optionally passed `logger name` from `futile.logger` to record all info, trace, debug and error messages.
**has.rownames**  

**See Also**  

`evals panderOptions`  

**Examples**  

```r  
evalsOptions()  
evalsOptions('cache')  
evalsOptions('cache', FALSE)  
```

---

**has.rownames**  

*Check if rownames are available*

**Description**  

Dummy helper to check if the R object has real rownames or not.

**Usage**  

```r  
has.rownames(x)  
```

**Arguments**  

- `x`  
  a tabular-like R object

**Value**  

TRUE OR FALSE

---

**openFileInOS**  

*Open file*

**Description**  

Tries to open a file with operating system’s default program.

**Usage**  

```r  
openFileInOS(f)  
```

**Arguments**  

- `f`  
  file (with full path)

**References**  

This function is a fork of David Hajage’s `convert` function: [https://github.com/eusebe/ascii/blob/master/R/export.r](https://github.com/eusebe/ascii/blob/master/R/export.r)
Description

\( p \) merges elements of a vector in one string for the sake of pretty inline printing. Default parameters are read from appropriate option values (see argument description for details). This function allows you to put the results of an expression that yields a variable *inline*, by wrapping the vector elements with the string provided in wrap, and separating elements by main and ending separator (sep and copula). In case of a two-length vector, value specified in copula will be used as a separator. You can also control the length of provided vector by altering an integer value specified in limit argument (defaults to Inf).

Usage

```r
p(x, wrap = panderOptions("p.wrap"), sep = panderOptions("p.sep"),
    copula = panderOptions("p.copula"), limit = Inf,
    keep.trailing.zeros = panderOptions("keep.trailing.zeros"),
    missing = panderOptions("missing"), digits = panderOptions("digits"),
    round = panderOptions("round"))
```

Arguments

- **x** an atomic vector to get merged for inline printing
- **wrap** a string to wrap vector elements (uses value set in p.wrap option: ‘_’ by default, which is a markdown-friendly wrapper and it puts the string in *italic*)
- **sep** a string with the main separator, i.e. the one that separates all vector elements but the last two (uses the value set in p.sep option - ‘,’ by default)
- **copula** a string with ending separator - the one that separates the last two vector elements (uses the value set in p.copula option, ‘and’ by default)
- **limit** maximum character length (defaults to Infinitive elements)
- **keep.trailing.zeros** to show or remove trailing zeros in numbers
- **missing** string to replace missing values
- **digits** numeric (default: 2) passed to format
- **round** numeric (default: Inf) passed to round

Value

a string with concatenated vector contents

Author(s)

Aleksandar Blagotic
References

This function was moved from rapport package: http://rapport-package.info.

Examples

```r
p(c('fee', 'fi', 'foo', 'fam'))
# [1] '_fee_ _fi_ _foo_ and _fam_'
p(1:3, wrap = '')
# [1] '1, 2 and 3'
p(LETTERS[1:5], copula = 'and the letter')
# [1] '_A_ _B_ _C_ _D_ and the letter _E_'
p(c('Thelma', 'Louise'), wrap = '', copula = '&')
# [1] 'Thelma & Louise'
```

**pander**  
*Generic pander method*

**Description**

Prints an R object in Pandoc’s markdown.

**Usage**

`pander(x = NULL, ...)`

**Arguments**

- `x` an R object
- `...` optional parameters passed to special methods and/or raw pandoc.* functions

**Value**

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

**Note**

This function can be called by pander and pandoc too.

**References**

- David Hajage (2011): _ascii_. Export R objects to several markup languages. [https://cran.r-project.org/package=ascii](https://cran.r-project.org/package=ascii)
- Hlavac, Marek (2013): _stargazer_. LaTeX code for well-formatted regression and summary statistics tables. [https://cran.r-project.org/package=stargazer](https://cran.r-project.org/package=stargazer)
Examples

```r
## Vectors
pander(1:10)
pander(letters)
pander(mtcars$am)
pander(factor(mtcars$am))

## Lists
pander(list(1, 2, 3, c(1, 2)))
pander(list(a = 1, b = 2, c = table(mtcars$am)))
pander(list(1, 2, 3, list(1, 2)))
pander(list(a = 1, 2, 3, list(1, 2)))
pander(list('FOO', letters[1:3], list(1:5), table(mtcars$gear), list('FOOBAR', list('a', 'b'))))
pander(list(a = 1, b = 2, c = table(mtcars$am), x = list(myname = 1, 2, 56))
pander(unclass(chisq.test(table(mtcars$am, mtcars$gear))))

## Arrays
pander(mtcars)
pander(table(mtcars$am))
pander(table(mtcars$am, mtcars$gear))

## Tests
pander(ks.test(runif(50), runif(50)))
pander(chisq.test(table(mtcars$am, mtcars$gear)))
pander(t.test(extra ~ group, data = sleep))

## Models
ml <- with(lm(mpg ~ hp + wt), data = mtcars)
pander(ml)
pander(anova(ml))
pander(aov(ml))

## Dobson (1990) Page 93: Randomized Controlled Trial (examples from: ?glm)
counts <- c(18, 17, 15, 20, 10, 20, 25, 13, 12)
outcome <- gl(3, 1, 9)
treatment <- gl(3, 3)
m <- glm(counts ~ outcome + treatment, family = poisson())
pander(m)
pander(anova(m))
pander(aov(m))

## Overwriting labels
pander(lm(Sepal.Width ~ Species, data = iris), covariate.labels = c('Versicolor', 'Virginica'))

## Prcomp
pander(prcomp(USArrests))

## Others
pander(density(runif(10)))
pander(density(mtcars$hp))

## Default method
x <- chisq.test(table(mtcars$am, mtcars$gear))
```
class(x) <- 'I heave never heard of!'
pander(x)

---

### pander.anova

**Pander method for anova class**

#### Description

Prints an anova object in Pandoc’s markdown.

#### Usage

```r
## S3 method for class 'anova'
pander(x, caption = attr(x, "caption"),
    add.significance.stars = FALSE, ...)
```

#### Arguments

- `x`: an anova object
- `caption`: caption (string) to be shown under the table
- `add.significance.stars`: if significance stars should be shown for P value
- `...`: optional parameters passed to `raw_pandoc_table` function

---

### pander.aov

**Pander method for aov class**

#### Description

Prints an aov object in Pandoc’s markdown.

#### Usage

```r
## S3 method for class 'aov'
pander(x, caption = attr(x, "caption"), ...)
```

#### Arguments

- `x`: an aov object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to `raw_pandoc_table` function
pander.aovlist  

Pander method for aovlist class

Description

Prints an aovlist object in Pandoc’s markdown.

Usage

## S3 method for class 'aovlist'
pander(x, caption = attr(x, "caption"), ...)

Arguments

- `x`: an aovlist object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function

pander.Arima  

Prints an arima object from stats package in Pandoc’s markdown.

Description

Prints an arima object from stats package in Pandoc’s markdown.

Usage

## S3 method for class 'Arima'
pander(x, digits = panderOptions("digits"), se = TRUE, ...

Arguments

- `x`: an arima object
- `digits`: number of digits of precision
- `se`: if to include standard error in coefficients table (default TRUE)
- `...`: optional parameters passed to raw pandoc.table function
**pander.call**

---

**Pander method for call class**

**Description**

Prints a call object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'call'
pander(x, ...)
```

**Arguments**

- `x`: a call object
- `...`: optional parameters passed to raw `pandoc.formula` function

---

**pander.cast_df**

---

**Pander method for cast_df class**

**Description**

Prints a cast_df object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'cast_df'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a cast_df object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw `pandoc.table` function
pander.character  \hspace{1cm}  \textit{Pander method for character class}

\underline{Description}

Prints a character class in Pandoc’s markdown.

\underline{Usage}

```r
## S3 method for class 'character'
pander(x, ...)
```

\underline{Arguments}

- `x`: a character object
- `...`: ignored parameters

pander.clogit  \hspace{1cm}  \textit{Pander method for clogit class}

\underline{Description}

Prints a clogit object in Pandoc’s markdown.

\underline{Usage}

```r
## S3 method for class 'clogit'
pander(x, caption = attr(x, "caption"), ...)
```

\underline{Arguments}

- `x`: an clogit object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function
pander.coxph  

Pander method for coxph class

Description

Prints a coxph object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'coxph'
pander(x, caption = attr(x, "caption"), ...)
```

Arguments

- `x` an coxph object
- `caption` caption (string) to be shown under the table
- `...` optional parameters passed to raw pandoc.table function

pander.cph  

Prints an cph object from rms package in Pandoc’s markdown.

