Help for Blue Digita Excel Add-in

Introduction

Blue Digita Excel Add-in includes more than 50 functions that make routine tasks easy and fun. Some tasks are time-consuming, and impractical to do manually.

What makes Blue Digita Excel Add-in a second to none product is that it contains a lot of data processing functionalities, such as time series processing module; sophisticated table comparison; join two tables as in Microsoft Access; split table according to unique values in columns; row delete based on values in selected column; multiple charts batch creation and formatting; select data based on criteria, etc.

After successful installation, a menu titled "Blue Digita" should appear at the end of menu bar for Excel 2007 and 2010 (please see the following figure); or it should appear under the "Add-Ins" menu for Excel 2003.
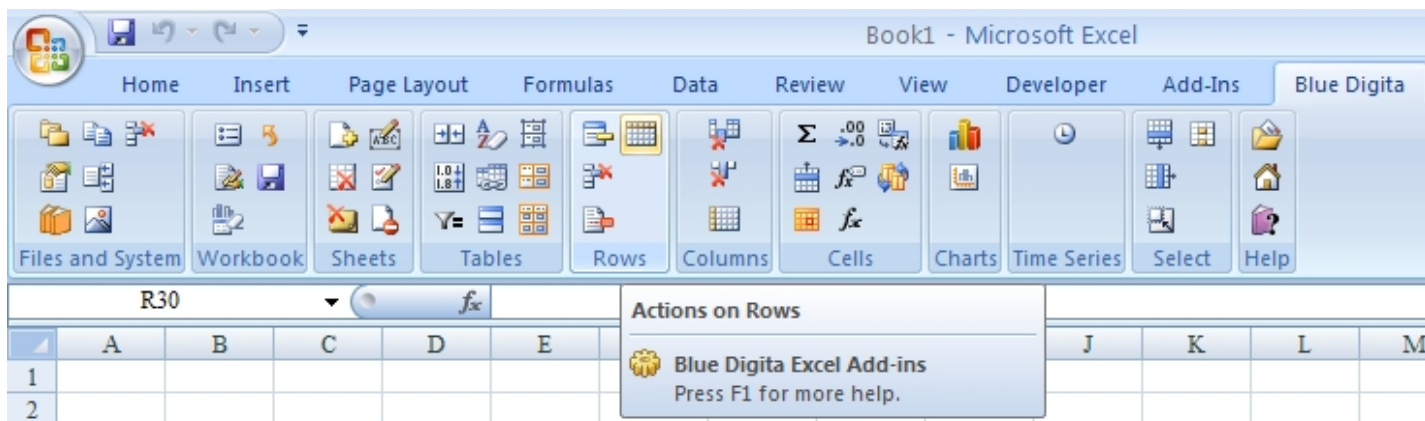

Figure I-1. User's interface in Excel 2007

List of tools

Files

Create Multiple Folders (using cell values as folder names)

It is not an uncommon need to create a directory structure that is several levels deep. For example, your application may need to create a directory like C:\MyApplication\Settings\Templates\VB. You would need 4 separate steps to make a folder tree like:

MkDir "C:\MyApplication"
MkDir "C:\MyApplication\Settings"
MkDir "C:\MyApplication\Settings\Templates"
MkDir "C:\MyApplication\Settings\Templates\VB"

Just write the path in a cell, this function will create the folder for you, including any intermediate folders.

List Files in a Folder

To list all the files (including sub-folders) in a user specified directory.

Figure F-01. Browse for the folder of interest

The information provided will be: file name, file size, file type, date created, date last accessed, and date last modified.

1	Folder contents:					
2						
3	File Name:	File Size:	File Type:	Date Created:	Date Last Accessed:	Date Last Modified:
4	D:\getdiskserial\Example\C#_VS2010\app.config	144	configfile	08/29/11 19:18	08/29/11 19:18	04/15/11 8:49
5	D:\getdiskserial\Example\C#_VS2010\App.ico	1078	Icon	08/29/11 19:18	08/29/11 19:18	06/18/07 13:39
6	D:\getdiskserial\Example\C#_VS2010\AssemblyInfo.cs	1859	csfile	08/29/11 19:18	08/29/11 19:18	06/18/07 13:39
7	D:\getdiskserial\Example\C#_VS2010\Form1.cs	41360	csfile	08/29/11 19:18	08/29/11 19:18	04/15/11 12:50
8	D:\getdiskserial\Example\C#_VS2010\Form1.resx	6010	RESX File	08/29/11 19:18	08/29/11 19:18	04/15/11 12:50
9	D:\getdiskserial\Example\C#_VS2010\GetDiskInfo.csproj	5950	CSPROJ File	08/29/11 19:18	08/29/11 19:18	04/15/11 12:47
10	D:\getdiskserial\Example\C#_VS2010\GetDiskInfo.csproj.user	2392	USER File	08/29/11 19:18	08/29/11 19:18	04/15/11 8:49
11	D:\getdiskserial\Example\C#_VS2010\GetDiskInfo.sln	906	SLN File	08/29/11 19:18	08/29/11 19:18	04/15/11 8:44
12	D:\getdiskserial\Example\C#_VS2010\GetDiskInfo.suo	20480	SUO File	08/29/11 19:18	08/29/11 19:18	05/05/11 8:50
13	D:\getdiskserial\Example\C#_VS2010\getdiskserial-dll-demo-for-c#2010.gif	17175	GIF File	08/29/11 19:18	08/29/11 19:18	04/20/11 8:58
14	D:\getdiskserial\Example\C#_VS2010\GetDiskSerial.ico	25214	Icon	08/29/11 19:18	08/29/11 19:18	04/06/11 9:57

Figure F-02. An example of file list

Merge Excel Files in a Folder

Merge all Excel files in a user specified folder.

Merge Sheets of the Same Name from Excel Files in a Folder

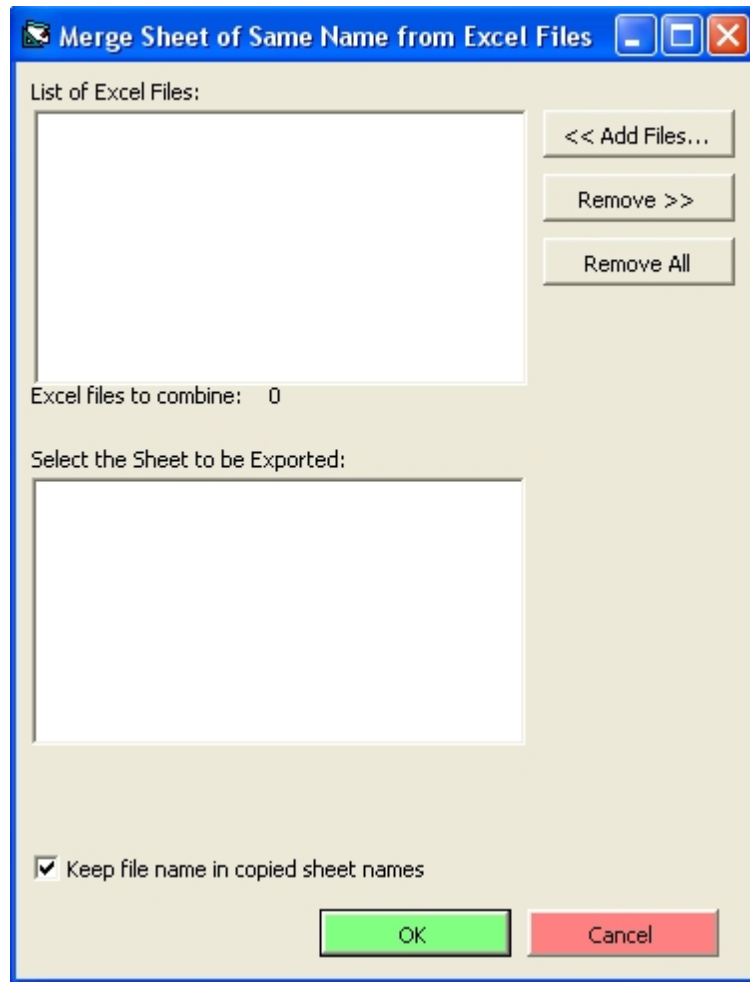Merge sheets of the same name from all Excel files in a user specified folder.

Figure F-03. Merge Sheets of the Same from Excel Files

Merge Text Files in a Folder

Merge all selected text files in a folder and create a combined one.

Open Windows Explorer in Current File's Directory

This tool will open a "Windows Explorer" window in the current Excel file's directory. The user don't have to go through all the layers to get to the directory, especially if the Excel file is deep in the Window's file tree structure.

Remove Blank Lines in Text File

Remove blank lines in a plain text file. For non-blank lines, you have the option to eliminate extra spaces. For instance, " ss   ss " will be "ss ss".

