Wrapper functions for tidyverse-friendly introductory linear regression, used in ModernDive package

Extract from https://cran.r-project.org/web/packages/moderndive/moderndive.pdf5

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get_correlation Get correlation value in a tidy way

Description

Determine the Pearson correlation coefficient between two variables in a data frame using pipeable and formula-friendly syntax

Usage get_correlation(data, formula)

Arguments

data	a data frame object
formula	a formula with the response variable name on the left and the explanatory variable name on the right

Value

A 1x1 data frame storing the correlation value

Examples library(moderndive)

```
# Compute correlation between mpg and cyl: mtcars %>%
get_correlation(formula = mpg ~ cyl)
```

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get_regression_points Get regression points

Description

Output information on each point/observation used in an lm() regression in "tidy" format. This function is a wrapper function for broom::augment() and renames the variables to have more intuitive names.

Usage get_regression_points(model, digits = 3, print = FALSE, newdata = NULL)

Arguments

model	an lm() model object
digits	number of digits precision in output table
print	If TRUE, return in print format suitable for R Markdown
newdata	A new data frame of points/observations to apply model to obtain new fitted values and/or predicted values y-hat. Note the format of newdata must match the format of the original data used to fit model.

Value

A tibble-formatted regression table of outcome/response variable, all explanatory/predictor variables, the fitted/predicted value, and residual.

See Also augment, get_regression_table, get_regression_summaries

Examples

```
library(moderndive) library(dplyr) library(tibble)

# Fit lm() regression: mpg_model <- lm(mpg ~ cyl, data =
mtcars)

# Get information on all points in regression: get_regression_points(mpg_model)

# Create training and test set based on mtcars:
mtcars <- mtcars %>%
  rownames_to_column(var = "model")
training_set <- mtcars %>%
  sample_frac(0.5)
test_set <- mtcars %>% anti_join(training_set, by = "model")

# Fit model to training set:
mpg_model_train <- lm(mpg ~ cyl, data = training_set)

# Make predictions on test set:
get_regression_points(mpg_model_train, newdata = test_set)
```

get_regression_summaries Get regression summary values

Description

Output scalar summary statistics for an lm() regression in "tidy" format. This function is a wrapper function for broom::glance().

Usage

```
get_regression_summaries(model, digits = 3, print = FALSE)
```

Arguments

model	an lm() model object
digits	number of digits precision in output table
print	If TRUE, return in print format suitable for R Markdown

Value

A single-row tibble with regression summaries. Ex: r_squared and mse.

See Also

glance, get_regression_table, get_regression_points

Examples

```
library(moderndive)

# Fit lm() regression:
mpg_model <- lm(mpg ~ cyl, data = mtcars)

# Get regression summaries:
get_regression_summaries(mpg_model)
```

get_regression_table Get regression table

Description

Output regression table for an lm() regression in "tidy" format. This function is a wrapper function for broom::tidy() and includes confidence intervals in the output table by default.

Usage

```
get_regression_table(model, digits = 3, print = FALSE)
```

Arguments

model	an lm() model object
digits	number of digits precision in output table
print	If TRUE, return in print format suitable for R Markdown

Value

A tibble-formatted regression table along with lower and upper end points of all confidence intervals for all parameters lower_ci and upper_ci.

See Also

tidy, get_regression_points, get_regression_summaries

Examples

```
library(moderndive)

# Fit lm() regression:
mpg_model <- lm(mpg ~ cyl, data = mtcars)

# Get regression table:
get_regression_table(mpg_model)
```