Description

Prints an cph object from rms package in Pandoc’s markdown.

Usage

```r
## S3 method for class 'cph'
pander(x, table = TRUE, conf.int = FALSE, coefs = TRUE, ...)
```

Arguments

- `x` an cph object
- `table` if to print event frequency statistics. default(TRUE)
- `conf.int` set to e.g. .95 to print 0.95 confidence intervals on simple hazard ratios (which are usually meaningless as one-unit changes are seldom relevant and most models contain multiple terms per predictor)
- `coefs` if to the table of model coefficients, standard errors, etc. default(TRUE)
- `...` optional parameters passed to raw pandoc.table function
pander.CrossTable  

**Pander method for CrossTable class**

**Description**

Prints a CrossTable object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'CrossTable'
pander(x, caption = attr(x, "caption"),
       digits = panderOptions("digits"), total.r = x$total.r,
       total.c = x$total.c, ...)
```

**Arguments**

- `x` a CrossTable object
- `caption` caption (string) to be shown under the table
- `digits` number of digits of precision
- `total.r` if to print row totals. Default values is taken from CrossTable object
- `total.c` if to print column totals. Default values is taken from CrossTable object
- `...` optional parameters passed to raw pandoc.table function

---

pander.data.frame  

**Pander method for data.frame class**

**Description**

Prints a data.frame object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'data.frame'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x` a data.frame object
- `caption` caption (string) to be shown under the table
- `...` optional parameters passed to raw pandoc.table function
pander.data.table

Pander method for data.table class

Description

Prints a data.table object in Pandoc’s markdown. Data.tables drop attributes (like row names) when called.

Usage

```r
## S3 method for class 'data.table'
pander(x, caption = attr(x, "caption"),
       keys.as.row.names = TRUE, ...)
```

Arguments

- `x`: a data.table object
- `caption`: caption (string) to be shown under the table
- `keys.as.row.names`: controls whether to use data.table key as row names when calling pandoc.table
- `...`: optional parameters passed to raw pandoc.table function

pander.Date

Pander method for Date class

Description

Prints a Date object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'Date'
pander(x, ...)
```

Arguments

- `x`: a Date object
- `...`: optional parameters passed to raw pandoc.date function
pander.default  
*Default Pander method*

**Description**

Method to be used, when no exact S3 method for given object is found. Tries to render object as a list.

**Usage**

```r
## Default S3 method:
pander(x, ...)
```

**Arguments**

- `x`: an object
- `...`: optional parameters passed to `raw_pandoc_list` function

---

pander.density  
*Pander method for density class*

**Description**

Prints a density object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'density'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a density object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to `raw_pandoc_table` function
pander.describe  

**Pander method for describe class**

---

**Description**

Prints a describe object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'describe'
pander(x, caption = attr(x, "caption"),
       digits = panderOptions("digits"), ...)  
```

**Arguments**

- `x` : an describe object
- `caption` : caption (string) to be shown under the table
- `digits` : number of digits of precision
- `...` : optional parameters passed to raw pandoc.table function

---

pander.ets  

**Prints an ets object from forecast package in Pandoc’s markdown.**

---

**Description**

Prints an ets object from forecast package in Pandoc's markdown.

**Usage**

```r
## S3 method for class 'ets'
pander(x, digits = panderOptions("digits"), ...)  
```

**Arguments**

- `x` : an ets object
- `digits` : number of digits of precision
- `...` : optional parameters passed to raw pandoc.table function
### pander.evals

**Pander method for evals class**

#### Description

Prints a evals object in Pandoc’s markdown.

#### Usage

```r
## S3 method for class 'evals'
pander(x, ...)
```

#### Arguments

- `x`: a evals object
- `...`: ignored parameters

### pander.factor

**Pander method for factor class**

#### Description

Prints a factor object in Pandoc’s markdown.

#### Usage

```r
## S3 method for class 'factor'
pander(x, ...)
```

#### Arguments

- `x`: a factor object
- `...`: ignored parameters
### pander.formula

**Pander method for formula class**

**Description**

Prints a formula object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'formula'
pander(x, max.width = 80, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a formula object
- `max.width`: maximum width in characters per line
- `caption`: caption (string) to be shown under the formula
- `...`: optional parameters passed to raw `pandoc.formula` function

### pander.ftable

**Pander method for ftable class**

**Description**

Prints a ftable object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'ftable'
pander(x, ...)
```

**Arguments**

- `x`: a ftable object
- `...`: optional parameters passed to raw `pandoc.table` function
## pander.function

**Pander method for function class**

**Description**

Prints an function object in Pandoc's markdown.

**Usage**

```r
## S3 method for class 'function'
pander(x, add.name = FALSE, verbatim = TRUE, syntax.highlighting = FALSE, ...)
```

**Arguments**

- `x`: an function object
- `add.name`: (default: FALSE) if to add function name to output or just to print a body
- `verbatim`: (default: TRUE) if to add tabulation, so pandoc conversion will render it properly
- `syntax.highlighting`: (default: FALSE) if to add highlighting tag for R syntax
- `...`: ignored parameters

## pander.Glm

**Prints an Glm object from rms package in Pandoc's markdown.**

**Description**

Prints an Glm object from rms package in Pandoc's markdown.

**Usage**

```r
## S3 method for class 'Glm'
pander(x, coefs = TRUE, ...)
```

**Arguments**

- `x`: an Glm object
- `coefs`: if to the table of model coefficients, standard errors, etc. default(TRUE)
- `...`: optional parameters passed to raw pandoc.table function
pander.glm  Pander method for summary.glm class

Description

Prints a summary.glm object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'glm'
pander(x, caption = attr(x, "caption"), ...)
```

Arguments

- `x`: a summary.glm object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function

pander.gtable  Pander method for gtable class

Description

Renders an gtable object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'gtable'
pander(x, zsort = FALSE, ...)
```

Arguments

- `x`: an gtable object
- `zsort`: Sort by z values? Default FALSE
- `...`: optional parameters passed to raw pandoc.table function
pander.htest  

**Pander method for htest class**

**Description**

Prints a htest object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'htest'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a htest object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function

---

pander.image  

**Pander method for image class**

**Description**

Prints a image object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'image'
pander(x, caption = attr(x, "caption"), href = attr(x, "href"), ...)
```

**Arguments**

- `x`: a image object
- `caption`: caption (string) to be shown under the table
- `href`: link that image should be linked with
- `...`: ignored parameters
**pander.irts**

*Prints an irts object from tseries package in Pandoc’s markdown.*

**Description**

Prints an irts object from tseries package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'irts'
pander(x, caption = attr(x, "caption"),
       format = panderOptions("date"), ...)
```

**Arguments**

- **x**: an irts object
- **caption**: caption (string) to be shown under the table
- **format**: string passed to format when printing dates (POSIXct or POSIXlt)
- **...**: optional parameters passed to raw `pandoc.table` function

---

**pander.list**

*Pander method for list class*

**Description**

Prints a list object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'list'
pander(x, ...)
```

**Arguments**

- **x**: a list object
- **...**: ignored parameters
pander.lm  
*Pander method for summary.lm class*

**Description**

Prints a summary.lm object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'lm'
pander(x, caption = attr(x, "caption"), covariate.labels, omit, ...)
```

**Arguments**

- `x`: a summary.glm object
- `caption`: caption (string) to be shown under the table
- `covariate.labels`: vector to replace covariate labels in the table
- `omit`: vector of variable to omit for printing in resulting table
- `...`: optional parameters passed to raw `pandoc.table` function

---

pander.lme  
*Pander method for lme class*

**Description**

Prints a lme object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'lme'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a lme object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw `pandoc.table` function
pander.logical

**Pander method for logical class**

**Description**

Prints a logical object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'logical'
pander(x, ...)
```

**Arguments**

- `x`: a logical object
- `...`: ignored parameters

---

pander.lrm

**Prints an lrm object from rms package in Pandoc’s markdown.**

**Description**

Prints an lrm object from rms package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'lrm'
pander(x, coefs = TRUE, ...)
```

**Arguments**

- `x`: an lrm object
- `coefs`: if to the table of model coefficients, standard errors, etc. default(TRUE)
- `...`: optional parameters passed to raw `pandoc.table` function
pander.manova  

