



# 1-SAMPLE WILCOXON TEST

## HYPOTHESIS TESTING

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# TOPIC OUTLINE

Levene's Test

1-Sample Wilcoxon Test



# LEVENE'S TEST



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

## Hypothesis

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

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

## 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



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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

$$H_o: M_1 = M_o$$

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

## Assumptions

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

## syntax

```
from scipy import stats

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



# LABORATORY

