

# Package ‘RegAssure’

January 20, 2025

**Title** Streamlined Integration of Regression Assumption

**Version** 1.0.0

**Description** It streamlines the evaluation of regression model assumptions, enhancing result reliability. With integrated tools for assessing key aspects like linearity, homoscedasticity, and more. It's a valuable asset for researchers and analysts working with regression models.

**License** GPL (>= 3)

**Imports** brant, car, lmtest, pROC, stats

**Encoding** UTF-8

**RoxygenNote** 7.2.3

**Suggests** testthat (>= 3.0.0)

**Config/testthat/edition** 3

**NeedsCompilation** no

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check\_lm\_assumptions    *Check Linear Regression Model Assumptions*

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### Description

This function verifies assumptions for various linear regression models, including OLS, WLS, censored, and truncated models.

### Usage

```
check_lm_assumptions(
  model,
  studentize = TRUE,
  iterations = 1000,
  exact = NULL,
  simulate.p.value = FALSE,
  B = 2000,
  simulate = TRUE
)
```

### Arguments

|                  |   |
|------------------|---|
| model            | Object of class 'lm'. The fitted linear regression model. |
| studentize       | Argument of bptest function. Default is TRUE.             |
| iterations       | Argument of dwtest function. Default is 1000.             |
| exact            | Argument of ks.test function. Default is NULL.            |
| simulate.p.value | Argument of ks.test function. Default is FALSE.           |
| B                | Argument of ks.test function. Default is 2000.            |
| simulate         | Argument of durbinWatsonTest function. Default is TRUE.   |

### Value

A list containing the results of assumption checks.

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check\_logit    *Check Assumptions for Logit Models*

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### Description

This function performs assumption checks for logistic regression models, including binary, multinomial, and ordered models. It conducts various tests to assess the validity of the model assumptions.

**Usage**

```

check_logit(
  logit_model,
  data,
  tipo_modelo,
  vars_numericas = NULL,
  y = NULL,
  auc = NULL,
  ci = NULL,
  ret = NULL
)

```

**Arguments**

|                |   |
|----------------|---|
| logit_model    | Fitted logistic regression model.   |
| data           | dataframe containing predictor variables.   |
| tipo_modelo    | Type of logistic regression model: ("binario", "multinomial", "ordenado", "binario", "multinomial", "ordered", "ordinal") |
| vars_numericas | Numeric variables to be used in Box-Tidwell test. Default is NULL.  |
| y              | Response variable for ROC test. Default is NULL.  |
| auc            | roc function argument.  |
| ci             | roc function argument.  |
| ret            | roc function argument.  |

**Value**

A list containing the results of assumption checks.

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|             |                                   |
|-------------|-----------------------------------|
| get_predict | <i>Get Predictions and Errors</i> |
|-------------|-----------------------------------|

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**Description**

This function generates predictions from a model and calculates the errors between actual and predicted values, resulting in a dataframe containing the predicted values, actual values, and the residuals.

**Usage**

```
get_predict(modelo, datos, real, n = NULL)
```

**Arguments**

|        |  |
|--------|--|
| modelo | Fitted model object                            |
| datos  | Data frame containing predictor variables.     |
| real   | Vector of actual response values.              |
| n      | Number of digits to round the columns. Default |

**Value**

A data frame containing actual, predicted, and error values.

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