**Pander method for manova class**

**Description**

Prints an manova object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'manova'
pander(x, caption = attr(x, "caption"),
       add.significance.stars = FALSE, ...)
```

**Arguments**

- `x`  
  an manovv object

- `caption`  
  caption (string) to be shown under the table

- `add.significance.stars`  
  if significance stars should be shown for P value

- `...`  
  optional parameters passed to raw pandoc.table function

pander.matrix  

**Pander method for matrix class**

**Description**

Prints a matrix object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'matrix'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`  
  a matrix object

- `caption`  
  caption (string) to be shown under the table

- `...`  
  optional parameters passed to raw pandoc.table function
pander.microbenchmark  
**Pander method for microbenchmark class**

---

**Description**

Prints an microbenchmark object in Pandoc's markdown.

**Usage**

```r
## S3 method for class 'microbenchmark'
pander(x, caption = attr(x, "caption"),
       expr.labels, unit, ...)
```

**Arguments**

- `x`  an microbenchmark object
- `caption`  caption (string) to be shown under the table
- `expr.labels`  expression labels that will replace default ones (similar to rownames, which microbenchmark class table does not have)
- `unit`  units in which values should be printed (for example second, microseconds, etc.). Should be one of `ns`, `us`, `ms`, `s`, `t`, `hz`, `khz`, `mhz`, `eps`, `f`
- `...`  optional parameters passed to raw pandoc.table function

---

pander.name  
**Pander method for name class**

---

**Description**

Prints a call object in Pandoc's markdown.

**Usage**

```r
## S3 method for class 'name'
pander(x, ...)
```

**Arguments**

- `x`  a name language object
- `...`  ignored parameters
**pander.nls**

*Prints an nls object from stats package in Pandoc’s markdown.*

**Description**

Prints an nls object from stats package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'nls'
pander(x, digits = panderOptions("digits"),
       show.convergence = FALSE, ...)
```

**Arguments**

- `x`: an nls object
- `digits`: number of digits of precision
- `show.convergence`: (default: FALSE) if to print convergence info
- `...`: optional parameters passed to raw pandoc.table function

---

**pander.NULL**

*Pander method for a NULL object*

**Description**

Prints a NULL object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'NULL'
pander(x, ...)
```

**Arguments**

- `x`: a NULL object
- `...`: ignored parameters
**pander.numeric**  

Pander method for numeric class

### Description

Prints a numeric class in Pandoc’s markdown.

### Usage

```r
## S3 method for class 'numeric'
pander(x, ...)
```

### Arguments

- `x`: a numeric object
- `...`: ignored parameter

---

**pander.ols**  

Prints an ols object from rms package in Pandoc’s markdown.

### Description

Prints an ols object from rms package in Pandoc’s markdown.

### Usage

```r
## S3 method for class 'ols'
pander(x, long = FALSE, coefs = TRUE, 
       digits = panderOptions("digits"), round = panderOptions("round"), 
       ...)```

### Arguments

- `x`: an ols object
- `long`: if to print the correlation matrix of parameter estimates. default(FALSE)
- `coefs`: if to the table of model coefficients, standard errors, etc. default(TRUE)
- `digits`: passed to format. Can be a vector specifying values for each column (has to be the same length as number of columns).
- `round`: passed to round. Can be a vector specifying values for each column (has to be the same length as number of columns). Values for non-numeric columns will be disregarded.
- `...`: optional parameters passed to raw pandoc.table function
pander.orm Prints an orm object from rms package in Pandoc’s markdown.

Description
Prints an orm object from rms package in Pandoc’s markdown.

Usage
```r
## S3 method for class 'orm'
pander(x, coef = TRUE, intercepts = x$non.slopes < 10, ...
```

Arguments
- `x` an orm object
- `coef` if to the table of model coefficients, standard errors, etc. default(TRUE)
- `intercepts` if to print intercepts, by default, intercepts are only printed if there are fewer than 10 of them
- `...` optional parameters passed to raw pandoc.table function

pander.polr Prints an polr object from MASS package in Pandoc’s markdown.

Description
Prints an polr object from MASS package in Pandoc’s markdown.

Usage
```r
## S3 method for class 'polr'
pander(x, ...
```

Arguments
- `x` an polr object
- `...` optional parameters passed to raw pandoc.table function
pander.POSIXct

Pander method for POSIXct class

Description

Prints a POSIXct object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'POSIXct'
pander(x, ...)
```

Arguments

- `x` a POSIXct object
- `...` optional parameters passed to raw pandoc.date function

pander.POSIXlt

Pander method for POSIXlt class

Description

Prints a POSIXlt object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'POSIXlt'
pander(x, ...)
```

Arguments

- `x` a POSIXlt object
- `...` optional parameters passed to raw pandoc.date function
pander.prcomp  
**Pander method for prcomp class**

### Description

Prints a prcomp object in Pandoc’s markdown.

### Usage

```r
## S3 method for class 'prcomp'
pander(x, caption = attr(x, "caption"), ...)
```

### Arguments

- `x`: a prcomp object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to `raw(pandoc.table)` function

---

pander.randomForest  
**Pander method for randomForest class**

### Description

Renders an randomForest object in Pandoc’s markdown.

### Usage

```r
## S3 method for class 'randomForest'
pander(x, digits = panderOptions("digits"), ...)
```

### Arguments

- `x`: an randomForest object
- `digits`: number of digits of precision
- `...`: optional parameters passed to `raw(pandoc.table)` function
pander.rapport  Pander method for rapport class

Description
Prints a rapport object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'rapport'
pander(x, ...)
```

Arguments

- `x`: a rapport object
- `...`: ignored parameters

pander.rlm  Pander method for rlm class

Description
Prints an rlm object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'rlm'
pander(x, caption = attr(x, "caption"), ...)
```

Arguments

- `x`: an rlm object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function
pander.sessionInfo  Pander method for sessionInfo class

Description

Prints an sessionInfo object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'sessionInfo'
pander(x, locale = TRUE, compact = TRUE, ...)
```

Arguments

- **x**: an sessionInfo object
- **locale**: (default: TRUE) if to print locale output
- **compact**: (default: TRUE) if output should be compact (ommiting extra line breaks and spaces, inline printing of lists)
- **...**: ignored parameters

---

pander.smooth.spline  Pander method for smooth.spline class

Description

Prints an smooth.spline object in Pandoc’s markdown.

Usage

```r
## S3 method for class 'smooth.spline'
pander(x, ...)
```

Arguments

- **x**: an smooth.spline object
- **...**: ignored parameters
**pander.stat.table**  
*Pander method for stat.table class*

**Description**

Prints an stat.table object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'stat.table'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x` an stat.table object
- `caption` caption (string) to be shown under the table
- `...` optional parameters passed to raw pandoc.table function

---

**pander.summary.aov**  
*Pander method for summary.aov class*

**Description**

Prints a summary.aov object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.aov'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x` a summary.aov object
- `caption` caption (string) to be shown under the table
- `...` optional parameters passed to raw pandoc.table function
### pander.summary.aovlist

**Pander method for summary.aovlist class**

**Description**

Prints a summary.aovlist object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.aovlist'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a summary.aovlist object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function

### pander.summary.glm

**Pander method for summary.glm class**

**Description**

Prints a summary.glm object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.glm'
pander(x, caption = attr(x, "caption"),
       covariate.labels, omit, summary = TRUE, ...)
```

**Arguments**

- `x`: an summary.glm object
- `caption`: caption (string) to be shown under the table
- `covariate.labels`: vector to replace covariate lables in the table
- `omit`: vector of variable to omit for priting in resulting table
- `summary`: (default:TRUE) if used for summary.lm or lm
- `...`: optional parameters passed to special methods and/or raw pandoc.* functions

**Value**

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.
pander.summary.lm

Description

Prints a summary.lm object in Pandoc's markdown.

Usage

```r
## S3 method for class 'summary.lm'
pander(x, caption = attr(x, "caption"),
    covariate.labels, omit, summary = TRUE,
    add.significance.stars = FALSE, move.intercept = FALSE, ...)
```

Arguments

- `x`: an summary.lm object
- `caption`: caption (string) to be shown under the table
- `covariate.labels`: vector to replace covariate labels in the table
- `omit`: vector of variable to omit for printing in resulting table
- `summary`: (default: TRUE) if used for summary.lm or lm
- `add.significance.stars`: if significance stars should be shown for P value
- `move.intercept`: by default, the Intercept is the first coefficient in the table, which can be moved to the bottom of the table
- `...`: optional parameters passed to special methods and/or raw pandoc.* functions

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

pander.summary.lme

Description

Prints a lme object in Pandoc's markdown.

