



1-SAMPLE WILCOXON TEST

HYPOTHESIS TESTING

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TOPIC OUTLINE

Levene's Test

1-Sample Wilcoxon Test



LEVENE'S TEST



LEVENE'S TEST

Levene's Test is a statistical test used to assess whether multiple groups have equal variances.

Hypothesis

$$H_0: \sigma_1 = \sigma_2 = \sigma_3 = \dots \sigma_n$$

$$H_a: \text{at least one } \neq \text{ (p-value } < \alpha \text{)}$$

Assumptions

- Continuous data
- Non-normal data

syntax

```
from scipy import stats

w_stat, p_value = stats.levene(
    sample_1 data,
    sample_2 data,
    sample_3 data, ... sample_n)
```



1-SAMPLE WILCOXON TEST



1-SAMPLE WILCOXON TEST

One-sample Wilcoxon test is a non-parametric statistical test used to determine whether the median of a sample is significantly different from a hypothesized value.

Hypothesis

$$H_o: M_1 = M_o$$

$$H_a: M_1 \neq M_o \text{ (p-value} < \alpha \text{)}$$

Assumptions

- Continuous or Ordinal data
- Non-normal data
- Symmetric distribution

syntax

```
from scipy import stats

stat, p_value = stats.wilcoxon(
    sample_data - M0)
```



LABORATORY

