

Package: tidycorrgram (via r-universe)

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Type Package

Title Tidy Correlation Matrices and 'ggplot2' Correlograms

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Description Computes correlation matrices as tidy data frames and creates publication-ready correlograms with 'ggplot2'. The package is designed for teaching and exploratory analysis workflows where users want one consistent interface for selecting numeric variables, calculating pairwise correlations, optionally estimating p-values, reordering variables, and drawing tile, point, or mixed correlograms.

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Depends R (>= 4.1.0)

Imports ggplot2, stats

URL <https://github.com/zhangx60/tidycorrgram>

BugReports <https://github.com/zhangx60/tidycorrgram/issues>

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tidycorrgram-package	<i>Tidy Correlation Matrices and ggplot2 Correlograms</i>
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Description

Compute correlation matrices as tidy data frames and create publication-ready correlograms with **ggplot2**.

Details

The main functions are [corrgram_data](#) for computing tidy correlation tables and [corrgram](#) for drawing correlograms.

See Also

[corrgram_data](#), [corrgram](#)

corrgram	<i>Create a correlogram</i>
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Description

`corrgram()` computes correlations and returns a **ggplot2** correlogram.

Usage

```
corrgram(
  data,
  columns = NULL,
  method = c("pearson", "kendall", "spearman"),
  use = "pairwise.complete.obs",
  triangle = c("lower", "full", "upper"),
  diagonal = TRUE,
  reorder = c("hclust", "none", "alphabetical"),
  p_values = FALSE,
  adjust = c("none", "holm", "hochberg", "hommel", "bonferroni", "BH", "BY", "fdr"),
  alpha = 0.05,
  exact = NULL,
```

```

  geom = c("tile", "point", "mixed"),
  labels = FALSE,
  label_digits = 2,
  palette = corrgram_palette(),
  significant_only = FALSE
)

```

Arguments

<code>data</code>	A data frame.
<code>columns</code>	Optional column selection. Use <code>NULL</code> to select all numeric columns, a character vector of names, a numeric vector of positions, or a logical vector with length <code>ncol(data)</code> .
<code>method</code>	Correlation method passed to <code>stats::cor()</code> and <code>stats::cor.test()</code> .
<code>use</code>	Missing-value handling passed to <code>stats::cor()</code> .
<code>triangle</code>	Which part of the matrix to return: "full", "lower", or "upper".
<code>diagonal</code>	Should diagonal values be retained?
<code>reorder</code>	Variable ordering. "none" preserves the selected column order, "alphabetical" sorts names, and "hclust" uses hierarchical clustering on $1 - \text{abs}(\text{correlation})$.
<code>p_values</code>	Should pairwise correlation p-values be computed?
<code>adjust</code>	P-value adjustment method passed to <code>stats::p.adjust()</code> .
<code>alpha</code>	Significance threshold used to create the significant column when <code>p_values = TRUE</code> .
<code>exact</code>	Passed to <code>stats::cor.test()</code> for rank-based methods. The default <code>NULL</code> lets R choose.
<code>geom</code>	Plot style. "tile" uses colored squares, "point" uses sized circles, and "mixed" combines both.
<code>labels</code>	Should correlation values be drawn as text?
<code>label_digits</code>	Number of digits for text labels.
<code>palette</code>	A named color vector with low, mid, and high values.
<code>significant_only</code>	If <code>TRUE</code> , non-significant off-diagonal cells are removed using adjusted p-values and <code>alpha</code> . This sets <code>p_values = TRUE</code> .

Value

A `ggplot2` object.

See Also

[corrgram_data](#), [corrgram_palette](#)

Examples

```

corrgram(mtcars, columns = c("mpg", "disp", "hp", "wt"))
corrgram(mtcars, geom = "point", triangle = "upper", diagonal = FALSE)

```

 corrgram_data

Compute a tidy correlation matrix

Description

corrgram_data() selects numeric columns, computes pairwise correlations, and returns the matrix as a tidy data frame that is ready for **ggplot2**.

Usage

```
corrgram_data(
  data,
  columns = NULL,
  method = c("pearson", "kendall", "spearman"),
  use = "pairwise.complete.obs",
  triangle = c("full", "lower", "upper"),
  diagonal = TRUE,
  reorder = c("none", "hclust", "alphabetical"),
  p_values = FALSE,
  adjust = c("none", "holm", "hochberg", "hommel", "bonferroni", "BH", "BY", "fdr"),
  alpha = 0.05,
  exact = NULL
)
```

Arguments

data	A data frame.
columns	Optional column selection. Use NULL to select all numeric columns, a character vector of names, a numeric vector of positions, or a logical vector with length ncol(data).
method	Correlation method passed to <code>stats::cor()</code> and <code>stats::cor.test()</code> .
use	Missing-value handling passed to <code>stats::cor()</code> .
triangle	Which part of the matrix to return: "full", "lower", or "upper".
diagonal	Should diagonal values be retained?
reorder	Variable ordering. "none" preserves the selected column order, "alphabetical" sorts names, and "hclust" uses hierarchical clustering on $1 - \text{abs}(\text{correlation})$.
p_values	Should pairwise correlation p-values be computed?
adjust	P-value adjustment method passed to <code>stats::p.adjust()</code> .
alpha	Significance threshold used to create the significant column when p_values = TRUE.
exact	Passed to <code>stats::cor.test()</code> for rank-based methods. The default NULL lets R choose.

Value

A data frame with columns var1, var2, r, abs_r, row, and col. If p_values = TRUE, it also includes p, p_adjusted, and significant.

Examples

```
corrgram_data(mtcars, columns = c("mpg", "disp", "hp", "wt"))
corrgram_data(mtcars, triangle = "lower", diagonal = FALSE)
```

corrgram_palette *Create a diverging correlogram palette*

Description

Create a reusable three-color diverging palette for [corrgram](#).

Usage

```
corrgram_palette(low = "#3B4CC0", mid = "#F7F7F7", high = "#B40426")
```

Arguments

low	Color used for correlations near -1.
mid	Color used for correlations near 0.
high	Color used for correlations near 1.

Value

A named character vector with low, mid, and high.

Examples

```
corrgram_palette()
corrgram_palette(low = "#2166AC", mid = "white", high = "#B2182B")
```

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