Usage

```r
## S3 method for class 'summary.lme'
pander(x, caption = attr(x, "caption"),
    summary = TRUE, ...)
```
Arguments

\texttt{x}
\hspace{4em} \text{a lme object}
\texttt{caption}
\hspace{4em} \text{caption (string) to be shown under the table}
\texttt{summary}
\hspace{4em} \text{(default: TRUE) if to print expender summary}
\texttt{...}
\hspace{4em} \text{optional parameters passed to raw pandoc.table function}

\begin{verbatim}
\textbf{pander.summary.nls} \hspace{5em} \textit{Prints an summary.nls object from stats package in Pandoc’s markdown.}
\end{verbatim}

Description

Prints an summary.nls object from stats package in Pandoc’s markdown.

Usage

```r
## S3 method for class 'summary.manova'
pander(x, caption = attr(x, "caption"),
    add.significance.stars = FALSE, ...)
```

Arguments

\texttt{x}
\hspace{4em} \text{an summary.manova object}
\texttt{caption}
\hspace{4em} \text{caption (string) to be shown under the table}
\texttt{add.significance.stars}
\hspace{4em} \text{if significance stars should be shown for P value}
\texttt{...}
\hspace{4em} \text{optional parameters passed to raw pandoc.table function}

\begin{verbatim}
\textbf{pander.summary.manova} \hspace{5em} \textit{Prints an summary.manova object from stats package in Pandoc’s markdown.}
\end{verbatim}

Description

Prints an summary.manova object from stats package in Pandoc’s markdown.

Usage

```r
## S3 method for class 'summary.nls'
pander(x, summary = TRUE,
    add.significance.stars = FALSE, digits = panderOptions("digits"),
    show.convergence = FALSE, ...)
```
**Arguments**

- `x`: an `summary.nls` object
- `summary` (default: `TRUE`) if used for `summary.lm` or `lm`
- `add.significance.stars`: if significance stars should be shown for P-value
- `digits`: number of digits of precision
- `show.convergence` (default: `FALSE`) if to print convergence info
- `...`: optional parameters passed to `pandoc.table` function

---

**Description**

Prints an `summary.polr` object from MASS package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.polr'
pander(x, digits = panderOptions("digits"),
       round = panderOptions("round"),
       keep.trailing.zeros = panderOptions("keep.trailing.zeros"), ...)
```

**Arguments**

- `x`: an `summary.polr` object
- `digits`: number of digits of precision passed to `format`
- `round`: number of rounding digits passed to `round`
- `keep.trailing.zeros`: to show or remove trailing zeros in numbers on a column basis
- `...`: optional parameters passed to `pandoc.table` function
**pander.summary.prcomp**  
*Pander method for summary.prcomp class*

**Description**

Prints a summary.prcomp object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.prcomp'
pander(x, caption = attr(x, "caption"),
       summary = TRUE, ...)
```

**Arguments**

- `x`: a summary.prcomp object
- `caption`: caption (string) to be shown under the table
- `summary`: (default: `TRUE`) if extended summary should be printed
- `...`: optional parameters passed to raw `pandoc.table` function

**pander.summary.rms**  
*Prints an summary.rms from rms package in Pandoc’s markdown.*

**Description**

Prints an summary.rms from rms package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.rms'
pander(x, ...)
```

**Arguments**

- `x`: an summary.rms object
- `...`: optional parameters passed to raw `pandoc.table` function
**pander.summary.survreg**

*Prints an survreg object from survival package in Pandoc’s markdown.*

---

**Description**

Prints an survreg object from survival package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.survreg'
pander(x, summary = TRUE,
       digits = panderoptions("digits"), round = panderoptions("round"),
       keep.trailing.zeros = panderoptions("keep.trailing.zeros"), ...)
```

**Arguments**

- `x`: an survreg object
- `summary`: if summary should be printed
- `digits`: number of digits of precision passed to format
- `round`: number of rounding digits passed to round
- `keep.trailing.zeros`: to show or remove trailing zeros in numbers on a column basis width
- `...`: optional parameters passed to raw pandoc.table function

---

**pander.summary.table**

*Pander method for summary.table class*

---

**Description**

Renders an summary.table object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'summary.table'
pander(x, caption = attr(x, "caption"),
        print.call = T, ...)
```

**Arguments**

- `x`: an function object
- `caption`: caption (string) to be shown under the table
- `print.call`: (default:TRUE) if call should be printed
- `...`: optional parameters passed to raw pandoc.table function
### pander.survdiff

**Pander method for survdiff class**

**Description**

Prints an survdiff object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'survdiff'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: an survdiff object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to `pandoc.table` function

### pander.survfit

**Pander method for survfit class**

**Description**

Prints an survfit object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'survfit'
pander(x, caption = attr(x, "caption"), scale = 1,
       print.rmean =getOption("survfit.print.rmean"),
       rmean =getOption("survfit.rmean"), ...)
```

**Arguments**

- `x`: the result of a call to the survfit function.
- `caption`: caption (string) to be shown under the table
- `scale`: a numeric value to rescale the survival time, e.g., if the input data to survfit were in days, scale=365 would scale the printout to years.
- `print.rmean`, `rmean`: options for computation and display of the restricted mean
- `...`: optional parameters passed to `pandoc.table` function
pander.survreg  

*Prints an survreg object from survival package in Pandoc’s markdown.*

**Description**

Prints an survreg object from survival package in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'survreg'
pander(x, ...)
```

**Arguments**

- `x`  
  an survreg object
- `...`  
  optional parameters passed to raw pandoc.table function

---

pander.table  

*Pander method for table class*

**Description**

Prints a table object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'table'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`  
  a table object
- `caption`  
  caption (string) to be shown under the table
- `...`  
  optional parameters passed to raw pandoc.table function
pander.tabular  

**Pander method for tabular class**

**Description**

Renders a tabular object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'tabular'
pander(x, caption = attr(x, "caption"),
       emphasize.rownames = TRUE, digits = panderOptions("digits"), ...)
```

**Arguments**

- `x`: an function object
- `caption`: caption (string) to be shown under the table
- `emphasize.rownames`: (default: TRUE) if rownames should be highlighted
- `digits`: number of digits of precision
- `...`: optional parameters passed to raw pandoc.table function

---

pander.ts  

**Pander method for timeseries class**

**Description**

Prints a timeseries object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'ts'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: a timeseries object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function
**pander.zoo**  

**Pander method for zoo class**

---

**Description**

Prints a zoo object in Pandoc’s markdown.

**Usage**

```r
## S3 method for class 'zoo'
pander(x, caption = attr(x, "caption"), ...)
```

**Arguments**

- `x`: an zoo object
- `caption`: caption (string) to be shown under the table
- `...`: optional parameters passed to raw pandoc.table function

---

**panderOptions**  

**Querying/setting pander option**

---

**Description**

To list all pander options, just run this function without any parameters provided. To query only one value, pass the first parameter. To set that, use the value parameter too.

**Usage**

```r
panderOptions(o, value)
```

**Arguments**

- `o`: option name (string). See below.
- `value`: value to assign (optional)

**Details**

The following pander options are available:

- `digits`: numeric (default: 2) passed to `format`. Can be a vector specifying values for each column (has to be the same length as number of columns). Values for non-numeric columns will be disregarded.
- `decimal.mark`: string (default: .) passed to `format`
• formula.caption.prefix: string (default: 'Formula: ') passed to pandoc.formula to be used as caption prefix. Be sure about what you are doing if changing to other than 'Formula: ' or ':'.

• big.mark: string (default: '') passed to format.

• round: numeric (default: Inf) passed to round. Can be a vector specifying values for each column (has to be the same length as number of columns). Values for non-numeric columns will be disregarded.

• keep.trailing.zeros: boolean (default: FALSE) to show or remove trailing zeros in numbers

• keep.line.breaks: boolean (default: FALSE) to keep or remove line breaks from cells in a table

• missing: string (default: NA) to replace missing values in vectors, tables etc.

• date: string (default: '%Y/%m/%d %X') passed to format when printing dates (POSIXct or POSIXt)

• header.style: 'atx' or 'setext' passed to pandoc.header

• list.style: 'bullet', 'ordered' or 'roman' passed to pandoc.list. Please not that this has no effect on pander methods.

