Package ‘gglm’

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Type Package
Title Grammar of Graphics for Linear Model Diagnostic Plots
Version 1.0.3
Description Allows for easy creation of diagnostic plots for a variety of model objects using the Grammar of Graphics. Provides functionality for both individual diagnostic plots and an array of four standard diagnostic plots.
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Description

Provides four standard visual model diagnostic plots with 'ggplot2'.

Usage

gglm(data, theme = ggplot2::theme_gray(), ...)

Arguments

data A model object of type 'lm' or 'glm'.
theme The theme of the 'ggplot's to be produced.
... Currently ignored. For extendability.

Value

A a 'ggplot2' object for visual diagnostic of model validity.

Examples

data(mtcars)
m1 <- lm(mpg ~ cyl + disp + hp, data = mtcars)
gglm(m1)

Description

Returns the possible model classes that 'gglm' works with.

Usage

list_model_classes(...)
Arguments

... Currently ignored. For extendability.

Value

A character vector containing the possible model classes that `gglm` works with.

Note

Note that these are not always the exact name of the class that that can be used. This is due to how some methods are written in the packages `gglm` imports. For example, the model class "merMod" refers to a variety of model outputs from `lme4`, even when the outputted class is not called "merMod".

Examples

```r
list_model_classes()
```

Description

Cook’s Distance vs. Leverage

Usage

```r
stat_cooks_leverage(
  alpha = 0.5,
  method = "loess",
  color = "steelblue",
  se = FALSE,
  ...
)
```

Arguments

- `alpha`: Adjust transparency of points.
- `method`: Method for fitting the line to the points.
- `color`: Color of the line.
- `se`: Keep standard error bands around line?
- `...`: Currently ignored. For extendability.

Value

A `ggplot2` layer for plotting Cook’s Distance vs. Leverage.
Examples
data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_cooks_leverage()

---

stat_cooks_obs

Description
‘ggplot2’ layer for plotting cook’s distance by observation number.

Usage
stat_cooks_obs(...)

Arguments
...

Currently ignored. For extendability.

Value
A ‘ggplot2’ layer for plotting cook’s distance by observation number.

Examples
data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_cooks_obs()

---

stat_fitted_resid

Description
‘ggplot2’ layer for plotting a fitted vs. residual scatter plot.

Usage
stat_fitted_resid(alpha = 0.5, ...)

Arguments
alpha

Adjust transparency of points.

...

Currently ignored. For extendability.
stat_normal_qq

Value

A ‘ggplot2’ layer for plotting a fitted vs. residual scatter plot.

Examples

data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_fitted_resid()

stat_normal_qq

Description

Normal QQ plot.

Usage

stat_normal_qq(alpha = 0.5, ...)

Arguments

alpha 
Adjust transparency of points.

... 
Currently ignored. For extendability.

Value

A ‘ggplot2’ layer for plotting a Normal Q-Q plot.

Examples

data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_normal_qq()
**stat_resid_hist**

**Description**
Visualize the distribution of the residuals of a model.

**Usage**

```r
stat_resid_hist(bins = 30, ...)  
```

**Arguments**

- **bins**
  Adjust the number of bins.

- **...**
  Currently ignored. For extendability.

**Value**

A ‘ggplot2’ layer for plotting a histogram of residuals.

**Examples**

```r
data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_resid_hist()
```

---

**stat_resid_leverage**

**Description**

Residual vs. leverage plot.

**Usage**

```r
stat_resid_leverage(
  alpha = 0.5,
  method = "loess",
  se = FALSE,
  color = "steelblue",
  ...
)
```
Arguments

alpha       Adjust transparency of points.
method      Method for fitting the line to the points.
se          Keep standard error bands around line?
color       Color of the line.
...         Currently ignored. For extendability.

Value

A ‘ggplot2’ layer for plotting a fitted vs. residual scatter plot.

Examples

data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_resid_leverage()

Description

Scale location diagnostic plot.

Usage

stat_scale_location(
  alpha = 0.5,
  na.rm = TRUE,
  se = FALSE,
  method = "loess",
  color = "steelblue",
  ...
)

Arguments

alpha       Adjust the transparency of points.
na.rm       Remove points with value NA?
se          Keep standard error bands around line?
method      Method for fitting the line to the points.
color       Color of the line.
...         Currently ignored. For extendability.
Value

A ‘ggplot2’ layer for plotting the scale location diagnostic plot.

Examples

data(mtcars)
model <- lm(mpg ~ cyl + disp + hp, data = mtcars)
ggplot2::ggplot(data = model) + stat_scale_location()
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