Figure F-04. Option for non-blank lines

Workbook

Add Table of Contents
Add Footer
Remove Footer

Created with the Freeware Edition of HelpNDoc: Easily create CHM Help documents

Set Default Path to Current File's Path
Record Current File's Path

Add Table of Contents

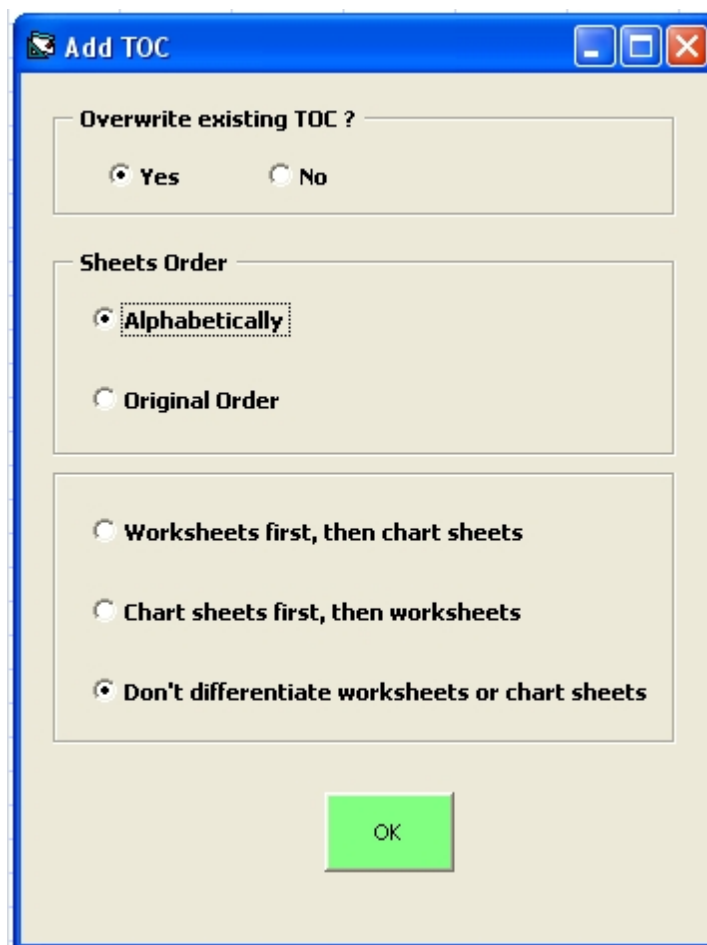Add a "Table of Contents" sheet before any other sheet. A dialogue form will pop up as that shown below.

Figure W-01. "Table of Contents" dialogue form

The information on the "Table of Contents" sheet includes author, time stamp, and hyperlink to each sheet in the file, which allows user to navigate through the sheets easily. Clicking on top left cell of each sheet will bring you back to TOC sheet. When updating the TOC sheet, only the contents of column A and B will be updated. The comments you may have in other columns will remain unchanged.

Figure W-02. An example of "Table of Contents"

Add Footer

This tool will add the path of the Excel file and time stamp at the bottom of the page when printed (Figure 4). Three options are provided as shown in Figure 3.
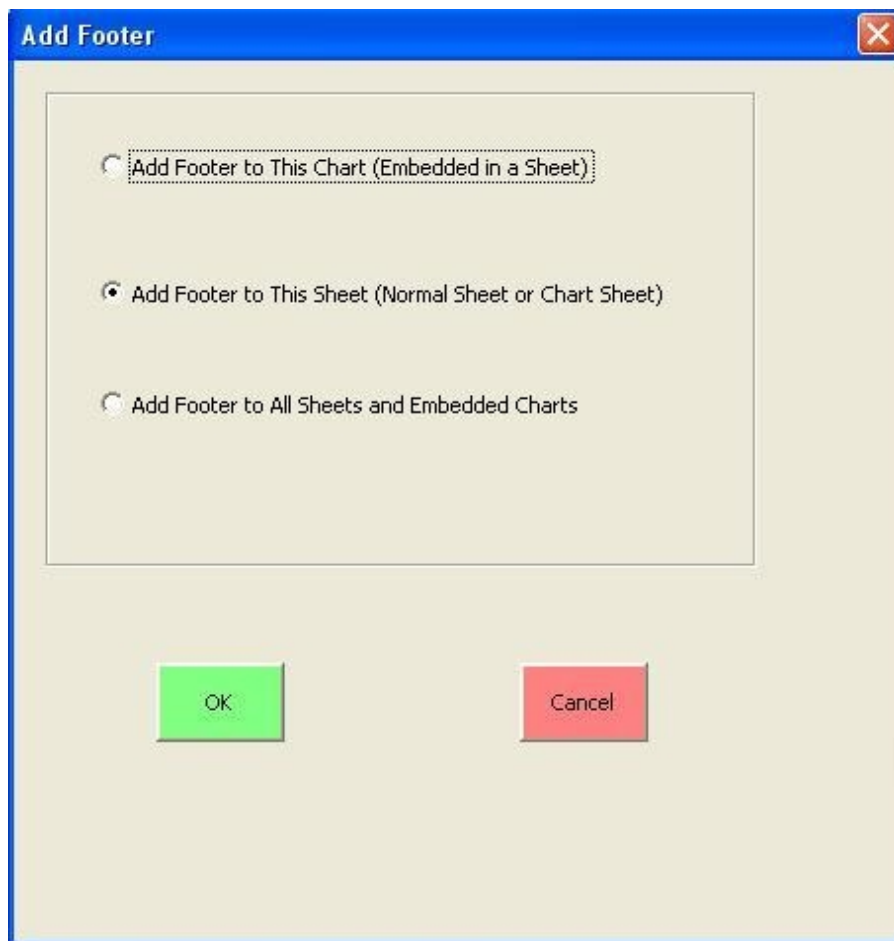
Figure W-03. Add footer user interface

Figure W-04. Path to the file and time stamp have been added when the sheet been printed

Remove Footer

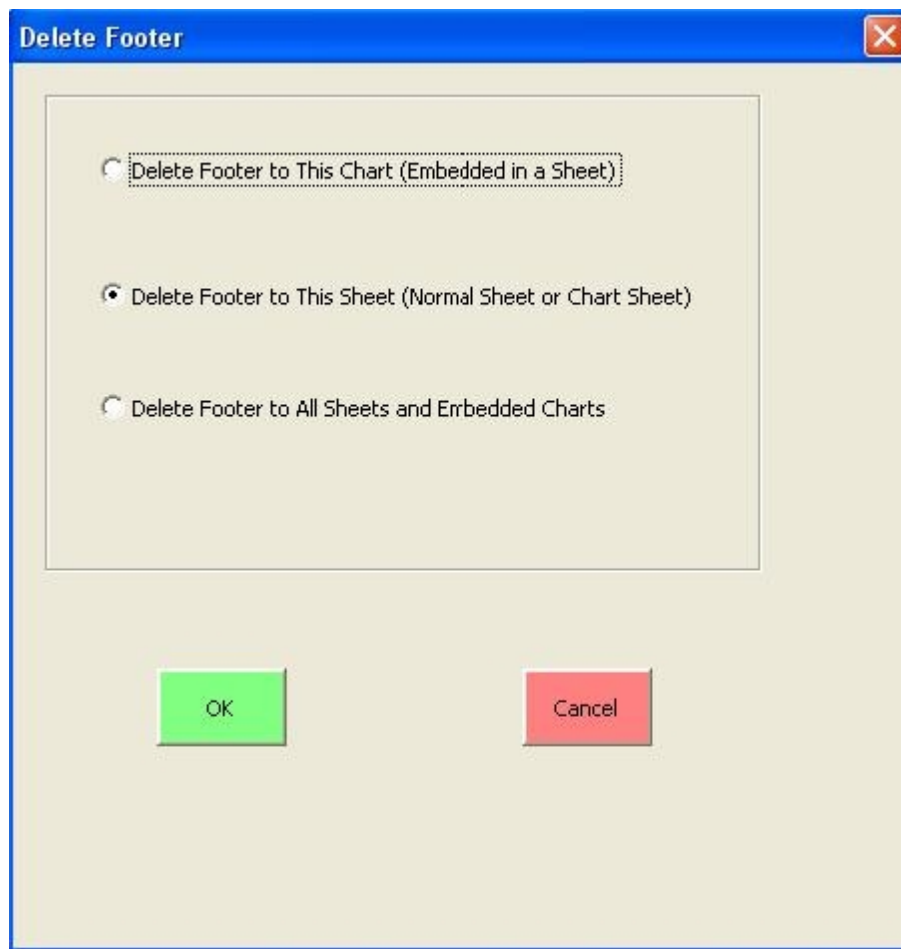Remove footer. Similar to "Add Footer", three options are provided as shown in following figure:

Figure W-05. Delete footer user interface

Set Default Path to Current File's Path

Set default path to current file's path. If you don't know what is the default path, click on "Save As..." of Excel's main menu, a file browser will pop up and the path in the browser is the default path.