• table.style: 'multiline', 'grid', 'simple' or 'rmarkdown' passed to pandoc.table

• table.emphasize.rownames: boolean (default: TRUE) if row names should be highlighted

• table.split.table: numeric passed to pandoc.table and also affects pander methods. This option tells pander where to split too wide tables. The default value (80) suggests the conventional number of characters used in a line, feel free to change (e.g. to Inf to disable this feature) if you are not using a VT100 terminal any more :)

• table.split.cells: numeric or numeric vector (default: 30) passed to pandoc.table and also affects pander methods. This option tells pander where to split too wide cells with line breaks. Numeric vector specifies values for cells separately. Set Inf to disable.

• table.caption.prefix: string (default: 'Table: ') passed to pandoc.table to be used as caption prefix. Be sure about what you are doing if changing to other than 'Table: ' or ':'.

• table.continues: string (default: 'Table continues below') passed to pandoc.table to be used as caption for long (split) without a use defined caption

• table.continues.affix: string (default: '(continued below)') passed to pandoc.table to be used as an affix concatenated to the user defined caption for long (split) tables

• table.alignment.default: string (default: centre) that defines the default alignment of cells. Can be left, right or centre that latter can be also spelled as center.

• table.alignment.rownames: string (default: centre) that defines the alignment of rownames in tables. Can be left, right or centre that latter can be also spelled as center.

• use.hyphenation: boolean (default: FALSE) if try to use hyphenation when splitting large cells according to table.split.cells. Requires sylly.

• evals.messages: boolean (default: TRUE) passed to evals' pander method specifying if messages should be rendered

• p.wrap: a string (default: '_') to wrap vector elements passed to p function

• p.sep: a string (default: ', ') with the main separator passed to p function

• p.copula: a string (default: ' and ') with ending separator passed to p function
• `plain.ascii`: boolean (default: FALSE) to define if output should be in plain ascii or not
• `graph.nomargin`: boolean (default: TRUE) if trying to keep plots' margins at minimal
• `graph.fontfamily`: string (default: 'sans') specifying the font family to be used in images. Please note, that using a custom font on Windows requires grDevices::windowsFonts first.
• `graph.fontcolor`: string (default: 'black') specifying the default font color
• `graph.fontsize`: numeric (default: 12) specifying the base font size in pixels. Main title is rendered with 1.2 and labels with 0.8 multiplier.
• `graph.grid`: boolean (default: TRUE) if a grid should be added to the plot
• `graph.grid.minor`: boolean (default: TRUE) if a minor grid should be also rendered
• `graph.grid.color`: string (default: 'grey') specifying the color of the rendered grid
• `graph.grid.lty`: string (default: 'dashed') specifying the line type of grid
• `graph.boxes`: boolean (default: FALSE) if to render a border around of plot (and e.g. around strip)
• `graph.legend.position`: string (default: 'right') specifying the position of the legend: 'top', 'right', 'bottom' or 'left'
• `graph.background`: string (default: 'white') specifying the plots main background's color
• `graph.panel.background`: string (default: 'transparent') specifying the plot's main panel background. Please note, that this option is not supported with base graphics.
• `graph.colors`: character vector of default color palette (defaults to a colorblind theme: http://jfly.iam.u-toky.o.ac.jp/color/). Please note that this update work with base plots by appending the col argument to the call if not set.
• `graph.color.rnd`: boolean (default: FALSE) specifying if the palette should be reordered randomly before rendering each plot to get colorful images
• `graph.axis.angle`: numeric (default: 1) specifying the angle of axes' labels. The available options are based on par(les) and sets if the labels should be:
  - 1: parallel to the axis,
  - 2: horizontal,
  - 3: perpendicular to the axis or
  - 4: vertical.
• `graph.symbol`: numeric (default: 1) specifying a symbol (see the pch parameter of par)
• `knitr.auto.asis`: boolean (default: TRUE) if the results of pander should be considered as 'asis' in knitr. Equals to specifying results='asis' in the R chunk, so thus there is no need to do so if set to TRUE.
• `pandoc.binary`: full path of pandoc's binary. By default, pandoc is in the path.

See Also

`evalsoptions`
Examples

```r
## Not run:
panderOptions()
panderOptions('digits')
panderOptions('digits', 5)
```

## End(Not run)

---

**pander_return**  
*Pander and capture output*

### Description

This is a wrapper function around `pander` but instead of printing to `stdout`, this function returns a character vector of the captured lines.

### Usage

```r
pander_return(...)
```

### Arguments

`...`  
everything passed to `pander`

### See Also

`pander`

---

**Pandoc-class**  
*Reporting with Pandoc*

### Description

This R5 reference class can hold bunch of elements (text or R objects) from which it tries to create a Pandoc’s markdown text file. Exporting the report to several formats (like: PDF, docx, odt etc. - see Pandoc’s documentation) is also possible, see examples below.

### Arguments

`...`  
this is an R5 object without any direct params but it should be documented, right?

### Methods

`export(Class)` Returns the result of coercing the object to `Class`. No effect on the object itself.
Examples

```r
## Not run:
## Initialize a new Pandoc object
myReport <- Pandoc$new()

## Add author, title and date of document
myReport$author <- 'Anonymous'
myReport$title <- 'Demo'

## Or it could be done while initializing
myReport <- Pandoc$new('Anonymous', 'Demo')

## Add some free text
myReport$add.paragraph('Hello there, this is a really short tutorial!')

## Add maybe a header for later stuff
myReport$add.paragraph('# Showing some raw R objects below')

## Adding a short matrix
myReport$add(matrix(5, 5, 5))

## Or a table with even # TODO: caption
myReport$add.paragraph('Hello table:')
myReport$add(table(mtcars$sam, mtcars$gear))

## Or a "large" data frame which barely fits on a page
myReport$add(mtcars)

## And a simple linear model with Anova tables
ml <- lm(mpg ~ hp + wt, data = mtcars)
myReport$add(ml)
myReport$add(anova(ml))
myReport$add(aov(ml))

## And do some principal component analysis at last
myReport$add(prcomp(USArrests))

## Sorry, I did not show how Pandoc deals with plots:
myReport$add(plot(1:10)) # TODO: caption

## Want to see the report? Just print it:
myReport

## Exporting to PDF (default)
myReport$export()

## Or to docx in tempdir:
myReport$format <- 'docx'
myReport$export(tempfile())

## You do not want to see the generated report after generation?
myReport$export(open = FALSE)
```
Pandoc.brew

### Brew in pandoc format

#### Description

This function behaves just like brew except for the `<%...%>` tags, where Pandoc.brew first translates the R object found between the tags to Pandoc's markdown before passing to the cat function.

#### Usage

```r
Pandoc.brew(file = stdin(), output = stdout(), convert = FALSE,
open = TRUE, graph.name, graph.dir, graph.hi.res = FALSE,
text = NULL, envir = parent.frame(), append = FALSE, ...)
```

#### Arguments

- **file**: file path of the brew template. As this is passed to `readLines`, file could be an URL too, but not over SSL (for that latter `RCurl` would be needed).
- **output**: (optional) file path of the output file
- **convert**: string: format of required output document (besides Pandoc's markdown). Pandoc is called if set via `Pandoc.convert` and the converted document could be also opened automatically (see below).
- **open**: try to open converted document with operating system’s default program
- **graph.name**: character string (default to `%t` when output is set to `stdout` and `paste0(basename(output), '-%n')` otherwise) passed to `evals`. Besides `evals`'s possible tags `%i` is also available which would be replaced by the chunk number (and optionally an integer which would handle nested brew calls) and `%I` with the order of the current expression.
- **graph.dir**: character string (default to `tempdir()` when output is set to `stdout` and `dirname(graph.name)` otherwise) passed to `evals`
- **graph.hi.res**: render high resolution images of plots? Default is `FALSE` except for HTML output.
- **text**: character vector (treated as the content of the file
- **envir**: environment where to brew the template
- **append**: should append or rather overwrite (default) the output markdown text file? Please note that this option only affects the markdown file and not the optionally created other formats.
- **...**: additional parameters passed to `Pandoc.convert`
Pandoc.brew

Details

This parser tries to be smart in some ways:

- a block (R commands between the tags) could return any value at any part of the block and there are no restrictions about the number of returned R objects
- plots and images are grabbed in the document, rendered to a png file and pander method would result in a Pandoc's markdown formatted image link (so the image would be shown/included in the exported document). The images are put in plots directory in current getwd() or to the specified output file's directory.
- all warnings/messages and errors are recorded in the blocks and returned in the document as a footnote

Please see my Github page for details (http://rapporter.github.com/pander/#brew-to-pandoc) and examples (http://rapporter.github.com/pander/#examples).

