

Minitab 18

Powerful statistical software everyone can use

Minitab provides the tools you need to analyze data and find meaningful solutions to your toughest business problems.

Minitab provides convenient features that streamline your workflow, a comprehensive set of statistics for exploring your data, and graphs for communicating your success.

Features List

Assistant

- Measurement systems analysis *
- Capability analysis
- Graphical analysis
- Hypothesis tests
- Regression
- DOE
- Control charts *

Graphics

- Scatterplots, matrix plots, boxplots, dotplots, histograms, charts, time series plots, etc.
- Contour and rotating 3D plots
- Probability and probability distribution plots Automatically update graphs as data change
- Brush graphs to explore points of interest
- Export: TIF, JPEG, PNG, BMP, GIF, EMF

Basic Statistics

- Descriptive statistics
- One-sample Z-test, one- and two-sample t-tests, paired t-test
- One and two proportions tests
- One- and two-sample Poisson rate tests
- One and two variances tests
- Correlation and covariance
- Normality test
- Outlier test
- Poisson goodness-of-fit test

Regression

- Linear and nonlinear regression
- Binary, ordinal and nominal logistic regression *
- Stability studies
- Partial least squares
- Orthogonal regression *
- Poisson regression
- Plots: residual, factorial, contour, surface, etc.
- Stepwise and best subsets
- Response prediction and optimization

Analysis of Variance

- ANOVA
- General linear models *
- Mixed models *
- MANOVA
- Multiple comparisons *
- Response prediction and optimization *
- Test for equal variances
- Plots: residual, factorial, contour, surface, etc.
- Analysis of means

Measurement Systems Analysis

- Data collection worksheets
- Gage R&R Crossed *
- Gage R&R Nested *
- Gage R&R Expanded *
- Gage run chart
- Gage linearity and bias
- Type 1 Gage Study
- Attribute Gage Study
- Attribute agreement analysis

Quality Tools

- Run chart
- Pareto chart
- Cause-and-effect diagram
- Variables control charts: XBar, R, S, XBar-R, XBar-S, I, MR, I-MR, I-MR-R/S, zone, Z-MR
- Attributes control charts: P, NP, C, U, Laney P' and U'
- Time-weighted control charts: MA, EWMA, CUSUM
- Multivariate control charts: T^2 , generalized variance, MEWMA

- Rare events charts: G and T
- Historical/shift-in-process charts
- Box-Cox and Johnson transformations
- Individual distribution identification
- Process capability: normal, non-normal, attribute, batch
- Process Capability Sixpack™
- Tolerance intervals *
- Acceptance sampling and OC curves

Design of Experiments

- Definitive screening designs *
- Plackett-Burman designs
- Two-level factorial designs
- Split-plot designs
- General factorial designs *
- Response surface designs *
- Mixture designs
- D-optimal and distance-based designs
- Taguchi designs
- User-specified designs
- Analyze variability for factorial designs
- Botched runs
- Effects plots: normal, half-normal, Pareto *
- Response prediction and optimization
- Plots: residual, main effects, interaction, cube, contour, surface, wireframe

Reliability/Survival

- Parametric and nonparametric distribution analysis *
- Goodness-of-fit measures
- Exact failure, right-, left-, and interval-censored data
- Accelerated life testing
- Regression with life data
- Test plans
- Threshold parameter distributions
- Repairable systems
- Multiple failure modes
- Probit analysis
- Weibayes analysis
- Plots: distribution, probability, hazard, survival
- Warranty analysis

Power and Sample Size

- Sample size for estimation
- Sample size for tolerance intervals *
- One-sample Z, one- and two-sample t
- Paired t
- One and two proportions
- One- and two-sample Poisson rates
- One and two variances
- Equivalence tests
- One-Way ANOVA
- Two-level, Plackett-Burman and general full factorial designs
- Power curves

Multivariate

- Principal components analysis
- Factor analysis
- Discriminant analysis
- Cluster analysis
- Correspondence analysis
- Item analysis and Cronbach's alpha

Time Series and Forecasting

- Time series plots
- Trend analysis
- Decomposition
- Moving average
- Exponential smoothing
- Winters' method
- Auto-, partial auto-, and cross correlation functions
- ARIMA

Nonparametrics

- Sign test
- Wilcoxon test
- Mann-Whitney test
- Kruskal-Wallis test
- Mood's median test
- Friedman test
- Runs test

Equivalence Tests

- One- and two-sample, paired

- 2x2 crossover design

Tables

- Chi-square, Fisher's exact, and other tests
- Chi-square goodness-of-fit test
- Tally and cross tabulation