By changing default path to current file (A.xlsx) 's path allows user to save another file (B.xlsx) to the same directory of Excel file A.xlsx.

Record Current File's Path

Click this icon to write down full path to the current Excel file in the selected cell.

Sheets

[Add Sheets (uses cell values as sheet names)](#)
[Delete Empty Sheets](#)
[Delete Selected Sheets](#)
[Rename Selected Sheets](#)
[Record Sheet's Names](#)
[Show, Sort, or Hide Sheets](#)

[Add Sheets (uses cell values as sheet names)](#)

Add a set of sheets with specified names. A dialogue box will pop-up asking for the names for the new sheets:
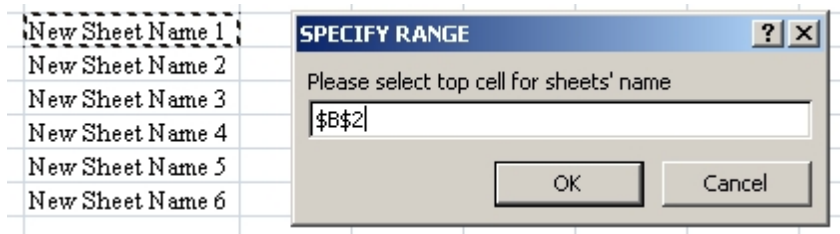
Figure S-01. Select top cell for sheets' name

Please note that the length of a sheet name cannot exceed 31 and cannot contain the following symbols: \ / ? * [ ] :, or empty.

Delete Empty Sheets

Empty sheets will be deleted.

Delete Selected Sheets
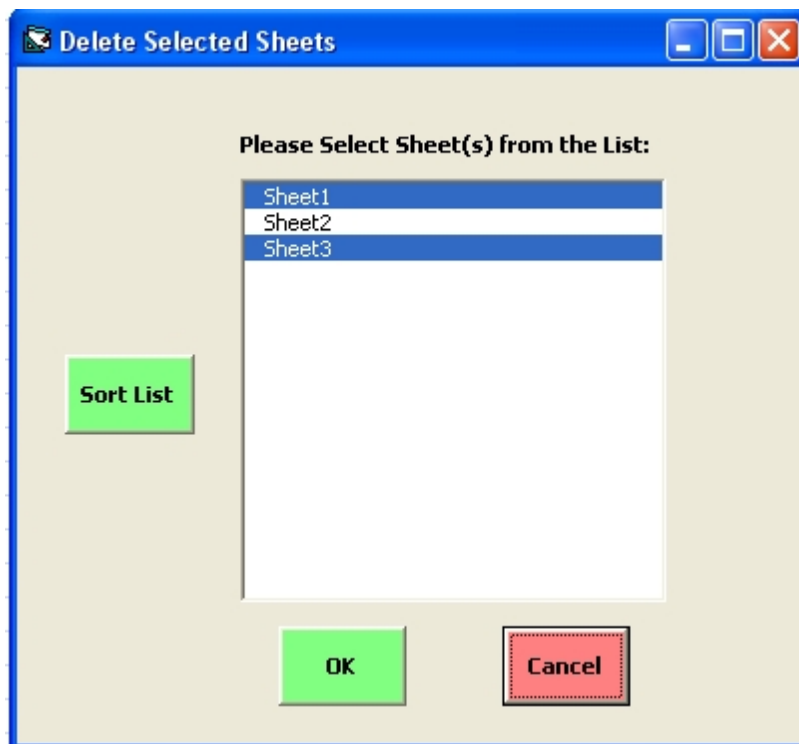
Select sheets from the sheet list to delete.

Figure S-02. Select sheets to be deleted

Rename Selected Sheets

Step 1: Prepare a list of sheet names in one column in a sheet;
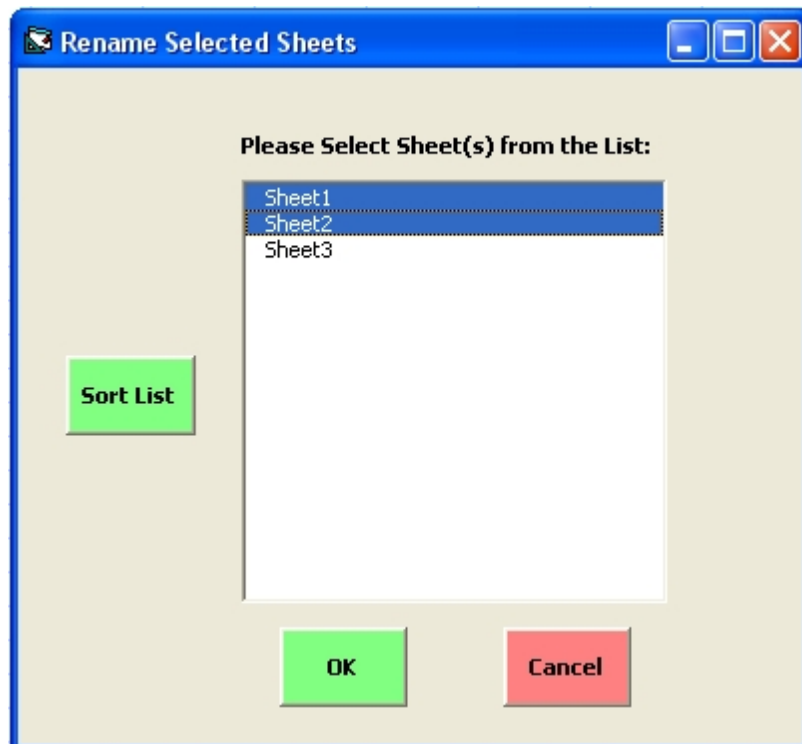Step 2: Select multiple sheets to be renamed;

Figure S-03. Select sheets to be renamed

Step 3: Execute the program. It will ask user to specify the top cell that containing new sheet name.
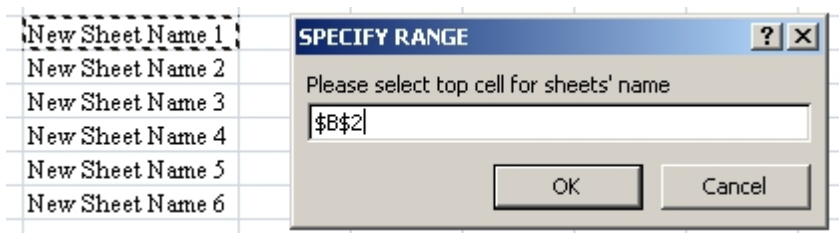

Figure S-04. Select top cell for sheets' name

Please note that the length of a sheet name cannot exceed 31 and cannot contain the following symbols: \ / ? * [ ] :, or empty.

Record Sheet's Names

Write down current workbook's sheet names(tabs).

Show, Sort, or Hide Sheets

Easily switch sheets that visible to hidden or vise versa. You may also re-arrange visible sheets by sort sheet names or move sheets up and down.
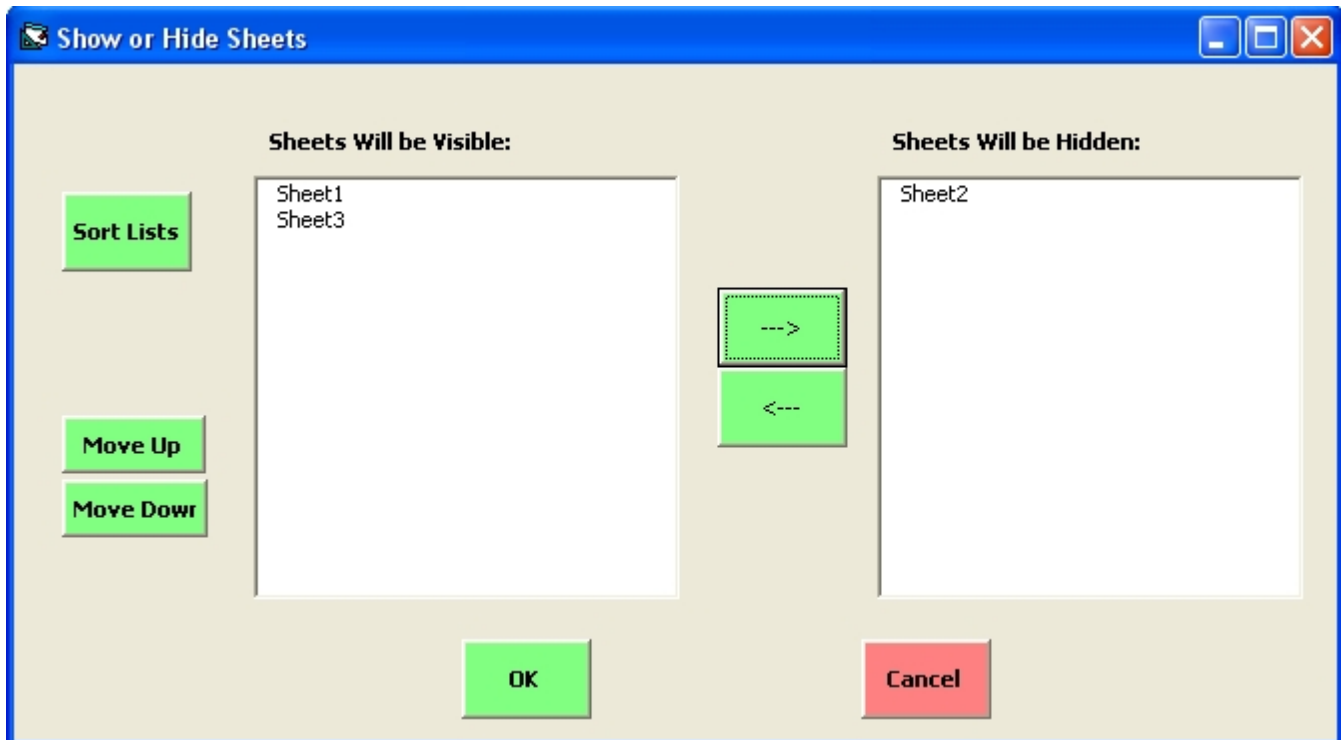
Figure S-05. Select top cell for sheets' name