Value

converted file name with full path if convert is set, none otherwise

Note

Only one of the input parameters (file or text) is to be used at once!

References


Examples

```r
## Not run:
text <- paste('

What a lovely list:

<table>
<thead>
<tr>
<th>x</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

A wide table:

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>2.2</td>
</tr>
<tr>
<td>3.3</td>
<td>4.4</td>
</tr>
</tbody>
</table>

And a nice chart:

```n

pandoc.brew(text = text)
pandoc.brew(text = text, output = tempfile(), convert = 'html')
pandoc.brew(text = text, output = tempfile(), convert = 'pdf')

## pi is awesome

```n
pandoc.brew(text='% for (i in 1:5) { %\n Pi has a lot (%i%%) of power: %pi*i%%%} %')

## package bundled examples

pandoc.brew(system.file('examples/minimal.brew', package='pander'))
pandoc.brew(system.file('examples/minimal.brew', package='pander'), output = tempfile(), convert = 'html')
pandoc.brew(system.file('examples/short-code-long-report.brew', package='pander'))
pandoc.brew(system.file('examples/short-code-long-report.brew', package='pander'))
```
output = tempfile(), convert = 'html')

## brew returning R objects
str(Pandoc.brew(text='Pi equals to <%=pi%=).
And here are some random data:

foo
bar

Pi is <%=pi%= which is smaller then <%=2%=.

str(Pandoc.brew(text='# Header <%=1%>
Pi is <%=pi%= which is smaller then <%=2%>.
foo
bar

Pi has a lot (<%=1%>) of power: <%=pi^1%><%=2%>

## End(Not run)

---

# Pandoc convert

**Converts Pandoc to other format**

## Description

Calling John MacFarlane’s great program to convert specified file (see f parameter below) or character vector see text paramater to other formats like HTML, pdf, docx, odt etc.

## Usage

```r
Pandoc.convert(f, text, format = "html", open = TRUE, options = "", footer = FALSE, proc.time, portable.html = TRUE,
               pandoc.binary = panderOptions("pandoc.binary"))
```

## Arguments

- **f**: Pandoc’s markdown format file path. If URL is provided then the generated file’s path is tempfile() but please bear in mind that this way only images with absolute path would shown up in the document.
- **text**: Pandoc’s markdown format character vector. Treated as the content of f file - so the f parameter is ignored. The generated file’s path is tempfile().
- **format**: required output format. For all possible values here check out Pandoc homepage: [http://johnmacfarlane.net/pandoc/](http://johnmacfarlane.net/pandoc/)
- **open**: try to open converted document with operating system’s default program
- **options**: optionally passed arguments to Pandoc (instead of pandoc’s default)
- **footer**: add footer to document with meta-information
- **proc.time**: optionally passed number in seconds which would be shown in the generated document’s footer
- **portable.html**: instead of using local files, rather linking JS/CSS files to an online CDN for portability and including base64-encoded images if converting to HTML without custom options
- **pandoc.binary**: path to pandoc’s binary if not found in the path
Value

Converted file’s path.

Note

This function depends on Pandoc which should be pre-installed on user’s machine. See the INSTALL file of the package.

References


Examples

## Not run:
Pandoc.convert(text = c('# Demo', 'with a paragraph'))
Pandoc.convert('http://rapporter.github.io/pander/minimal.md')
# Note: the generated HTML is not showing images with relative path from the above file.
# Based on that `pdf`, `docx` etc. formats would not work! If you want to convert an
# online markdown file to other formats with this function, please pre-process the file
# to have absolute paths instead.

## End(Not run)

---

pandoc.date.return  Dates

Description

Pandoc’s markdown date.

Usage

pandoc.date.return(x, inline = TRUE, simplified = FALSE, ...)

Arguments

- `x` date or vector of dates
- `inline` if to render vector of dates as inline paragraph or not (as list)
- `simplified` if just add date formatting to vector of dates
- `...` extra arguments passed by from parent call, disregarded

Value

By default this function outputs (see: `cat`) the result. If you would want to catch the result instead, then call the function ending in `.return`. 
Examples

```r
pandoc.date(Sys.Date())
pandoc.date(Sys.Date() - 1:10)
pandoc.date(Sys.Date() - 1:10, inline = FALSE)
```

---

**pandoc.emphasis.return**

*Emphasis*

Description

Pandoc's markdown emphasis format (e.g. *FOO*) is added to character string.

Usage

```r
pandoc.emphasis.return(x)
```

Arguments

- `x` character vector

Value

By default this function outputs (see: `cat`) the result. If you would want to catch the result instead, then call the function ending in `.return`.

References


See Also

`pandoc.strong` `pandoc.strikeout` `pandoc.verbatim`

Examples

```r
pandoc.emphasis('FOO')
pandoc.emphasis(c('FOO', '*FOO*'))
pandoc.emphasis.return('FOO')
```
**Footnote**

**Description**

Creates a Pandoc’s markdown format footnote.

**Usage**

```r
pandoc.footnote.return(x)
```

**Arguments**

- `x` character vector

**Value**

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in `.return`.

**References**


**Examples**

```r
pandoc.footnote('Automatically numbered footnote, right?')
```

---

**Formulas**

**Description**

Pandoc’s markdown formula.

**Usage**

```r
pandoc.formula.return(x, text = NULL, max.width = 80, caption, add.line.breaks = FALSE, ...)
```
Arguments

- **x** formula
- **text** text to be written before result in the same line. Typically used by calls from other functions in the package
- **max.width** maximum width in characters per line
- **caption** caption (string) to be shown under the formula
- **add.line.breaks** if to add 2 line breaks after formula
  
  ... extra arguments passed by from parent call, disregarded

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in `.return`.

Examples

```r
pandoc.formula(y ~ x)
pandoc.formula(formula(paste('y ~ ', paste0('x', 1:12, collapse = ' + '))))
```

---

pandoc.header.return  
*Create header*

Description

Creates a (Pandoc’s) markdown style header with given level.

Usage

```r
pandoc.header.return(x, level = 1, style = c("atx", "setext"))
```

Arguments

- **x** character vector
- **level** integer
- **style** atx or setext type of heading

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in `.return`.

References

Examples

```pandoc
pandoc.header('Foo!', 4)
pandoc.header('Foo!', 2, 'setext')
pandoc.header('Foo **bar**!', 1, 'setext')
```

Create horizontal rule

Description

Creates a Pandoc’s markdown format horizontal line with trailing and leading newlines.

Usage

```pandoc
pandoc.horizontal.rule.return()
```

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

References


Create pandoc image tags

Description

Creates a Pandoc’s markdown format image hyperlink.

Usage

```pandoc
pandoc.image.return(img, caption = storage$caption)
```

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>img</td>
<td>image path</td>
</tr>
<tr>
<td>caption</td>
<td>text</td>
</tr>
</tbody>
</table>
pandoc.indent

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

Note

The caption text is read from an internal buffer which defaults to NULL. To update that, call link{set.caption} before.

References


See Also

set.caption

Examples

pandoc.image('foo.png')
pandoc.image('foo.png', 'Nice image, huh?')

pandoc.indent x level = 0

Arguments

x character vector
level integer

Examples

pandoc.indent('FOO', 1)
pandoc.indent(pandoc.table.return(table(mtcars$gear)), 2)
cat(pandoc.indent(pandoc.table.return(table(mtcars$gear)), 3))

Indent text

Indent all (optionally concatenated) lines of provided text with given level.
pandoc.link.return  Create pandoc link Pandoc's markdown format link.

**Description**

Create pandoc link Pandoc's markdown format link.

**Usage**

pandoc.link.return(url, text = url)

**Arguments**

- **url**: hyperlink
- **text**: link text

**Value**

By default this function outputs (see: `cat`) the result. If you would want to catch the result instead, then call the function ending in `.return`.

**References**


**Examples**

pandoc.link('http://r-project.org')
pandoc.link('http://r-project.org', 'R')

---

pandoc.list.return  Create a list

**Description**

Creates a Pandoc's markdown format list from provided character vector/list.

**Usage**

pandoc.list.return(elements, style = c("bullet", "ordered", "roman"),
    loose = FALSE, add.line.breaks = TRUE, add.end.of.list = TRUE,
    indent.level = 0, missing = panderOptions("missing"), ...)

