**Serious Data Table Problem with MS Excel 2007/2010/2013 could make your data go Bass Ackwards**
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Data Tables are great tools for adding context to a chart or graph for data visualization.  As an example, in the redesign of the Hamilton County Auditor's chart the addition of the data table at the bottom of the chart provides detailed data to augment their compelling story.  See "Design Issues Distort a Compelling Story for the Hamilton County Auditor".  However, be careful when using these data tables and remember to always check your data!
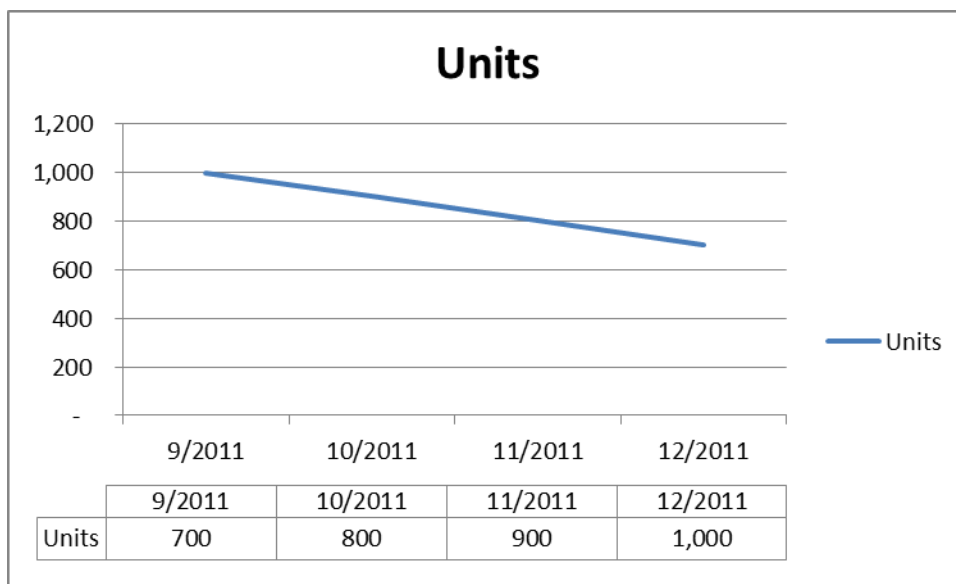
Below are 2 columns of data.  Column A has a date and column B has number of units.

| | A | B |
|---|---|---|
| 1 | Date | Units |
| 2 | 12/2011 | 700 |
| 3 | 11/2011 | 800 |
| 4 | 10/2011 | 900 |
| 5 | 9/2011 | 1,000 |
| 6 | | |
| 7 | | |

To create this simple line chart with this data and add a data table:
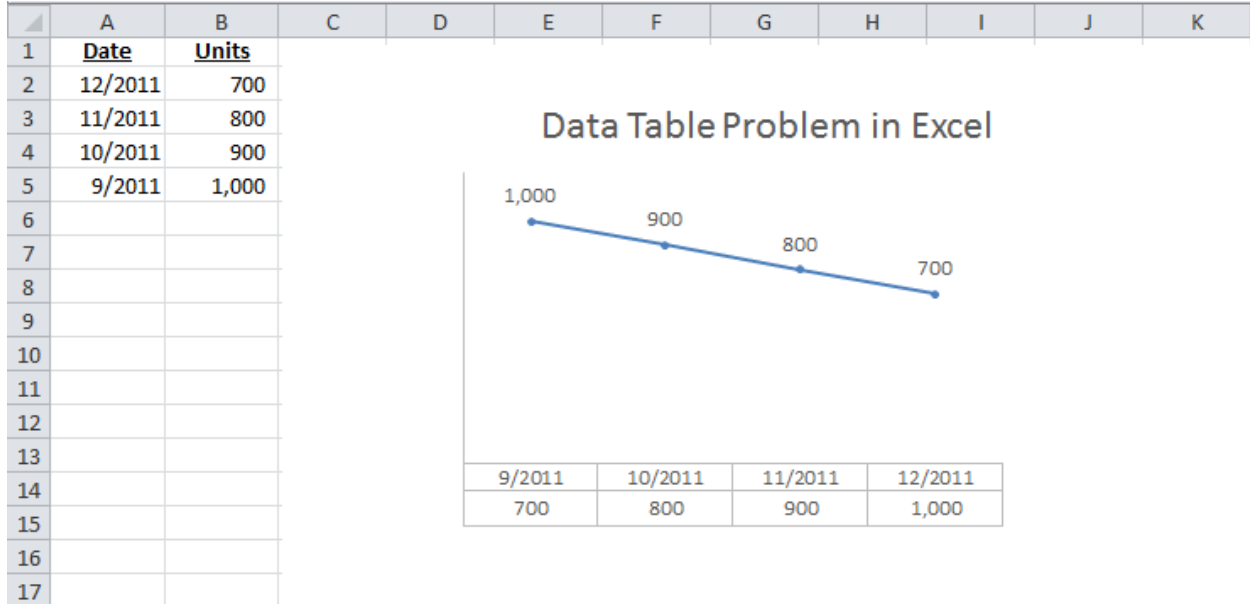
1.) Highlight cells A1:B5
2.) Click "Insert", select "Line" and then select the first 2-D Line Chart option
3.) Click "Layout" under Chart Tools, select "Data Tables", then select "Show Data Table"