Tables

Compare Tables

Compare two tables for differences. You may choose naive comparison, which will compare cell by cell, or more sophisticated comparison, which will compare two tables based on a user selected column. The later method can detect deleted or newly added rows and changed cells.
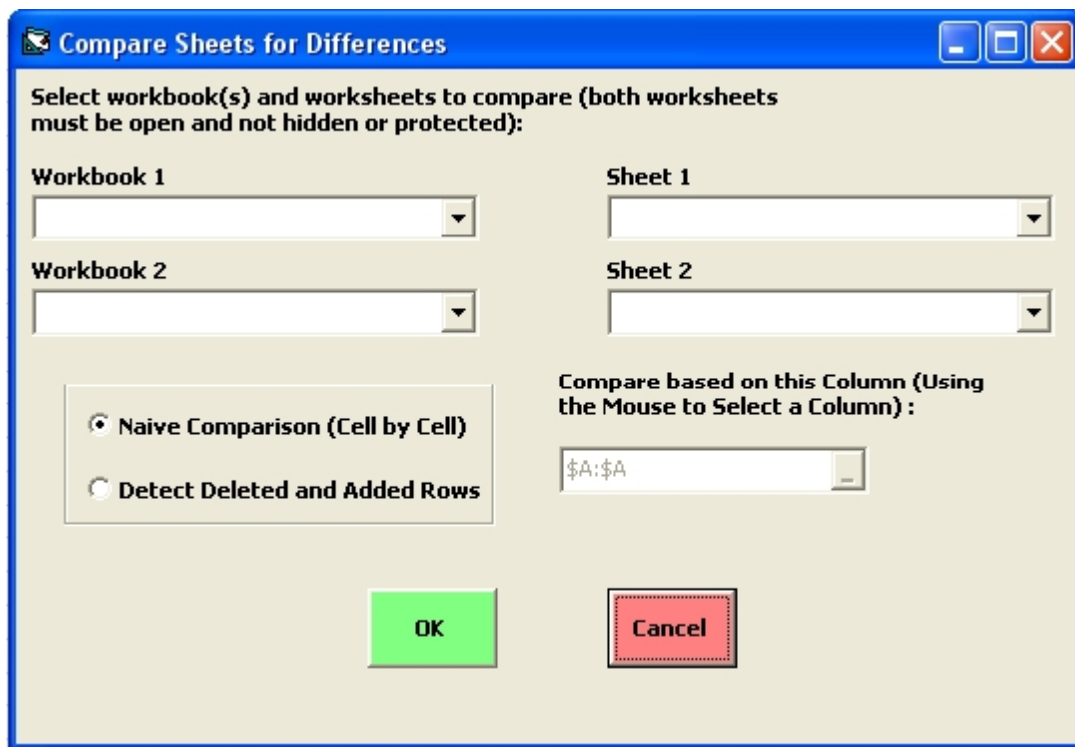
Figure T-01. User interface for tables comparison

	A	B	C
1	1000	Digital Watch	2
2	2023	Cell Phone	6
3	4400	Sport Car	999
4	6500	Key Chain	10
5	7089	MP3 Player	1

	A	B	C
1	10	Toyata	100
2	1000	Digital Watch	2
3	2023	Cell Phone	6
4	6500	Key Chain	8
5	7089	MP3 Player	1
6	8000	IPad2	6

Figure T-02. An example of comparing two tables, master sheet and amended sheet

If we choose to compare two tables (master on the left hand side and amended on the right hand side) shown above based on column A in a more sophisticated way (be able to detect deleted and added rows and changed cells), after execution, a message box will pop up as that shown below:

Power Excel Tools

1 cells are different.1 rows were deleted and 2 rows were added.

OK

Figure T-03. Sheet comparison summary

A report sheet will be created as that illustrated below:

	A	B	C
1	10	toyota	100
2	1000	digital watch	2
3	2023	cell phone	6
4	4400	sport car	999
5	6500	key chain	10 <> 8
6	7089	mp3 player	1
7	8000	ipad2	6

Figure T-04. Sheet comparison report sheet

The new rows will be shaded in green, the deleted rows in pink, rows with changed cells in yellow.

Match Tables

Suppose we have two tables as that in the following two figures. How to filter/subtract from Table 1 the information (Address) that related to Table 2?

	A	B	C	D	E	F
1	**First Name**	**Last Name**	**Street Number**	**Street**	**City**	**ZipCode**
2	Emma	Anderson	452	Reed Road	Houston	48225
3	Olivia	Hernández	452	Reed Road	Houston	48225
4	Matthew	Brown	18	W Manchester Ave	Los Angeles	90001
5	Daniel	Davis	500	South Semoran Boulevard	Orlando	32807
6	Anthony	García	20	Park Avenue	New York	10019
7	Samantha	Jackson	112	Fremont Street	Chicago	60004
8	Michael	Johnson	500	South Semoran Boulevard	Orlando	32807
9						

Figure T-05. Table-1

	A	B	C
1	**First Name**	**Last Name**	**Occupation**
2	Emma	Anderson	Doctor
3	Olivia	Hernández	Engineer
4	Hannah	Martin	Scientist
5	Christopher	Rodríguez	Artist
6	Ethan	Jones	Student
7	Hannah	Martin	Musician

Figure T-06. Table-2

Step 1: Select sheets that contain these two tables:

Figure T-07. Select tables

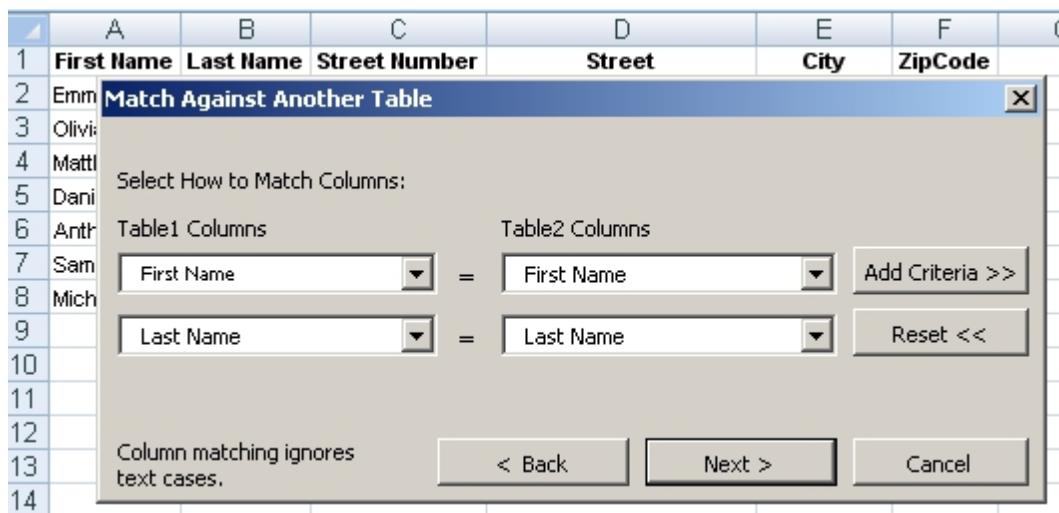Step 2: Determine the column(s) in each table that should be matched (Figure T-08).

