Package: tidycorrgram (via r-universe)

June 16, 2026

Type Package

Title Tidy Correlation Matrices and 'ggplot2' Correlograms

Version 0.1.0

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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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Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

Depends R (>= 4.1.0)

Imports ggplot2, stats

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

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

Repository https://zhangx60.r-universe.dev

Date/Publication 2026-06-07 05:00:34 UTC

RemoteUrl https://github.com/zhangx60/tidycorrgram

RemoteRef HEAD

RemoteSha fe7505c94e993663ed08ecfa3de9d80a291601f1

Contents

`tidycorrgram-package` *Tidy Correlation Matrices and ggplot2 Correlograms*

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` *Create a correlogram*

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

`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 `stats::cor()` and `stats::cor.test()`.
`use`	Missing-value handling passed to `stats::cor()`.
`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 - abs(correlation)`.
`p_values`	Should pairwise correlation p-values be computed?
`adjust`	P-value adjustment method passed to `stats::p.adjust()`.
`alpha`	Significance threshold used to create the `significant` column when `p_values = TRUE`.
`exact`	Passed to `stats::cor.test()` for rank-based methods. The default `NULL` lets R choose.
`geom`	Plot style. `"tile"` uses colored squares, `"point"` uses sized circles, and `"mixed"` combines both.
`labels`	Should correlation values be drawn as text?
`label_digits`	Number of digits for text labels.
`palette`	A named color vector with `low`, `mid`, and `high` values.
`significant_only`	If `TRUE`, non-significant off-diagonal cells are removed using adjusted p-values and `alpha`. This sets `p_values = TRUE`.

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 `stats::cor()` and `stats::cor.test()`.
`use`	Missing-value handling passed to `stats::cor()`.
`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 - abs(correlation)`.
`p_values`	Should pairwise correlation p-values be computed?
`adjust`	P-value adjustment method passed to `stats::p.adjust()`.
`alpha`	Significance threshold used to create the `significant` column when `p_values = TRUE`.
`exact`	Passed to `stats::cor.test()` 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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