---
Arguments

- **elements**: character vector of strings
- **style**: the required style of the list
- **loose**: adding a newline between elements
- **add.line.breaks**: adding a leading and trailing newline before/after the list
- **add.end.of.list**: adding a separator comment after the list
- **indent.level**: the level of indent
- **missing**: string to replace missing values
- **...**: extra arguments passed by from parent call, disregarded

Value

By default this function outputs (see: `cat`) the result. If you would want to catch the result instead, then call the function ending in `.return`.

References


Examples

```r
## basic lists
pandoc.list(letters[1:5])
pandoc.list(letters[1:5], 'ordered')
pandoc.list(letters[1:5], 'roman')
pandoc.list(letters[1:5], loose = TRUE)

## nested lists
l <- list("First list element",
  rep.int("sub element", 5),
  "Second element",
  list('F', 'B', 'I', c('phone', 'pad', 'italics')))
pandoc.list(l)
pandoc.list(l, loose = TRUE)
pandoc.list(l, 'roman')

## complex nested lists
pandoc.list(list('one', as.list(2)))
pandoc.list(list('one', list('two')))
pandoc.list(list('one', list(2:3)))
```
**pandoc.p.return**

---

**Paragraphs**

**Description**

Pandoc’s markdown paragraph.

**Usage**

pandoc.p.return(x)

**Arguments**

x character vector

**Value**

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

**References**


**See Also**

pandoc.emphasis pandoc.strikeout pandocverbatim

**Examples**

```
pandoc.p('F00')
pandoc.p(c('Lorem', 'ipsum', 'lorem ipsum'))
```

---

**pandoc.strikeout.return**

---

**Add strikeout**

**Description**

Pandoc’s markdown strikeout format (e.g. ~~F00~~) is added to character string.

**Usage**

pandoc.strikeout.return(x)
Arguments

x character vector

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

References


See Also

pandoc.emphasis pandoc.strong pandoc.verbatim

Examples

pandoc.strikeout('FOO')
pandoc.strikeout(c('FOO', '~~FOO~~'))
pandoc.strikeout.return('FOO')

pandoc.strong.return Strong emphasis

Description

Pandoc’s markdown strong emphasis format (e.g. **FOO**) is added to character string.

Usage

pandoc.strong.return(x)

Arguments

x character vector

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead, then call the function ending in .return.

References

See Also

pandoc.emphasis pandoc.strikeout pandoc.verbatim

Examples

pandoc.strong('FOO')
pandoc.strong(c('FOO', '***FOO**'))
pandoc.strong.return('FOO')

Description

Creates a Pandoc’s markdown style table with optional caption and some other tweaks. See ‘Details’ below.

Usage

pandoc.table.return(t, caption, digits = panderOptions("digits"),
decimal.mark = panderOptions("decimal.mark"),
big.mark = panderOptions("big.mark"), round = panderOptions("round"),
missing = panderOptions("missing"), justify, style = c("multiline",
"grid", "simple", "rmarkdown", "jira"),
split.tables = panderOptions("table.split.table"),
split.cells = panderOptions("table.split.cells"),
keep.trailing.zeros = panderOptions("keep.trailing.zeros"),
keep.line.breaks = panderOptions("keep.line.breaks"),
plain.ascii = panderOptions("plain.ascii"),
use.hyphenening = panderOptions("use.hyphenening"), row.names, col.names,
emphasize.rownames = panderOptions("table.emphasize.rownames"),
emphasize.rows, emphasize.cols, emphasize.cells, emphasize.strong.rows,
emphasize.strong.cols, emphasize.strong.cells, emphasize.italics.rows,
emphasize.italics.cols, emphasize.italics.cells, emphasize.verbatim.rows,
emphasize.verbatim.cols, emphasize.verbatim.cells, ...)
round passed to round. Can be a vector specifying values for each column (has to be the same length as number of columns). Values for non-numeric columns will be disregarded.

missing string to replace missing values

justify defines alignment in cells passed to format. Can be left, right or centre, which latter can also be spelled as center. Defaults to centre. Can be abbreviated to a string consisting of the letters 1, c and r (e.g. 'lcr' instead of c('left', 'centre', 'right')).

style which Pandoc style to use: simple, multiline, grid or rmarkdown

split.tables where to split wide tables to separate tables. The default value (80) suggests the conventional number of characters used in a line, feel free to change (e.g. to Inf to disable this feature) if you are not using a VT100 terminal any more :)

split.cells where to split cells' text with line breaks. Default to 30, to disable set to Inf. Can be also supplied as a vector, for each cell separately (if length(split.cells) == number of columns + 1, then first value in split.cells if for row names, and others are for columns). Supports relative (percentage) parameters in combination with split.tables.

keep.trailing.zeros to show or remove trailing zeros in numbers on a column basis width

keep.line.breaks (default: FALSE) if to keep or remove line breaks from cells in a table

plain.ascii (default: FALSE) if output should be in plain ascii (without markdown markup) or not

use.hyphenening boolean (default: FALSE) if try to use hyphenening when splitting large cells according to table.split.cells. Requires sylly.

row.names if FALSE, row names are suppressed. A character vector of row names can also be specified here. By default, row names are included if rownames(t) is neither NULL nor identical to 1:nrow(x)

col.names a character vector of column names to be used in the table

emphasize.rownames boolean (default: TRUE) if row names should be highlighted

emphasize.rows deprecated for emphasize.italics.rows argument

emphasize.cols deprecated for emphasize.italics.cols argument

emphasize.cells deprecated for emphasize.italics.cells argument

emphasize.strong.rows see emphasize.italics.rows but in bold

emphasize.strong.cols see emphasize.italics.cols but in bold

emphasize.strong.cells see emphasize.italics.cells but in bold

emphasize.italics.rows a vector for a two dimensional table specifying which rows to emphasize
emphasize.italics.cols
  a vector for a two-dimensional table specifying which cols to emphasize

emphasize.italics.cells
  a vector for one-dimensional tables or a matrix-like structure with two columns
  for row and column indexes to be emphasized in two-dimensional tables. See
e.g. which(..., arr.ind = TRUE)

emphasize.verbatim.rows
  see emphasize.italics.rows but in verbatim

emphasize.verbatim.cols
  see emphasize.italics.cols but in verbatim

emphasize.verbatim.cells
  see emphasize.italics.cells but in verbatim

... unsupported extra arguments directly placed into /dev/null

Details

This function takes any tabular data as its first argument and will try to make it pretty like: rounding
and applying digits and custom decimal.mark to numbers, auto-recognizing if row names should
be included, setting alignment of cells and dropping trailing zeros by default.

pandoc.table also tries to split large cells with line breaks or even the whole table to separate parts
on demand. Other arguments lets the use to highlight some rows/cells/cells in the table with italic
or bold text style.

For more details please see the parameters above and passed arguments of panderoptions.

Value

By default this function outputs (see: cat) the result. If you would want to catch the result instead,
then call pandoc.table.return instead.

Note

If caption is missing, then the value is first checked in t object’s caption attribute and if not
found in an internal buffer set by link(set.caption). justify parameter works similarly, see
set.alignment for details.

References


See Also

set.caption, set.alignment
Examples

```r
pandoc.table(mtcars)

# caption
pandoc.table(mtcars, 'Motor Trend Car Road Tests')

# other input/output formats
pandoc.table(mtcars[, 1:3], decimal.mark = ',',)
pandoc.table(mtcars[, 1:3], decimal.mark = ',', justify = 'right')
pandoc.table(matrix(sample(1:1000, 25), 5, 5))
pandoc.table(matrix(runif(25), 5, 5))
pandoc.table(matrix(runif(25), 5, 5), digits = 5)
pandoc.table(matrix(runif(25), 5, 5), round = 1)
pandoc.table(table(mtcars$am))
pandoc.table(table(mtcars$am, mtcars$gear))
pandoc.table(table(state.division, state.region))
pandoc.table(table(state.division, state.region), justify = 'centre')

m <- data.frame(a = c(1, -500, 10320, 23, 77),
                 b = runif(5),
                 c = c('a', 'bb', 'ccc', 'dddd', 'eeeee'))
pandoc.table(m)
pandoc.table(m, justify = c('right', 'left', 'centre'))
pandoc.table(m, justify = 'rlc') # Same as upper statement

## splitting up too wide tables
pandoc.table(mtcars)
pandoc.table(mtcars, caption = 'Only once after the first part!')

## tables with line breaks in cells
## NOTE: line breaks are removed from table content in case keep.line.breaks is set to FALSE
## and added automatically based on "split.cells" parameter!
t <- data.frame(a = c('hundreds\nob\nmouses', '3 cats'), b=c('FOO is nice', 'BAR\nBARZ'))
pandoc.table(t)
pandoc.table(t, split.cells = 5)

## exporting tables in other Pandoc styles
pandoc.table(m)
pandoc.table(m, style = "grid")
pandoc.table(m, style = "simple")
pandoc.table(t, style = "grid")
pandoc.table(t, style = "grid", split.cells = 5)
tryCatch(pandoc.table(t, style = "simple", split.cells = 5),
         error = function(e) 'Yeah, no newline support in simple tables')

## highlight cells
t <- mtcars[1:3, 1:5]
pandoc.table(t$mpg, emphasize.italics.cells = 1)
pandoc.table(t$mpg, emphasize.strong.cells = 1)
pandoc.table(t$mpg, emphasize.italics.cells = 1, emphasize.strong.cells = 1)
pandoc.table(t$mpg, emphasize.italics.cells = 1:2)
pandoc.table(t$mpg, emphasize.strong.cells = 1:2)
```
pandoc.table(t, emphasize.italics.cells = which(t > 20, arr.ind = TRUE))
pandoc.table(t, emphasize.italics.cells = which(t == 6, arr.ind = TRUE))
pandoc.table(t, emphasize.verbatim.cells = which(t == 6, arr.ind = TRUE),
emphasize.italics.rows = 1)