Figure T-08. Select column in each table that should be matched
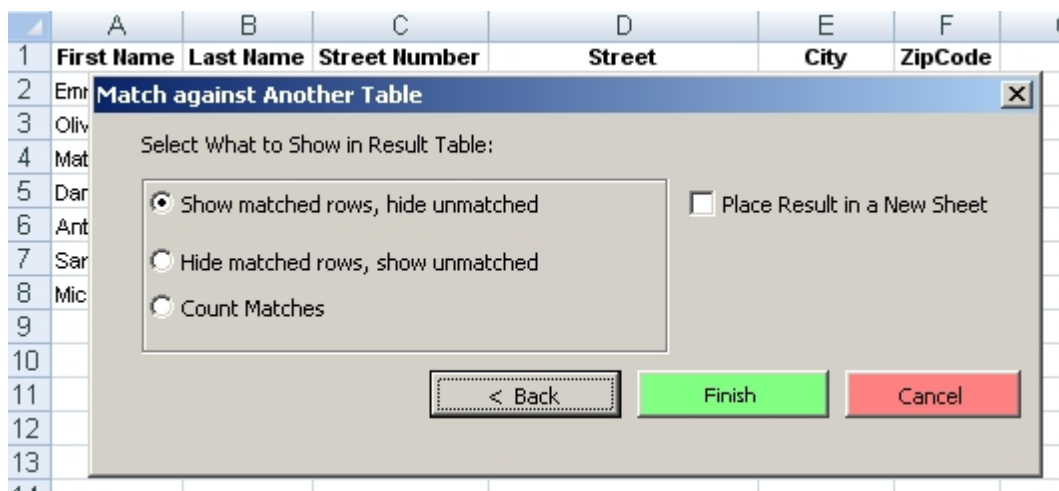
Step 3: Select what to show in result (Figure T-09).

Figure T-09. Select what to show in result

Step 4: Match result

Only matched rows are shown (Figure T-10). Unmatched rows are hidden beneath the "+". You can click on the "+" to expand and show them (Figure T-11).

Figure T-10. Match result

Figure T-11. Expend unmatched rows

If you would like to filter/subtract from Table 2 the information (occupation) of the persons that in Table 1, you have to select Sheet2, which contains Table 2 first (Figure T-12).

Figure T-12. Select Sheet2 (containing Table 2) first, then Sheet1

The result (Figure T-13) indicates that there are two persons (Emma and Olivia) appear in both tables.

	First Name	Last Name	Occupation
1	First Name	Last Name	Occupation
2	Emma	Anderson	Doctor
3	Olivia	Hernández	Engineer
4	Hannah	Martin	Scientist
5	Christopher	Rodríguez	Artist
6	Ethan	Jones	Student
7	Hannah	Martin	Musician
8			

Figure T-13. Match results

Filer Unique's

Suppose we have a table as that in the following figure, this function allows us to select the field(s) that can determine the uniqueness of a row.
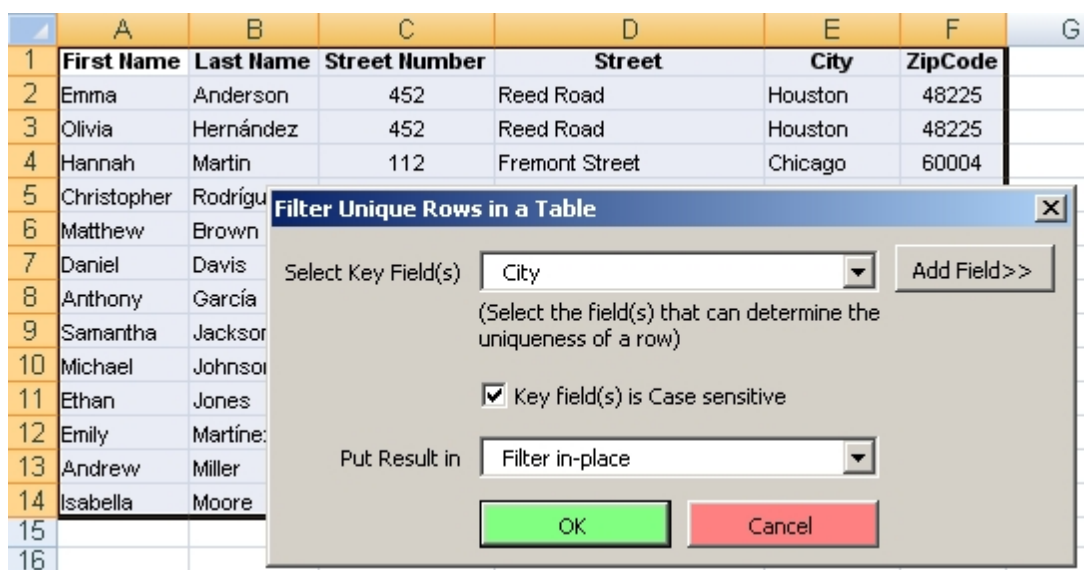

Figure T-14. Select the field(s) to determine the uniqueness of a row

If "City" was selected, after execution, according to the following figure, there are 3 rows containing "Orlando", 2 rows containing "Houston", and 2 rows containing "Los Angeles", 2 rows containing "New York", and 2 rows containing "Philadelphia".

	First Name	Last Name	Street Number	Street	City	ZipCode	Count of Occurrences
2	Daniel	Davis	500	South Semoran Boulevard	Orlando	32807	3
5	Hannah	Martin	112	Fremont Street	Chicago	60004	2
7	Emma	Anderson	452	Reed Road	Houston	48225	2
9	Matthew	Brown	18	W Manchester Ave	Los Angeles	90001	2
11	Anthony	García	20	Park Avenue	New York	10019	2
13	Christopher	Rodríguez	2027	Fairmount Avenue	Philadelphia	19130	2
15							

Figure T-15. Results after function execution

Click on the '+' to expend those row of the same "City", or you can click on the small '2' at top-left corner to expand all.

	First Name	Last Name	Street Number	Street	City	ZipCode	Count of Occurrences
2	Daniel	Davis	500	South Semoran Boulevard	Orlando	32807	3
3	Michael	Johnson	500	South Semoran Boulevard	Orlando	32807	3
4	Isabella	Moore	500	South Semoran Boulevard	Orlando	32807	3
5	Hannah	Martin	112	Fremont Street	Chicago	60004	2
6	Samantha	Jackson	112	Fremont Street	Chicago	60004	2
7	Emma	Anderson	452	Reed Road	Houston	48225	2
8	Olivia	Hernández	452	Reed Road	Houston	48225	2
9	Matthew	Brown	18	W Manchester Ave	Los Angeles	90001	2
10	Emily	Martínez	18	W Manchester Ave	Los Angeles	90001	2
11	Anthony	García	20	Park Avenue	New York	10019	2
12	Ethan	Jones	20	Park Avenue	New York	10019	2
13	Christopher	Rodríguez	2027	Fairmount Avenue	Philadelphia	19130	2
14	Andrew	Miller	2027	Fairmount Avenue	Philadelphia	19130	2
15							

Figure T-16. Expend the rows of the same city

Filter Clear

Clear the filter.

Join Tables as in Microsoft Access

Suppose we have two tables as that demonstrated in Figure T-5 and Figure T-6.
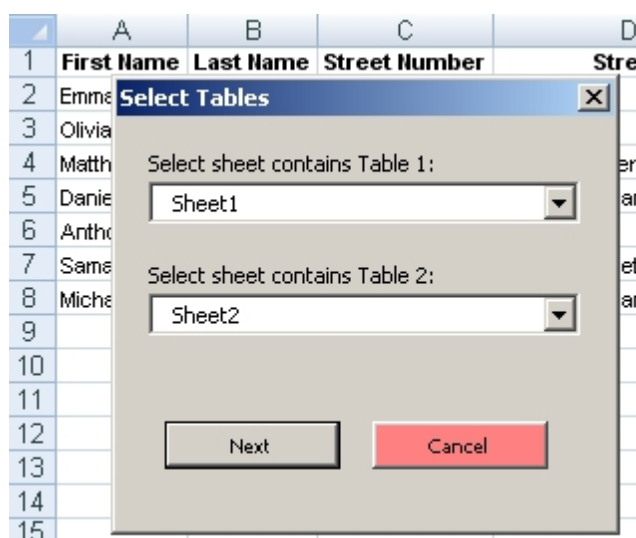
Step 1: Select two tables.

