



# ***What's New in Minitab 16***

Tutorial Presented to Section 1302

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# ***Basic Statistics***

- Display Descriptive Statistics:
  - Choose to display all, none, or your default statistics.
- 1 Variance:
  - Perform a hypothesis test for the variance or standard deviation.
- 2 Variances:
  - Perform a hypothesis test for variances or standard deviations.
  - Specify a one- or two-sided alternative hypothesis.
  - Specify a hypothesized ratio.
  - Compare samples using built-in graphs.

# ***Regression***

- **Improvements to:**
  - General Regression
  - Nonlinear Regression
  - Orthogonal Regression
  - Binary Logistic Regression
  - Ordinal and Nominal Logistic Regression
  - Partial Least Squares

# ***Analysis of Variance***

- One-Way ANOVA
  - Evaluate comparisons using a grouping information table.
- General Linear Model
  - Calculate predicted values for new observations.
  - Evaluate comparisons using a grouping information table.

# ***Design of Experiments***

- Split-Plot Designs:
  - Create and analyze designs with hard-to-change factors.
- Additional Enhancements:
  - View longer factor names in the Terms dialog.
  - Display sum of squares for individual terms.
  - Randomize a design and sort by run order in one step.

# ***Control Charts***

- **Attributes Charts:**
  - Create P and U charts to monitor defectives and defects with large subgroup sizes.
- **Rare Event Charts:**
  - Monitor rare events with G and T charts.
- **Nelson Estimate Method:**
  - Create Individuals and I-MR charts using the Nelson estimate for standard deviation.

# ***Quality Tools***

- Pareto Chart: More flexible interface.
- Capability Analysis:
  - Box-Cox & Johnson transformations in 1 place
  - Sixpack display : PPM & Benchmark Z (sigma level) included
- Tolerance Intervals: Normal & non Normal Distributions.
- Gage Run Chart: Create a run chart with missing data

# ***Quality Tools, Cont.***

- Crossed and Nested Gage R&R: Calculate confidence intervals.
- Expanded Gage R&R: Missing data; >2 factors; crossed or nested terms; fixed or random factors
- Create Attribute Agreement Analysis Worksheet for data collection
- Attribute Agreement Analysis: Disagreement summary table



# ***Multivariate Improvements***

- Principal Components Analysis:
  - Display Mahalanobis distances using an outlier plot
  - Store Mahalanobis distances in the worksheet

# ***Power & Sample Size***

- 1 and 2 Proportions: Simplified fields
- Plackett-Burman Design: Specify the number of corner points
- New Power and Sample Size Tools:
  - Sample Size for Estimation
  - 1 and 2-Sample Poisson Rates
  - 1 and 2 Variances
  - General Full Factorial Design

# ***Additional Features***

- Languages: 7 languages.
- Improved Performance: Faster with larger files / datasets
- Export directly to PowerPoint and Word
- Line Plot: Choose to display Y as %
- Tally Individual Variables: Store results in the worksheet.
- DMAIC Toolbar for Six Sigma

# *Help*

- New Tutorials
- Meet Minitab
- Sample Data Sets
- And the best of all...

*Assistant!*

# ***Assistant Features***

- For those new to Minitab and Statistics:
  - Interactive Method Chooser / decision tree to determine the right approach
  - Select Correct tool & review Guidelines to ensure your Analysis is successful
  - Interpretations to Understand your Results
  - Detailed, comprehensive reports

# ***Assistant Demonstration***

- Scenario 1: Hypothesis Test
  - Need to ensure product weight = 140g
- Scenario 2: Control Charts
  - Amount of time for passengers to pass through security consistent over time?