## with helpers
emphasize.cols(1)
emphasize.rows(1)
pandoc.table(t)

emphasize.strong.cells(which(t > 20, arr.ind = TRUE))
pandoc.table(t)

## plain.ascii
pandoc.table(mtcars[1:3, 1:3], plain.ascii = TRUE)

## keep.line.breaks
x <- data.frame(a="Pandoc\nPackage")
pandoc.table(x)
pandoc.table(x, keep.line.breaks = TRUE)

## split.cells
x <- data.frame(a = "foo bar", b = "foo bar")
pandoc.table(x, split.cells = 4)
pandoc.table(x, split.cells = 7)
pandoc.table(x, split.cells = c(4, 7))
pandoc.table(x, split.cells = c("20\%", "80\%"), split.tables = 30)

y <- c("aa aa aa", "aaa aaa", "a a a a a", "aaaaa", "bbbb bbbbb bbbb", "bb bbb bbb")
y <- matrix(y, ncol = 3, nrow = 2)
rownames(y) <- c("rowname one", "rowname two")
colnames(y) <- c("colname one", "colname two", "colname three")
pandoc.table(y, split.cells = 2)
pandoc.table(y, split.cells = 6)
pandoc.table(y, split.cells = c(2, 6, 10))
pandoc.table(y, split.cells = c(2, Inf, Inf))

## first value used for rownames
pander(y, split.cells = c(5, 2, Inf, Inf))
pandoc.table(y, split.cells = c(5, 2, Inf, Inf, 5, 3, 10))

## when not enough reverting to default values
pandoc.table(y, split.cells = c(5, 2))

## split.cells with hyphenation
x <- data.frame(a = "Can be also supplied as a vector, for each cell separately",
b = "Can be also supplied as a vector, for each cell separately")
pandoc.table(x, split.cells = 10, use.hyphenening = TRUE)
**Description**

Creates a Pandoc’s markdown style title block with optional author, title and date fields.

**Usage**

```r
pandoc.title.return(author = "", title = "", date = "")
```

**Arguments**

- `author`: character vector or semicolon delimited list of authors without line break
- `title`: character vector of lines of title or multiline string with `\n` separators
- `date`: any string fit in one line

**Value**

By default this function outputs (see: `cat`) the result. If you would want to catch the result instead, then call the function ending in `.return`.

**References**


**Examples**

```r
pandoc.title("Tom", 'Render pandoc in R', '2012-05-16')
pandoc.title(c("Tom", "Jerry"), 'Render pandoc in R', '2012-05-16')
pandoc.title("Tom; Jerry", 'Render pandoc in R', '2012-05-16')
pandoc.title("Tom; Jerry", c("Render", "pandoc", "in R"), '2012-05-16')
pandoc.title("Tom; Jerry", 'Render\n pandoc \n in R', '2012-05-16')

## missing fields

```r
pandoc.title("Tom; Jerry", 'Render pandoc in R')
pandoc.title("Tom; Jerry")
pandoc.title(title = 'Render pandoc in R', date = '2012-05-16')
```

---

**Description**

Add `verbatim`

Pandoc’s markdown verbatim format (e.g. `\`FOO`) is added to character string.

**Usage**

```r
pandoc.verbatim.return(x, style = c("inline", "indent", "delim"),
  attrs = "")
```
**redraw.recordedplot**

Redraws plot saved in file

**Description**

This function is a wrapper around `redrawPlot`.

**Usage**

`redraw.recordedplot(file)`

**Arguments**

- **file** path and name of an rds file containing a plot object to be redrawn
redrawPlot

References


See Also

evals

redrawPlot

Redraw a recordedplot, grid, trellis, or ggplot2 plot.

Description

This function redraws the plot represented by rec_plot. It can redraw grid/trellis/ggplot2/etc plots, as well as recordedplot objects. For recordedplot objects it acts as a wrapper around replayPlot with memory tweaks to fix native symbol address errors when the recordedplot was loaded from an rda/rds file.

Usage

redrawPlot(rec_plot)

Arguments

rec_plot the plot object to redraw

References


See Also

redraw.recordedplot
remove.extra.newlines  Remove more then two joined newlines

Description
Remove more then two joined newlines

Usage
remove.extra.newlines(x)

Arguments
x  character vector

Examples
remove.extra.newlines(c("\n\n\n", "\n\n", "\n"))

repChar  Repeating chars

Description
Repeating a string n times and returning a concatenated character vector.

Usage
repChar(x, n, sep = "")

Arguments
x  string to repeat
n  integer
sep  separator between repetitions

Value
character vector
set.alignment

Sets alignment for tables

Description

This is a helper function to update the alignment (justify parameter in pandoc.table) of the next returning table. Possible values are: centre or center, right, left.

Usage

set.alignment(default = panderoptions("table.alignment.default"),
row.names = panderoptions("table.alignment.rownames"),
permanent = FALSE)

Arguments

default character vector which length equals to one (would be repeated n times) or n - where n equals to the number of columns in the following table
row.names string holding the alignment of the (optional) row names
permanent (default FALSE) if alignment is permanent (for all future tables) or not. It’s cleaner to use panderoptions instead.

set.caption

Adds caption in current block

Description

This is a helper function to add a caption to the returning image/table.

Usage

set.caption(x, permanent = FALSE)

Arguments

x string
permanent (default FALSE) if caption is permanent (for all future tables) or not
### splitLine

**Split line with line breaks depending on max.width**

**Description**

This is a helper function to insert line breaks depending on (split.cells parameter of pandoc.table) of the returning table.

**Usage**

```r
splitLine(x, max.width = panderOptions("table.split.cells"),
          use.hyphenening = FALSE)
```

**Arguments**

- **x**
  
  string to be split. Works only with one string. Non-string arguments and multi-dimensional arguments are returned unchanged.

- **max.width**
  
  default integer value specifying max number of characters between line breaks.

- **use.hyphenening**
  
  (default: FALSE) if try to use hyphenening when splitting large cells according to table.split.cells. Requires `sylly`.

**Value**

character string with line breaks

**Examples**

```r
splitLine("foo bar", 6)
splitLine("foo bar", 7)
splitLine("Pandoc Package", 3, TRUE)
```

### trim.spaces

**Trim leading and trailing spaces**

**Description**

Trim leading and trailing spaces

**Usage**

```r
trim.spaces(x)
```

**Arguments**

- **x**
  
  character vector
**wrap**

**Value**

character vector

**See Also**

`trim.space` in `rapport` package

---

**wrap**  

**Wrap Vector Elements**

---

**Description**

Wraps vector elements with string provided in `wrap` argument.

**Usage**

`wrap(x, wrap = "\")`

**Arguments**

- `x` a vector to wrap
- `wrap` a string to wrap around vector elements

**Value**

a string with wrapped elements

**Author(s)**

Aleksandar Blagotic

**References**

This function was moved from `rapport` package: [http://rapport-package.info](http://rapport-package.info).

**Examples**

```r
## Not run:
wrap('foobar')
wrap(c('fee', 'fi', 'foo', 'fam'), '_')

## End(Not run)
```
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