Figure T-17. Select two tables

Step 2: Select how to match columns. In this example, "First Name" and "Last Name" were selected.
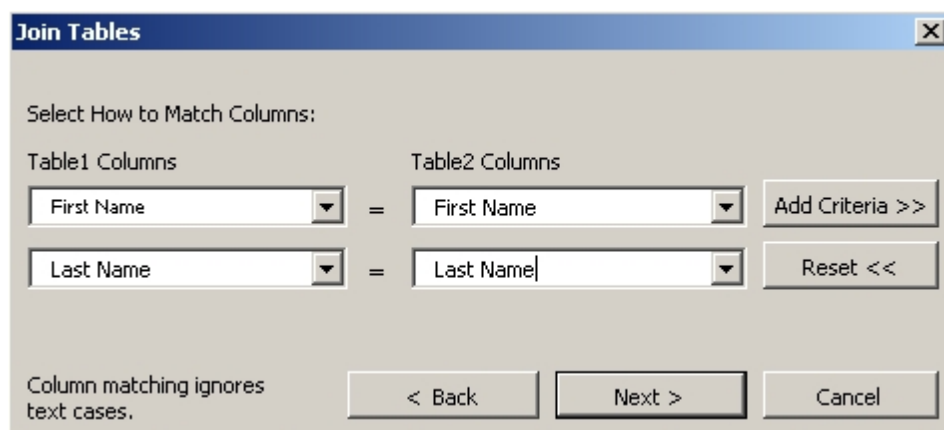

Figure T-18. Select how to match columns

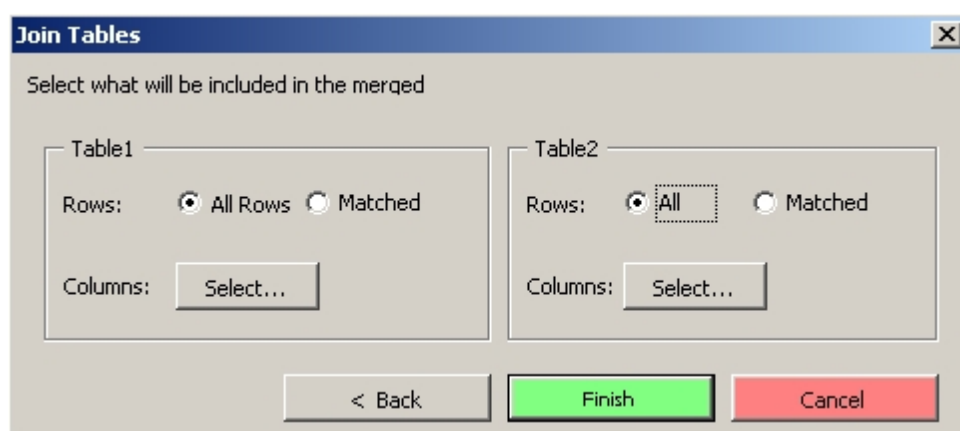Step 3: Select what will be included in the merged table.

Figure T-19. Select what will be included in the merged table

Step 4: Join table result

As demonstrated in the following figure, a column was added to count matches. Only two persons (Emma and Olivia) appear in both tables. From joined table, we can piece together both their address and occupation information. However, for the rest persons, we either know their address or occupation, but not both.

	A	B	C	D	E	F	G	H	I	J
1	First Name	Last Name	Street Number	Street	City	ZipCode	First Name +	Last Name +	Occupation	Count of matches
2	Emma	Anderson	452	Reed Road	Houston	48225	Emma	Anderson	Doctor	1
3	Olivia	Hernández	452	Reed Road	Houston	48225	Olivia	Hernández	Engineer	1
4	Matthew	Brown	18	W Manchester Ave	Los Angeles	90001				0
5	Daniel	Davis	500	South Semoran Boulevard	Orlando	32807				0
6	Anthony	García	20	Park Avenue	New York	10019				0
7	Samantha	Jackson	112	Fremont Street	Chicago	60004				0
8	Michael	Johnson	500	South Semoran Boulevard	Orlando	32807				0
9							Hannah	Martin	Scientist	0
10							Christopher	Rodríguez	Artist	0
11							Ethan	Jones	Student	0
12							Hannah	Martin	Musician	0
13										

Figure T-20. The final joined table

Merge Tables in an Excel File

From the list, select sheets that will be combined.

Figure T-21. Select tables to be combined

The combined table was shown below. Please note that in combined table, "City" column of the original List-2 was moved from Column-C to Column-F.

	A	B	C	D	E	F	G
1		First Name	Last Name	Street Number	Street	City	ZipCode
2	Mail List-1!$A1:$F14	Emma	Anderson	452	Reed Road	Houston	48225
3	Mail List-1!$A1:$F14	Matthew	Brown	18	W Manchester Ave	Los Angeles	90001
4	Mail List-1!$A1:$F14	Daniel	Davis	500	South Semoran Boulevard	Orlando	32807
5	Mail List-1!$A1:$F14	Anthony	García	20	Park Avenue	New York	10019
6	Mail List-1!$A1:$F14	Olivia	Hernández	452	Reed Road	Houston	48225
7	Mail List-1!$A1:$F14	Samantha	Jackson	112	Fremont Street	Chicago	60004
8	Mail List-1!$A1:$F14	Michael	Johnson	500	South Semoran Boulevard	Orlando	32807
9	Mail List-1!$A1:$F14	Ethan	Jones	20	Park Avenue	New York	10019
10	Mail List-1!$A1:$F14	Hannah	Martin	112	Fremont Street	Chicago	60004
11	Mail List-1!$A1:$F14	Emily	Martínez	18	W Manchester Ave	Los Angeles	90001
12	Mail List-1!$A1:$F14	Andrew	Miller	2027	Fairmount Avenue	Philadelphia	19130
13	Mail List-1!$A1:$F14	Isabella	Moore	500	South Semoran Boulevard	Orlando	32807
14	Mail List-1!$A1:$F14	Christopher	Rodríguez	2027	Fairmount Avenue	Philadelphia	19130
15	Mail List-2!$A1:$C5	Emma	Anderson			Houston	
16	Mail List-2!$A1:$C5	Olivia	Hernández			Houston	
17	Mail List-2!$A1:$C5	Hannah	Martin			Chicago	
18	Mail List-2!$A1:$C5	Christopher	Rodríguez			Philadelphia	
19							

Figure T-22. The final combined table

Split Table by Number of Rows

First, specify the number of rows will be in the new table.

Figure T-23. Specify the number of rows will be in the new table

The original table was broken down to a series of tables:

Figure T-24. New tables created

Split Table by Unique Values in Column(s)

In the following example, "Column-E" was selected, which means the original table will be break down according to unique values in this column.

Figure T-25. Select the column, the unique values in which will be used to split the table

A series of new sheets(tables) were created according to different cities in "Column-E":

Figure T-26. New sheets were created according to cities

Split Table by Values in 2 Columns

The following table contains some water quality data at different lakes.

Figure T-27. Example water quality table

The user interface asks user to select columns for different purposes.

Figure T-28. User interface for the function

A series of new tables were created according to user selected columns.

Figure T-29. Newly created tables

Rows

[Delete Rows (conditioned on a column)](#)
[Delete Empty Rows](#)
[Delete Hidden Rows](#)
[Actions on Rows](#)

Delete Rows (conditioned on a column)

As the name suggested, rows will be deleted (or selected) based on a user specified column. The following example explains this concept.

In the following example, "Column D" was selected, and the cell criterion is "Less than". This indicates that those rows, of which the cell in "Column D" matches the criterion will be deleted (or selected).

Figure R-01. Conditional row delete user interface

After execution, rows that meet the criterion were selected:

Figure R-02. The rows, whose value in "Column D" is "less than 2", were selected (highlighted in yellow)

This function can be used to delete duplicated rows.

Delete Empty Rows

Suppose a range of cells have been selected as that illustrated in Figure 3:

Figure R-03. Select a range to apply "Delete Empty Rows"

After execution, the fourth row (entire row) will be deleted (refer to Figure 4) because all the cells within the selected range in this row are empty.

Figure R-04. Result after applying "Delete Empty Rows" to selected range

Delete Hidden Rows

All the hidden rows in current sheet will be deleted.

Actions on Rows

This function can be used to perform different actions, i.e. select, delete, insert blanks, insert range, to the selected rows.

After execution, some rows were selected as that in the following figure:

Figure R-06. Rows meet the criteria were selected

Columns

Delete Empty Columns
Delete Hidden Columns
Actions on Columns

Delete Empty Columns

Suppose a range of cells have been selected as that illustrated in Figure C-01:

Figure C-01. Select a range to apply "Delete Empty Columns"

After execution, Column D will be deleted (Figure C-02) because all the cells within the selected range in this column are empty.

Figure C-02. Result after applying "Delete Empty Columns" to selected range

Delete Hidden Columns

All the hidden Columns in current sheet will be deleted.

Actions on Columns

This function can be used to perform different actions, i.e. select, delete, insert blanks, insert range, to the selected Columns.

