

Package ‘edar’

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Type Package

Title Convenient Functions for Exploratory Data Analysis

Version 0.0.5

Description

A collection of convenient functions to facilitate common tasks in exploratory data analysis. Some common tasks include generating summary tables of variables, displaying tables as a 'flextable' or a 'kable' and showing distributions of variables using 'ggplot2'. Labels stating the source file with run time can be easily generated for annotation in tables and plots.

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Encoding UTF-8

URL <https://soutomas.github.io/edar/>,

<https://github.com/soutomas/edar/>

BugReports <https://github.com/soutomas/edar/issues>

RoxygenNote 7.3.3

Imports dplyr, flextable, grDevices, janitor, kableExtra, knitr, magrittr, patchwork, rlang, rstudioapi, scales, tidyverse

Suggests ggplot2, gt

Depends R (>= 4.2.0)

NeedsCompilation no

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fc	<i>Copy files and rename with date</i>
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Description

Copy files to destination and add date to file name with a tag as desired.

Usage

```
fc(fpath, des = "", tag = "-")
```

Arguments

fpath	<chr> A vector of file paths of the source files to copy.
des	<chr> Destination folder.
tag	<chr> Tag to the filename.

Value

A logical vector indicating if the operation succeeded for each of the files.

Examples

```
## Not run:
# Copy a file to home directory
tmp <- tempdir()
fc(c("f1.R", "f2.R"), des=tmp)

## End(Not run)
```

ft	<i>flextable wrapper</i>
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Description

Sugar function for default flextable output.

Usage

```
ft(d, fnote = NULL, ttl = NULL, sig = 8, dig = 2, src = 0, omit = "")
```

Arguments

d	<dfr> A data frame.
fnote	<chr> Footnote.
ttl	<chr> Title.
sig	<int> Number of significant digits to compute.
dig	<int> Number of decimal places to display.
src	<int> Either 1 or 2 to add source label over 1 or 2 lines.
omit	<chr> Text to omit from the source label.

Value

A flextable object.

Examples

```
mtcars |> head() |> ft()
mtcars |> head() |> ft(src=1)
mtcars |> head() |> ft("Footnote")
mtcars |> head() |> ft("Footnote",src=1)
mtcars |> head() |> ft(sig=2,dig=1)
```

ft_def	<i>flextable default</i>
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Description

Sugar function to set flextable defaults. The arguments are passed to `flextable::set_flextable_defaults()`.

Usage

```
ft_def(font = "Calibri Light", fsize = 10, pad = 3)
```

Arguments

<code>font</code>	<chr> Font family - for <code>font.family</code> .
<code>fsize</code>	<int> Font size (in point) - for <code>font.size</code> .
<code>pad</code>	<int> Padding space around text - for <code>padding</code> .

Value

A list containing previous default values.

See Also

[flextable::set_flextable_defaults\(\)](#).

Examples

```
## Not run:
ft_def()

## End(Not run)
```

`ggcov_box`

Box plot wrapper for discrete covariates

Description

Sugar function to generate box plots for a chosen variable by discrete covariates. Orientation will follow the axis of the discrete variables. Numeric variables will be dropped, except the chosen variable to plot.

Usage

```
ggcov_box(d, var, cats, ...)
```

Arguments

<code>d</code>	<dfr> A data frame.
<code>var</code>	<var> A variable to plot as unquoted name.
<code>cats</code>	<var> Optional. A vector of selected discrete variables as unquoted names.
<code>...</code>	List of arguments to pass to <code>ggplot2::geom_boxplot</code> .

Value

A `ggplot` object of a box plot.

Examples

```
iris |> ggcov_box(Sepal.Length)
sleep |> ggcov_box(extra,group)
sleep |> ggcov_box(extra,"group") # character for `cats` will not break
d <- mtcars |> dplyr::mutate(cyl=factor(cyl),gear=factor(gear),vs=factor(vs))
d |> ggcov_box(mpg)
d |> ggcov_box(mpg,c("cyl","vs"))
```

ggcov_hist

Histogram wrapper for continuous covariates

Description

Sugar function to generate histograms for numeric variables in a dataset. Non-numeric variables will be dropped.

Usage

```
ggcov_hist(d, cols, bins = 30, ...)
```

Arguments

d	<df r> A data frame.
cols	<var> Optional. A vector of selected columns as unquoted names.
bins	<int> Number of bins.
...	Other arguments to pass to ggplot2::geom_histogram .

Value

A ggplot object with histograms of numeric variables.

Examples

```
iris |> ggcov_hist()
iris |> ggcov_hist(c(Sepal.Width,Sepal.Length))
```

`ggcov_violin`*Violin plot wrapper for discrete covariates*

Description

Sugar function to generate violin plots for a chosen variable by discrete covariates. Orientation will follow the axis of the discrete variables. Numeric variables will be dropped, except the chosen variable to plot.

Usage

```
ggcov_violin(d, var, cats, ...)
```

Arguments

<code>d</code>	<df r> A data frame.
<code>var</code>	<var> A variable to plot as unquoted name.
<code>cats</code>	<var> Optional. A vector of selected discrete variables as unquoted names.
<code>...</code>	List of arguments to pass to ggplot2::geom_violin .

Value

A ggplot object with violin plots.

