

Package ‘glancedata’

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Type Package

Title Generate tables and plots to get summaries of data

Version 1.0.0

Description Generate data frames for all the variables with some summaries and also some plots for numerical variables.
Several functions from the 'tidyverse' and 'GGally' packages are used.

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Imports GGally, dplyr, forcats, ggplot2, openxlsx, purrr, tibble, tidy, gridExtra

Suggests testthat (>= 2.1.0), covr, spelling, knitr, rmarkdown, skimr

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`glance_data`*Glance Data*

Description

Provides a summary of data with the the following columns:

`name` Name of the column.

`type` Type of the column, equal to "numerical", "logical", "factor", "categorical", or "NA only".

`distinct_values` Count of distinct values. It ignores NA values. Thus, if a columns only has NAs, then the value of this field will be zero.

`minimum` Minimum of numerical columns excluding NA values.

`median` Median of numerical columns excluding NA values.

`maximum` Maximum of numerical columns excluding NA values.

`mean` Mean of numerical variables. It ignores NAs.

`sd` Standard deviation of numerical variables. It ignores NAs.

`na_proportion` Proportion of NAs.

`count` Tally of values if the column has 5 values at most. This value (5) can be modified with the parameter `limit2tally`.

`sample_values` Sample of (different) values in each column.

Usage

```
glance_data(x, limit2tally = 20)
```

Arguments

`x` A dataframe with named columns.

`limit2tally` One of the summaries is a tally of the distinct values on each column. If there are too many different values in a column, this summary would be meaningless. This `limit2tally` is the limit of distinct values to tally. If there are more than that it returns "Too many unique values".

Value

A tibble.

Author(s)

Guillermo Basulto-Elias

Examples

```
glance_data(iris)
```

`glance_data_in_workbook`*Export glance data to Excel Workbook*

Description

It is similar to `glance_data` but instead of creating a single dataframe, it creates a list of seven dataframes:

`all` Same output as `glance_data`.

`summary` A tally of columns by type. A dataframe with two columns: column type and count.

`all_nas` Summary of columns with only NAs.

`single_value` Summary of columns with a single value besides NAs. It might be numeric or character.

`binary` Summary of columns with two values besides NAs. It might be numerical or categorical.

`numerical` Summary of all numerical columns when there are more than two possible values.

`categorical` Summary of all categorical columns when there are more than two possible values.

Usage

```
glance_data_in_workbook(dataframe, filename = NULL, limit2tally = 20)
```

Arguments

<code>dataframe</code>	Dataframe to be summarized
<code>filename</code>	File name of the Excel file, e.g., "mydataglance.xlsx". By default, no file name is provided and, therefore, no Excel is created.
<code>limit2tally</code>	One of the summaries is a tally of the distinct values on each column. If there are too many different values in a column, this summary would be meaningless. This <code>limit2tally</code> is the limit of distinct values to tally. If there are more than that it returns "Too many unique values".

Details

If a XLSX file name is provided, it will create a file with seven sheets, corresponding to the seven dataframes above.

Finally, the last elements of the list (and the last five sheets if the filename is provided), are disjoint. That is, if a the summary of a column is included in "binary", it will not be included in "numerical".

Value

A list

Author(s)

Guillermo Basulto-Elias

Examples

```
## Create a list of dataframes. If you provide the `filename`  
## parameter to be equal to, say, "myglance.xlsx", then it will  
## create an Excel workbook and place the content of each  
## dataframe in a separate sheet.  
glance_data_in_workbook(iris)
```

plot_discrete_vars *Plot Discrete Variables*

Description

Creates a grid of bar plots for variables with at most `nvalues` (15 is the default) different values.

Usage

```
plot_discrete_vars(x, nvalues = 15, sort_by_frequency = FALSE)
```

Arguments

<code>x</code>	Data frame, tibble or matrix with data.
<code>nvalues</code>	Integer. It creates a bar plot for each variable with at most this amount of different values. The default value is 15.
<code>sort_by_frequency</code>	Logical. It casts every variable to factor and then reorders the levels by frequency before generating the plot.

Value

A GGplot object.

Author(s)

Guillermo Basulto-Elias

Examples

```
library(glancedata)  
  
plot_discrete_vars(mtcars)  
plot_discrete_vars(mtcars, sort_by_frequency = TRUE)  
plot_discrete_vars(iris)  
  
## The following two examples give a warning because they don't  
## have any variable with fewer than 15 different values.  
plot_discrete_vars(cars)  
plot_discrete_vars(state.x77)
```

`plot_numerical_vars` *Plot Continuous Variables*

Description

Graphical summaries of numerical variables using functions from `ggplot2` and `GGally`.

Usage

```
plot_numerical_vars(x, plot_type)
```

Arguments

<code>x</code>	Data frame which may include continuous and discrete variables. Non-continuous variables are ignored.
<code>plot_type</code>	Plot type. Current options: "pairwise" Calls <code>ggpairs</code> to get plots of pairwise differences. Avoid it if there are too many numerical variables. "density" Calls <code>geom_density</code> and <code>geom_rug</code> . "histogram" Calls <code>geom_histogram</code> and <code>geom_rug</code> . "violin" Calls <code>geom_violin</code> and <code>geom_jitter</code> . "boxplot" Calls <code>geom_boxplot</code> . "qqplot" Calls <code>stat_qq_line</code> and <code>stat_qq</code> .

Value

A `ggplot` object.

Author(s)

Guillermo Basulto-Elias

Examples

```
library(glancedata)

plot_numerical_vars(iris, "pairwise")
plot_numerical_vars(iris, "density")
plot_numerical_vars(iris, "boxplot")
plot_numerical_vars(iris, "violin")
plot_numerical_vars(iris, "histogram")
plot_numerical_vars(iris, "qqplot")
```

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