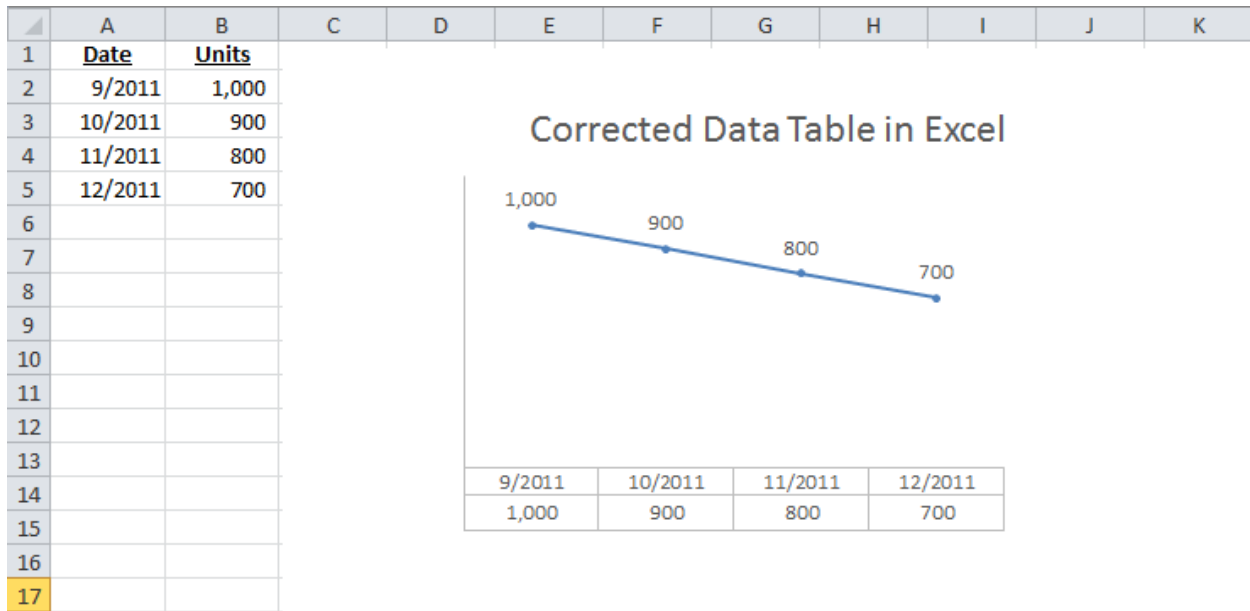By default the chart will look something like this:

After some chart clean up and reformatting, the chart looks like this:
*Data labels added to showcase the discrepancy between the actual data and the data table values.*

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Date | Units | | | | | | | | | |
| 2 | 12/2011 | 700 | | | | | | | | | |
| 3 | 11/2011 | 800 | | | | | | | | | |
| 4 | 10/2011 | 900 | | | | | | | | | |
| 5 | 9/2011 | 1,000 | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | | | | | | | | | | | |

Data Table Problem in Excel

| | 9/2011 | 10/2011 | 11/2011 | 12/2011 |
|---|---|---|---|---|
| | 700 | 800 | 900 | 1,000 |

Excel automatically treats the dates in the proper order, from September to December. Also, the line chart and the data labels show correctly and the values are clearly decreasing at a rate of 100 units per month. **However, the values in the data table are reversed.** This is not an axis problem and this cannot be fixed by reversing the order on the axis. This is a critical error in the way Excel handles the data within the data table. The first cell, either at the top of vertical data or on the left of horizontal data, will be the first cell in the data of the data table, even if the date are automatically sorted by Excel.

The easiest solution for this is to simply reorder the data by date from oldest to most recent. Once the dates are resorted then the data in the data table will be correct.

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Date | Units | | | | | | | | | |
| 2 | 9/2011 | 1,000 | | | | | | | | | |
| 3 | 10/2011 | 900 | | | | | | | | | |
| 4 | 11/2011 | 800 | | | | | | | | | |
| 5 | 12/2011 | 700 | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | | | | | | | | | | | |

Corrected Data Table in Excel

| | 9/2011 | 10/2011 | 11/2011 | 12/2011 |
|---|---|---|---|---|
| | 1,000 | 900 | 800 | 700 |

In further testing, it appears this problem is only associated with Excel's "Date" format. If Column A were just a 4 digit year and set to Excel's "General" format instead of the "Date" format then the data in the data table would match the appropriate year. However, in that case both date and units would be in the reverse order and then the horizontal axis would need to be reversed.

The data table offered in Excel 2007 and 2010 is a terrific tool, but there are some issues to look for when using them. An important lesson is outlined here as well, always double check the output. Always approach the data on the assumption that there could be a problem with the data and never trust the data or any tool to do the work automatically and without error.

**Updated 8/3/2013: This problem has NOT been resolved in Excel 2013.**