In the following example, one blank row will be inserted for every two columns, starting from the first column.
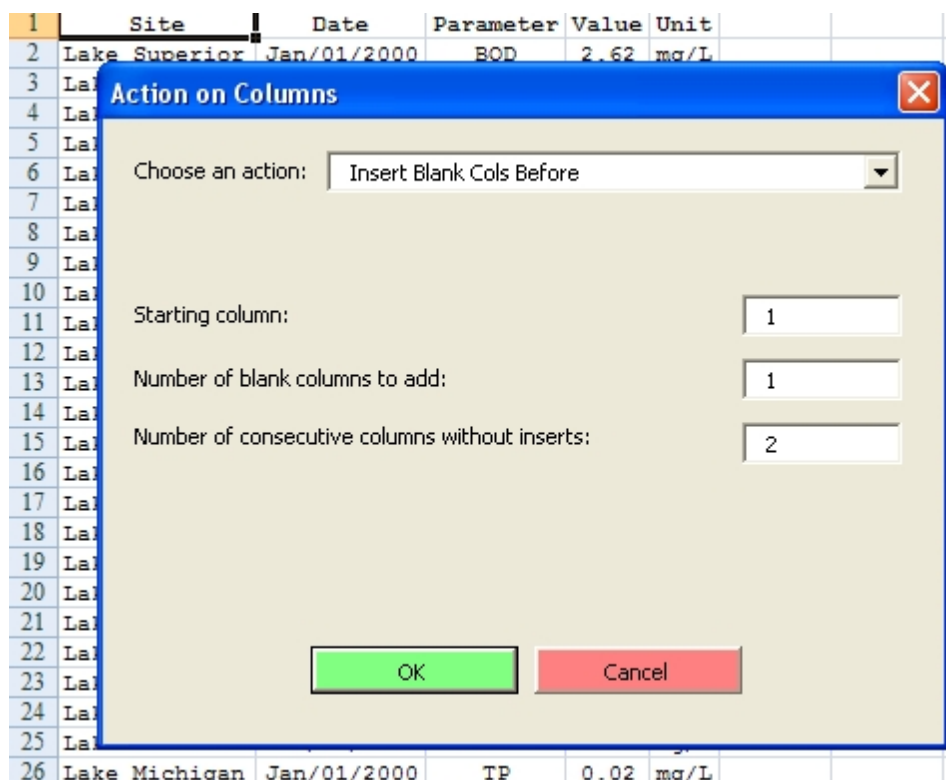

Figure R-05. User's interface for the function "Actions on Columns"

After execution, columns were inserted as requested:

	A	B	C	D	E	F	G	H
1		Site	Date		Parameter	Value		Unit
2		Lake Superior	Jan/01/2000		BOD	2.62		mg/L
3		Lake Superior	Feb/01/2000		BOD	1.98		mg/L
4		Lake Superior	Mar/01/2000		BOD	2.72		mg/L
5		Lake Huron	Jan/01/2000		BOD	1.03		mg/L
6		Lake Huron	Feb/01/2000		BOD	2.11		mg/L
7		Lake Huron	Mar/01/2000		BOD	2.75		mg/L
8		Lake Michigan	Jan/01/2000		BOD	2.39		mg/L
9		Lake Michigan	Feb/01/2000		BOD	1.95		mg/L
10		Lake Michigan	Mar/01/2000		BOD	2.83		mg/L
11		Lake Superior	Jan/01/2000		DO	7.68		mg/L
12		Lake Superior	Feb/01/2000		DO	6.03		mg/L
13		Lake Superior	Mar/01/2000		DO	7.41		mg/L
14		Lake Huron	Jan/01/2000		DO	7.91		mg/L
15		Lake Huron	Feb/01/2000		DO	7.77		mg/L
16		Lake Huron	Mar/01/2000		DO	7.09		mg/L
17		Lake Michigan	Jan/01/2000		DO	6.48		mg/L
18		Lake Michigan	Feb/01/2000		DO	7.06		mg/L
19		Lake Michigan	Mar/01/2000		DO	7.50		mg/L
20		Lake Superior	Jan/01/2000		TP	0.04		mg/L
21		Lake Superior	Feb/01/2000		TP	0.03		mg/L
22		Lake Superior	Mar/01/2000		TP	0.03		mg/L
23		Lake Huron	Jan/01/2000		TP	0.02		mg/L
24		Lake Huron	Feb/01/2000		TP	0.04		mg/L
25		Lake Huron	Mar/01/2000		TP	0.02		mg/L
26		Lake Michigan	Jan/01/2000		TP	0.02		mg/L
27		Lake Michigan	Feb/01/2000		TP	0.02		mg/L
28		Lake Michigan	Mar/01/2000		TP	0.03		mg/L

Figure R-06. Blank columns were inserted

Cells

Count
Delete Blanks
Delete Strings
Format Decimal Places
Formula Record
Formula Apply
Transpose Formulas
Re-arrange a Block of Data

Count

This tool counts number of occurrences of each unique non-numeric and numeric in a column of data. It can also be used to count number of occurrences that the value greater than, less than, or between user specified values.
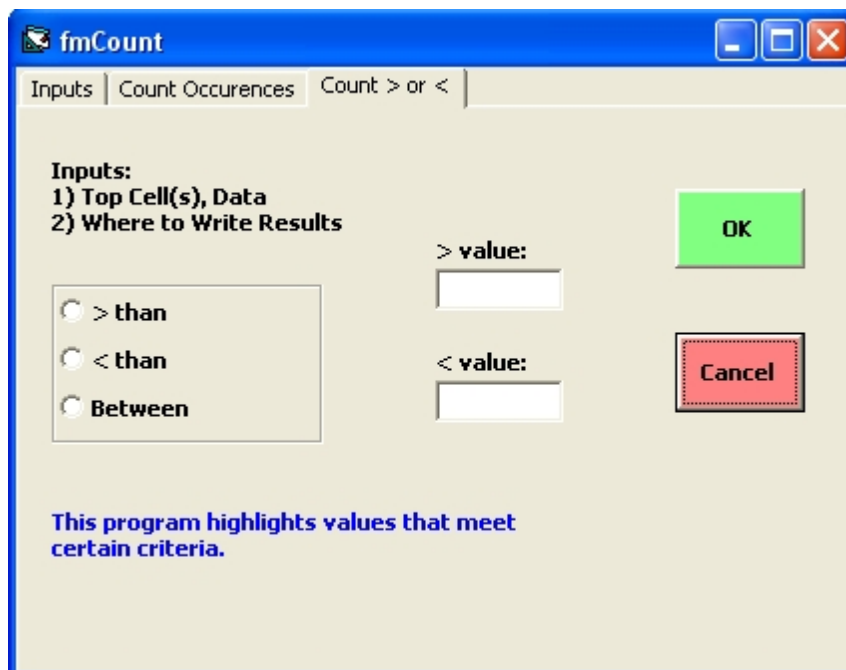
Figure Cells-01. Interface for the tool - "Count"

Delete Blanks

Figure Cells-02. Select a range to apply "Delete Blanks"

Select a range, after execution, the blank cells within the selected range will be deleted and all the cells below will be shifted up as that demonstrated in Figure Cells-03.

Figure Cells-03. Result after applying "Delete Blanks" to the selected range

Delete Strings

Figure Cells-04. Select a range to apply "Delete Strings"

Select a range, after execution, the cells containing string within the selected range will be deleted as that demonstrated

in Figure Cells-05.

Figure Cells-05. Result after applying "Delete Strings" to the selected range
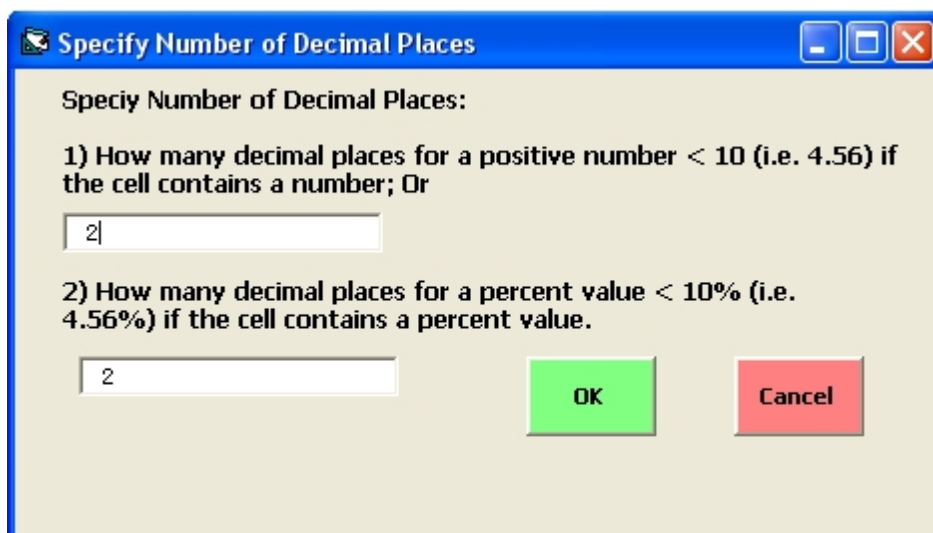
Format Decimal Places

Normally, having more decimal places for large numbers does not make a lot of sense; while for small numbers, it does. When you have data with wide range of magnitudes, the Excel built-in decimal formatting tool may not be a good choice since it will have same decimal places for both large numbers and small numbers. If you want to do a quick job, this tool is right for you.

