Package 'boxTest'

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Type Package

Title Boxplot and Significance Test for Two Groups

Version 0.1.0

Description Provides functions to create side-by-side boxplots for a continuous variable grouped by a two-level categorical variable, check normality assumptions using the Shapiro-Wilk test (Shapiro and Wilk (1965) <doi:10.2307/2333709>), and perform appropriate statistical tests such as the independent two-sample t-test (Student (1908) <doi:10.1093/biomet/6.1.1>) or the Mann–Whitney U test (Mann–Whitney (1947) <doi:10.1214/aoms/117773
turns a publication-ready plot and test statistics including test statistic, degrees of freedom, and p-value.

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Encoding UTF-8

Depends R (>= 4.1.0)

Imports ggplot2, dplyr, stats, rlang

Suggests testthat (>= 3.0.0), knitr, rmarkdown

VignetteBuilder knitr

RoxygenNote 7.3.3

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

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`compare_two_groups` *Compare Two Groups with Boxplot and Significance Test*

Description

Generates side-by-side boxplots and runs Shapiro-Wilk tests by group to check for normality. If both groups are normally distributed, an independent two-sample t-test is applied. Otherwise, a Mann–Whitney U test (Wilcoxon rank-sum test) is performed. Returns a structured list with plots and a clear test summary.

Usage

```
compare_two_groups(data, continuous, group)
```

Arguments

`data`	A data.frame containing the variables.
`continuous`	Name of continuous variable (string).
`group`	Name of categorical variable with exactly 2 levels (string).

Value

A list containing:

plot A ggplot object of the boxplot with jittered points.

normality A data.frame showing Shapiro-Wilk test results by group.

test_summary A data.frame summarizing the statistical test used, statistic, df (if applicable), and p-value.

Examples

```
res <- compare_two_groups(mtcars, "mpg", "am")
res$plot
res$normality
res$test_summary
```

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