Package ‘gglm’
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Type Package
Title Grammar of Graphics for Linear Model Diagnostic Plots
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Description Allows for easy creation of diagnostic plots for linear models using the Grammar of Graphics. Provides functionality for both individual diagnostic plots and an array of four standard diagnostic plots.
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Author Grayson White [cre, aut]
Maintainer Grayson White <graysonwhite13@gmail.com>
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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

Cook’s Distance vs. Leverage

Usage

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

stat_cooks_obs

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
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<tbody>
<tr>
<td>alpha</td>
<td>Adjust transparency of points.</td>
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<td>method</td>
<td>Method for fitting the line to the points.</td>
</tr>
<tr>
<td>color</td>
<td>Color of the line.</td>
</tr>
<tr>
<td>se</td>
<td>Keep standard error bands around line? Currently ignored. For extendability.</td>
</tr>
</tbody>
</table>

Value

A ‘ggplot2’ layer for plotting Cook’s Distance vs. Leverage.

Examples

```r
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

```r
stat_cooks_obs(...)```

Arguments

... Currently ignored. For extendability.

Value

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

Examples

```r
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.

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()

Description

Visualize the distribution of the residuals of a model.

Usage

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

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

Description

Residual vs. leverage plot.

Usage

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

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

Description

Scale location diagnostic plot.

Usage

```r
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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