

# Minitab<sup>®</sup> 16 Statistical Software

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## Part 1. Introduction to Minitab 16

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Welcome to Minitab 16! Our latest release includes several new features and enhancements, including the new Assistant. Minitab 16 also has the same user-friendly interface as previous versions, making the transition to Minitab 16 easy. New features include:

- The Assistant – This new menu makes Minitab even easier to use and more accessible to everyone who needs to analyze their data, including Green Belts and those who are new to statistics. Use the Assistant's interactive interface to quickly find the right tool and analyze your data. The Assistant also provides interpretation of your results so you can present your findings with confidence.
- General Regression – Easily specify interaction and polynomial terms, compute confidence intervals for regression coefficients, and more.
- Nonlinear Regression – Model non-linear relationships between variables.
- Orthogonal Regression – Perform regression for a predictor variable that contains error.
- Split-Plot Designs – Create and analyze design of experiments that include hard-to-change factors.
- Tolerance Intervals – Calculate bounds for a given proportion of a population.
- Gage R&R Study (Expanded) – Include additional factors, analyze studies that are balanced or unbalanced, specify if factors are fixed or random, and more.
- Power and Sample Size – Use seven new tools to calculate power and sample size.
- Tutorials – Access forty-five new tutorials for the tools you use most often.
- Improved Performance – Import datasets, open project files, and run your analysis even faster.
- Export to PowerPoint and Word – Directly export your graphs and Session window output for easy reporting.
- And more.

Visit [www.minitab16.com](http://www.minitab16.com) for details on all new features.

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## Part 2. Known Problems and Workarounds

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### Item 1

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The behavior of the DELETE key has changed. When deleting worksheet cells in Minitab 16, the cells are replaced with a missing value, and the column length remains the same. (145693)

### Item 2

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In rare circumstances, Minitab project files (\*.MPJ) can become corrupted, and Minitab will be unable to open them. (124217)

WORKAROUND: Locate the project's backup file (\*.BAK file with the same name as the corrupt project located in the same folder). Launch a fresh instance of Minitab, then drag-and-drop the \*.BAK file into Minitab. In most cases, this will recover the project. If the project recovers successfully, immediately save the project using a new file name. If this backup fails, contact Minitab Technical Support (<http://www.minitab.com/contacts>).

### Item 3

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Bar Chart and Line Plot can fail to execute and display an error message when entering a large number of columns into the Graph variables field, due to problems parsing long command strings. (6741)

WORKAROUND: Replace long column names in that field with column numbers (for example, type *C1* into that field instead of *C1*'s long variable name *Total Time from Order until Delivery*). If the number of columns is so great that listing them as *C1 C2 C3...* still yields an error message, use command language to create this graph. Press CTRL+ALT+H to Show History, highlight the command corresponding to the troublesome graph (the commands appear chronologically from top to bottom of the list), right-click the highlighted command and choose **Command Line Editor**. You should see the command wrapping over multiple lines. Delete the ampersand(s).

### Item 4

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In the Empirical CDF, Histogram, and Probability Plot (PLOT), Minitab erroneously displays an error message that indicates the distribution is an invalid choice for your data due to the domain restriction when: you specify a distribution with a restricted domain (e.g. the lognormal distribution that models positive data exclusively), your variable violates that restriction (e.g. the input column includes 0), and you use the graph's Data Options subdialog box to subset the data to exclude the offending values. (143049)

WORKAROUND: Use **Data > Subset Worksheet** to create a new worksheet that excludes the offending values prior to creating the graph.

WORKAROUND: Create the graph using the normal distribution, and then change the distribution by double-clicking its curve on the resulting graph and selecting a different distribution.

### Item 5

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In rare cases, after right-clicking a graph, the menu fails to disappear after selecting a choice or clicking outside the menu. (138680)

WORKAROUND: Minimize and then restore the Minitab window.

### Item 6

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When a Bar Chart or Boxplot displays multiple Ys overlaid on a single graph, y-value data labels appear correctly on the graph, but appear incorrectly in the "Text" field after double-clicking a single data label to invoke the Edit Data Labels dialog box. (148375)

### Item 7

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If a column on which a graph depends shifts position because another column is inserted, deleted, or moved, the graph link to the worksheet breaks; updating and brushing the graph becomes impossible. (6470)

### Item 8

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When multiple graphs are created in one command, closing any one of the graphs will cause the other graphs to lose their link to the worksheet, rendering brushing and updating impossible. (8957)

### Item 9

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The Response Optimizer gives different results if the worksheet rows are rearranged. For example, the Response Optimizer gives different results if you use **Stat > DOE > Display Design** to switch from run order to standard order. (40434)

### Item 10

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The following sequence of commands erroneously produces an error message about an invalid subcommand: choose **Stat > DOE > Factorial > Create Factorial Design** and choose **General full factorial design**. Click **Designs**, specify multiple replicates, check **Block on replicates** and click **OK** in each dialog box to create the design. Return to **Stat > DOE > Factorial > Create Factorial Design**, choose **2-level factorial**, click **Designs**, and click **OK** in each dialog box to create the design. The command fails at this point and displays the error message. (40574)

WORKAROUND: After returning to the dialog box to create the 2-level design, click F3 to reset the dialog box before proceeding.

