# Package 'BIOS625.HW03'

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**Type** Package

**Title** Linear Regression Package

**Version** 0.1.0

**Author** Sooyeon Oh, email = ``sooyeono@umich.edu"

**Maintainer** Sooyeon Oh <sooyeono@umich.edu>

**Description** 'linR' is an R package that performs linear regression analysis,
providing estimates of the relationship bewteen a dependent variable and one or more independent variables.
Necessary statistical outputs such as coefficients, confidence intervals, test statistic, etc. are calculated.

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**Encoding** UTF-8

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 7.3.2

**Suggests** knitr, rmarkdown, testthat (>= 3.0.0)

**VignetteBuilder** knitr

**Config/testthat/edition** 3

**NeedsCompilation** no

## Contents

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    linR                        *Linear Regression*

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### Description

This function performs linear regression.

### Usage

```
linR(formula, data, level = 0.95)
```

## Arguments

| | |
|---|---|
| formula | A formula of interest |
| data | An input data |
| level | Confidence level for the confidence intervals (default = .95) |

## Value

A list containing regression results:

- coefficients: Estimated regression coefficients.
- std_error: Standard errors of the coefficients.
- t_values: t-statistics of the coefficients.
- p_values: p-values for the t-tests.
- R_squared: R-squared value.
- adj_R_squared: Adjusted R-squared value.
- F_statistic: F-statistic for the overall model.
- F_p_value: p-value for the F-statistic.
- fitted_values: Predicted values.
- residuals: Residuals.
- degrees_of_freedom: Degrees of freedom for the model.
- CI_table: Confidence intervals for the coefficients.

## Examples

```
data(airquality)
linR(Ozone ~ Temp + Wind, data = airquality, level = 0.95)
```

# Index