# JASP CHEATSHEET

A Fresh Way to Do Statistics

## PRODATALYTICS

PRODATALYTICS is a leading organization that helps individuals and businesses harness the power of data to make better decisions and achieve their goals. Whether you need to analyze data, interpret statistics, or learn new skills, we are here to assist you. Founded in 2023, Prodatalytics specializes in data analysis, statistical analysis, consulting, training, and coaching.

## JASP

JASP is a free, open-source statistical software that simplifies data analysis with an intuitive, user-friendly interface. It supports both classical and Bayesian analyses, making it suitable for a wide range of statistical tests. Users can perform hypothesis testing, regression, and descriptive statistics with just a few clicks. JASP is designed to meet the needs of both beginners and advanced users, making statistical analysis more accessible and transparent.

## Descriptive Statistics

| Statistic | Menu Path | Description |
|---|---|---|
| Mean | Descriptives → Descriptive Stats | Average value |
| Median | Descriptives → Descriptive Stats | Middle value |
| Mode | Descriptives → Descriptive Stats | Most frequent value |
| Standard Deviation | Descriptives → Descriptive Stats | Spread of data around the mean |
| Variance | Descriptives → Descriptive Stats | Measure of data spread |
| Skewness | Descriptives → Descriptive Stats | Asymmetry of data distribution |
| Kurtosis | Descriptives → Descriptive Stats | Sharpness of data distribution peak |

## Plots

| Plot Type | Menu Path | Description |
|---|---|---|
| Histogram | Descriptives → Descriptive Plots | Displays data distribution |
| Boxplot | Descriptives → Descriptive Plots | Shows quartiles and outliers |
| QQ-Plot | Descriptives → Descriptive Plots | Compares data to normal distribution |
| Violin Plot | Descriptives → Descriptive Plots | Combines boxplot and density plot |
| Density Plot | Descriptives → Descriptive Plots | Estimates data density |
| Scatter Plot | Regression → Scatterplots | Visualizes relationship between variables |
| Bar Plot | Frequencies → Descriptive Plots | Represents categorical data |
| Pie Chart | Frequencies → Descriptive Plots | Circular chart for categorical data |
| Line Plot | Descriptives → Descriptive Plots | Displays trends over time or sequences |
| Correlation Plot | Regression → Correlation Matrix | Visualizes correlations between variables |
| Residual Plot | Regression → Assumptions → Residuals | Checks residuals in regression models |

## Normality Tests

| Test | Menu Path | Description |
|---|---|---|
| Shapiro-Wilk Test | T-Tests → Normality Test | Tests for normal data distribution |

## Hypothesis Testing

| Test | Menu Path | Description |
|---|---|---|
| One-Sample T-Test | T-Tests → One-Sample T-Test | Tests mean against known value |
| Paired-Sample T-Test | T-Tests → Paired-Samples T-Test | Compares means from same group (paired data) |
| Independent-Sample T-Test | T-Tests → Independent-Samples T-Test | Compares means of two independent groups |
| ANOVA (One-Way) | ANOVA → One-Way ANOVA | Compares means across multiple groups |
| Chi-Square Test | Frequencies → Contingency Tables → Chi-Sq | Tests association between categorical variables |

## Non-Parametric Tests

| Test | Menu Path | Description |
|---|---|---|
| Mann-Whitney U Test | T-Tests → Independent-Samples T-Test | Non-parametric alternative to independent t-test |
| Wilcoxon Signed-Rank Test | T-Tests → Paired-Samples T-Test | Non-parametric alternative to paired t-test |
| Kruskal-Wallis Test | ANOVA → One-Way ANOVA | Non-parametric ANOVA |

*Study materials to complement the JASP workshop for PRODATALYTICS participants.*

## PRODATALYTICS

Transforming data into actionable insights.

## Effect Sizes

| Effect Size | Menu Path | Description |
|---|---|---|
| Cohen's D | T-Tests → Effect Size | Measures size of effect in T-tests |
| Eta-Squared | ANOVA → Effect Size | Measures effect size in ANOVA |

## Diagnostics Test

| Test | Menu Path | Description |
|---|---|---|
| Durbin-Watson Test | Regression → Assumptions | Tests for autocorrelation in residuals |
| Variance Inflation Factor | Regression → Diagnostics | Tests for multicollinearity in regression |

## Missing Data

| Technique | Menu Path | Description |
|---|---|---|
| Multiple Imputation | Missing Data → Multiple Imputation | Handles missing data by creating multiple imputed datasets |

## Correlation

| Correlation Type | Menu Path | Description |
|---|---|---|
| Pearson Correlation | Regression → Correlation Matrix | Measures linear relationship |
| Spearman Correlation | Regression → Correlation Matrix | Rank correlation for non-parametric |

## Regression

| Regression Type | Menu Path | Description |
|---|---|---|
| Linear Regression | Regression → Linear Regression | Models relationship between continuous variables |
| Logistic Regression | Regression → Generalized Linear | Models binary outcome |
| Multiple Regression | Regression → Linear Regression | Models with multiple predictors |

## Services - PRODATALYTICS

### Online Education
- Data Science Trainings
- Statistical Software Training (R, Python, SAS, etc.)
- PG/ Ph.D. Entrance Training NET, GATE, SET Training

### Internships
- **Area:** Statistics, Data Science, Data Analytics,
- **Duration:** One/ Three/ Six Months
- **Highlights:** Industry - University Certified

### Data Analysis
- Research - Thesis Statistical Analysis
- P.G. Project Statistical Analysis *

FOR MORE INFORMATION

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## Download JASP

## PRODATALYTICS

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*https://prodatalytics.com*