### Item 11

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Cluster Observations (with the **Standardize variables** option checked) and Cluster Variables generate a run-time exception error when all values in an input column are identical. This situation can occur even when the offending column contains multiple values, if another column contains missing values. If a column has missing values, Minitab ignores that entire row in all columns. If, after ignoring these rows, all remaining values in the offending column are identical, then the run-time exception error occurs. (7728)

### Item 12

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The following storage subcommands of the Regression command, which could only be invoked through command language, have been removed: SPVALUE, SPMODEL, SVIF, SS, SRSQ, SRSADJ, SPRESS, SRSPRED, SDW, SANOVA. (137210)

### Item 13

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The Assistant menu generates Summary Reports that feature an interactive Comments field. It is impossible to resize this field. (156035)

#### Item 14

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Preferences set in **Tools > Options** do not apply to output displayed in Reports generated by the Assistant menu. (158314)

#### Item 15

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In rare cases, customers have received the following error message when opening a project file: "An error has occurred while reading project file: MYFILENAME.MPJ." (8548, 8610, 8908)

WORKAROUND: Locate the project's backup file (\*.BAK file with the same name as the corrupt project located in the same folder). Launch a fresh instance of Minitab, then drag-and-drop the \*.BAK file into Minitab. In most cases, this will recover the project. If the project recovers successfully, immediately save the project using a new file name. If this backup fails, contact Minitab Technical Support (<http://www.minitab.com/contacts>).

#### Item 16

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Clicking on a menu or icon in a toolbar produces a run-time exception, often pointing to a Global Declarations line. (7481, 41577)

WORKAROUND: The problem may be caused by an outdated or corrupt version of VBSCRIPT.DLL. See the solution in Minitab's Knowledgebase / FAQ:  
<http://www.minitab.com/support/answers/answer.aspx?id=1679>

#### Item 17

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If you analyze a mixture design with process variables using stepwise regression, and one or more process variables is dropped by stepwise, the dropped process variables appear in the Session window output with coefficients of zero. As a result, graphs of the model results, including contour, surface, and optimization plots, show the dropped process variables having no effect on the response, even though these variables were not included in the model. (9047)

WORKAROUND: Run the analysis again without the dropped process variables.

#### Item 18

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If you are using an Asian operating system, you cannot save the Session window or ReportPad contents in HTML format. (8988)

#### Item 19

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A virus scanner may interrupt the installation process and suggest that the MSIEXEC.EXE file is a malicious script.

WORKAROUND: Disable the virus scanner prior to installation or click affirmatively when the warning is encountered to allow the script to continue.

#### Item 20

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If you make a 3D graph, the computer may lock up during graph production if ALL of the following are true:

- Your PC has a certain graphics chipset, most likely the Intel828xx chipset.
- You are using OpenGL under Minitab's **Tools > Options > Graphics > Other Graphics Options** settings. (OpenGL is the default.)

- You are using Full Hardware Acceleration under Control Panel's **Display Properties > Settings > Advanced > Troubleshoot**. (This is the default.) (6501)

WORKAROUND: Upgrading to the latest video driver for your particular video card may fix this problem.

WORKAROUND: In Minitab, choose **Tools > Options > Graphics > Other Graphics Options** and check **Use GDI for 3D graphs**, or turn off hardware acceleration for the video card.

#### **Item 21**

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The My Footnote preference options are not included on graphs that utilize layout functionality.

#### **Item 22**

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Printing 3D graphs on some PostScript printers is very slow.

WORKAROUND: Print 3D graphs using a non-PostScript printer driver.

#### **Item 23**

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You may see vertical lines when printing 3D graphs using PCL printer drivers.

WORKAROUND: Print 3D graphs using PostScript printer drivers.

#### **Item 24**

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Text on various graphs may appear dithered (light) when displayed.

WORKAROUND:

On Windows XP, right-click on your desktop, choose **Properties**, click the Appearance tab, click **Effects**, and uncheck **Use the following method to smooth edges of screen fonts**.

On Vista, right-click on your desktop, choose **Personalize**, click **Window Color and Appearance**, click **Open classic appearance properties for more color options**, click **Effects**, and uncheck **Use the following method to smooth edges of screen fonts**.

On Windows 7, open the Control Panel. Click **System and Security**, click **System**, and click **Advanced System Settings**. Under **Performance**, choose **Settings**. On the Visual Effects tab, uncheck **Smooth edges of screen fonts**.

#### **Item 25**

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Some default colors in graphs may be difficult to distinguish from each other when graphs are printed on certain color printers. (6304)

WORKAROUND: Change your color preferences in **Tools > Options > Graphics > Data View or Data View With Groups**.

#### **Item 26**

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If you save a graph in JPG, PNG, TIF, or BMP format by right-clicking the Graph name in the Graphs folder of the Project Manager, any customized resolution in dots per inch (dpi) is not recognized

WORKAROUND: Select the Graph window and choose **File > Save Graph As**.