Examples

```
iris |> ggcov_violin(Sepal.Length)
sleep |> ggcov_violin(extra,group)
sleep |> ggcov_box(extra,"group") # character for `cats` will not break
d <- mtcars |> dplyr::mutate(cyl=factor(cyl),gear=factor(gear),vs=factor(vs))
d |> ggcov_violin(mpg)
d |> ggcov_violin(mpg,c("cyl","vs"))
```

`ggsrc`*Add source label to a ggplot object*

Description

Generate and add a source label with file path and run time to a ggplot object.

Usage

```
ggsrc(plt, span = 2, size = 8, col = "grey55", lab = NULL, omit = "")
```

Arguments

plt	A ggplot object.
span	<num> Number of lines: either 1 or 2.
size	<num> Text size.
col	<chr> Colour of the text.
lab	<chr> Custom label to use instead of the default.
omit	<chr> Text to omit from the label.

Value

A ggplot object with the added label.

Examples

```
# A source label can be easily added to a ggplot object.
library(ggplot2)
p = ggplot(mtcars, aes(mpg, wt)) + geom_point()
p |> ggsr()
p |> ggsr(lab="My label")
```

hcln

Generate hex colour codes for plotting

Description

Create a vector of hex colour codes for the desired number of colours. Colours are generated by splitting hue in the range [0, 360] in [grDevices::hcl](#).

Usage

```
hcln(n, show = FALSE)
```

Arguments

n	<int> Number of colours to output.
show	<lgl> TRUE to show the output colours.

Value

Hex colour codes that can be used for plotting.

Examples

```
hcln(6, FALSE)
hcln(4, TRUE)
```

kb	<i>kable wrapper</i>
----	----------------------

Description

Sugar function for default kable output.

Usage

```
kb(d, fnote = NULL, cap = NULL, sig = 8, dig = 2, src = 0, omit = "")
```

Arguments

d	<df r> A data frame.
fnote	<chr> Footnote.
cap	<chr> Caption.
sig	<int> Number of significant digits to compute.
dig	<int> Number of decimal places to display.
src	<int> Either 1 or 2 to add source label over 1 or 2 lines.
omit	<chr> Text to omit from the source label.

Value

A kable object

Examples

```
mtcars |> head() |> kb()
mtcars |> head() |> kb(src=1)
mtcars |> head() |> kb("Footnote")
mtcars |> head() |> kb("Footnote",src=1)
mtcars |> head() |> kb(sig=2,dig=1)
```

label_src	<i>Generate source label</i>
-----------	------------------------------

Description

Generate a source label with file path and run time. In interactive sessions, the function uses `rstudioapi` to get the file path. It is designed to work in a script file in RStudio when running interactively. It will return empty if run in the console directly.

Usage

```
label_src(span = 2, omit = "", tz = TRUE)
```

Arguments

- | | |
|------|---------------------------------------|
| span | <int> Number of lines: either 1 or 2. |
| omit | <chr> Text to omit from the label. |
| tz | <lgl> FALSE to exclude time stamp. |

Value

A label showing the source file path with a time stamp.

Examples

```
label_src(1)  
label_src(tz=FALSE)
```

label_tz	<i>Generate time stamp label</i>
----------	----------------------------------

Description

Generate a time stamp label of the current time.

Usage

```
label_tz(omit = "")
```

Arguments

- | | |
|------|------------------------------------|
| omit | <chr> Text to omit from the label. |
|------|------------------------------------|

Value

A label with time stamp.

Examples

```
label_tz()
```

<code>summ_by</code>	<i>Summarise continuous variables by group</i>
----------------------	------------------------------------------------

Description

Summarise all continuous variables by group. Non-numeric variables will be dropped.

Usage

```
summ_by(d, cols, ..., pct = c(0.25, 0.75), xname = "")
```

Arguments

<code>d</code>	<dfr> A data frame.
<code>cols</code>	<var> Optional. Select a vector of variables as unquoted names.
<code>...</code>	<var> Optional. Columns to group by as unquoted names.
<code>pct</code>	<num> A vector of two indicating the percentiles to compute.
<code>xname</code>	<chr> Characters to omit in output column names.

Value

A data frame of summarised variables.

Examples

```
iris |> summ_by()
iris |> summ_by(pct=c(0.1,0.9))
d <- mtcars |> dplyr::mutate(vs=factor(vs), am=factor(am))
d |> summ_by(mpg)
d |> summ_by(mpg,vs)
d |> summ_by(mpg,vs,am)
d |> summ_by(c(mpg,disp))
d |> summ_by(c(mpg,disp),vs)
d |> summ_by(c(mpg,disp),vs,xname="mpg_")
# grouping without column selection is possible but rarely useful in large dataset
d |> summ_by(,vs)
```

<code>summ_cat</code>	<i>Summarise categorical variables</i>
-----------------------	----------------------------------------

Description

Summarise categorical variables. Numeric variables will be dropped.

Usage

```
summ_cat(d, pos)
```

Arguments

- | | |
|-----|---------------------------------------------------------------------|
| d | A data frame. |
| pos | <chr/int> (name or position) Optional. Choose a variable to return. |

Value

A list containing summaries for each categorical variables.

Examples

```
iris |> summ_cat()  
sleep |> summ_cat()  
sleep |> summ_cat("group")  
sleep |> summ_cat(1)
```

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