For example, you have a table contains the data as that demonstrated in the following figure:

	A	B	C	D	E	F
1						
2		01/02/10	9.4545	-9.4545	0.0010%	
3		01/03/10	99.4545	-99.4545	0.0100%	
4		01/04/10	999.4545	-999.4545	0.1000%	
5		01/05/10	9,999.4545	-9,999.4545	1.0000%	
6		01/07/10	10.0000	-9.9995	10.0000%	
7		01/08/10	100.0000	-100.0000	99.4545%	
8		01/09/10	1,000.0000	-1,000.0000	100.0000%	
9		01/10/10	10,000.0000	-10,000.0000	999.4545%	
10		01/11/10	99,999.9999	-99,999.9999	1000.0000%	
11						

Figure Cells-06. Cells formatted using Excel build-in decimal format tool

After you selected the data range intended to format, and executed the program, a dialogue form will pop up, asking for user's inputs as that demonstrated in the following figure:

Figure Cells-07. Dialogue form for "Format Decimal Places"

The following figure shows what the data look like after formatting.

	A	B	C	D	E	F
1						
2		01/02/10	9.45	-9.45	0.00%	
3		01/03/10	99.5	-99.5	0.01%	
4		01/04/10	999	-999	0.10%	
5		01/05/10	9,999	-9,999	1.00%	
6		01/07/10	10.0	-10.0	10.0%	
7		01/08/10	100	-100	99.5%	
8		01/09/10	1,000	-1,000	100%	
9		01/10/10	10,000	-10,000	999%	
10		01/11/10	100,000	-100,000	1,000%	
11						

Figure Cells-08. Result after applying "Format Decimal Places"

Formula Record

Figure Cells-09. Formula record

If a cell is calculated based on a formula, this tool will replace the cell with the calculated value and save the formula into the comment box. If the same formula applies to a range of cells, the entire range can be selected and the tool will record the formula for the first cell only and change the other cells with calculated values.

Formula Apply

Figure Cells-10. Formula apply

Opposite to the tool "Formula Record" , this tool will reverse the process of "Formula Record", delete content in the comment box and change the cell into a formula.

Transpose Formulas

In the following table, the second column contains the formula: column 2 = column 1 * 2. If you copy column 2 and transpose it using Excel's paste special, you will get 0, 0, 0 unless you pasted it as values. If you want to keep the formulas, it just ends up in a real mess (see the following figure).

1	2	0	0	0
2	4			
3	6			

Figure Cells-11. "Transpose Formulas" example

This tool was design for transposing formulas. It will ask user to select a range of cells containing formulas to transpose and select the target cell to write the transposed cells. The following figure demonstrates this:

◢	A	B	C	D	E
1	1	2	2	4	6
2	2	4			
3	3	6			

Figure Cells-12. Result after applying "Transpose Formulas"

Three cells, which containing formulas, in column B were transposed to cell C1, D1, and E1. And they are still containing formulas, with the references to A1, A2, and A3.

Re-arrange a Block of Data

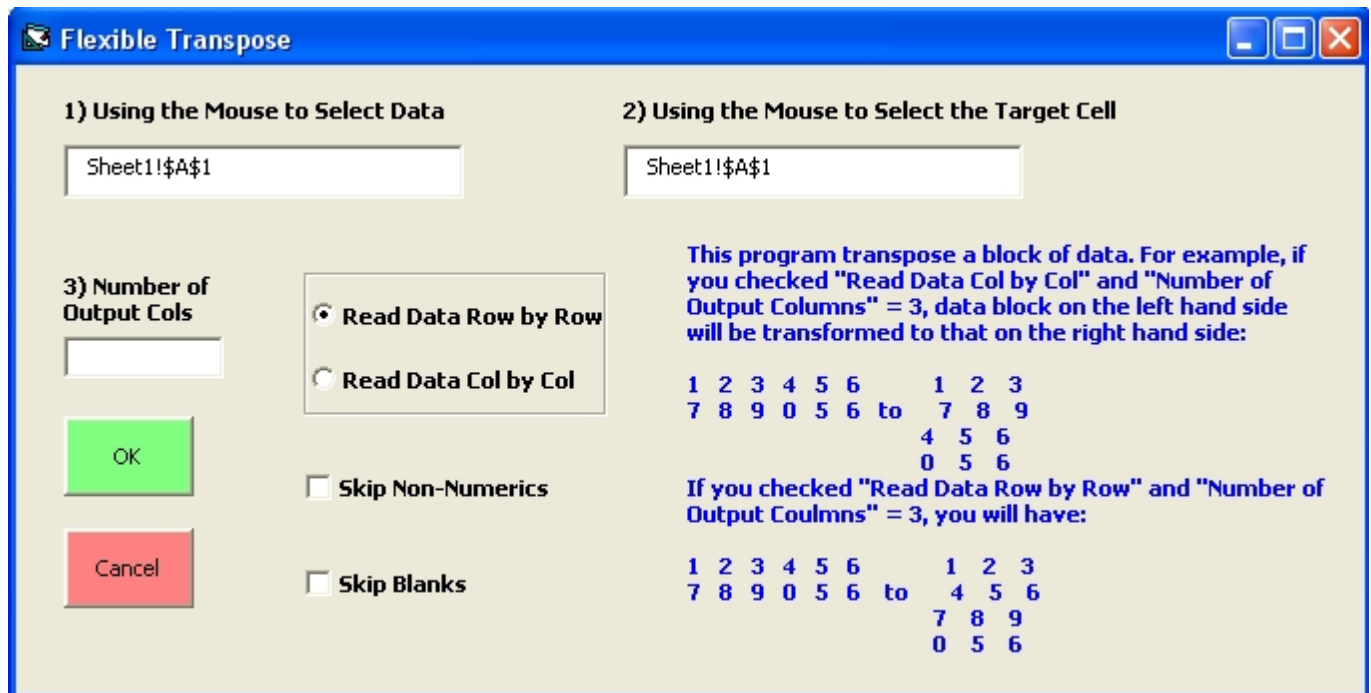To rearrange a block of data in different ways.

Figure Cells-13. Interface for "Re-arrange a Block of Data

Charts

Batch Create Multiple Charts

To create multiple charts by a simple button click. Please note that this function can only create charts of 2-axis.
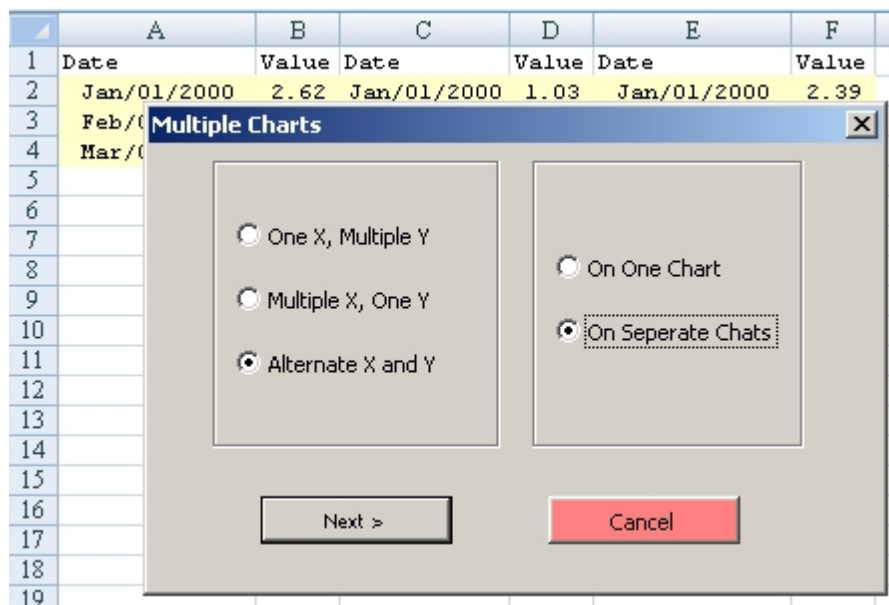
Figure Charts-01. User's interface for batch creating multiple charts

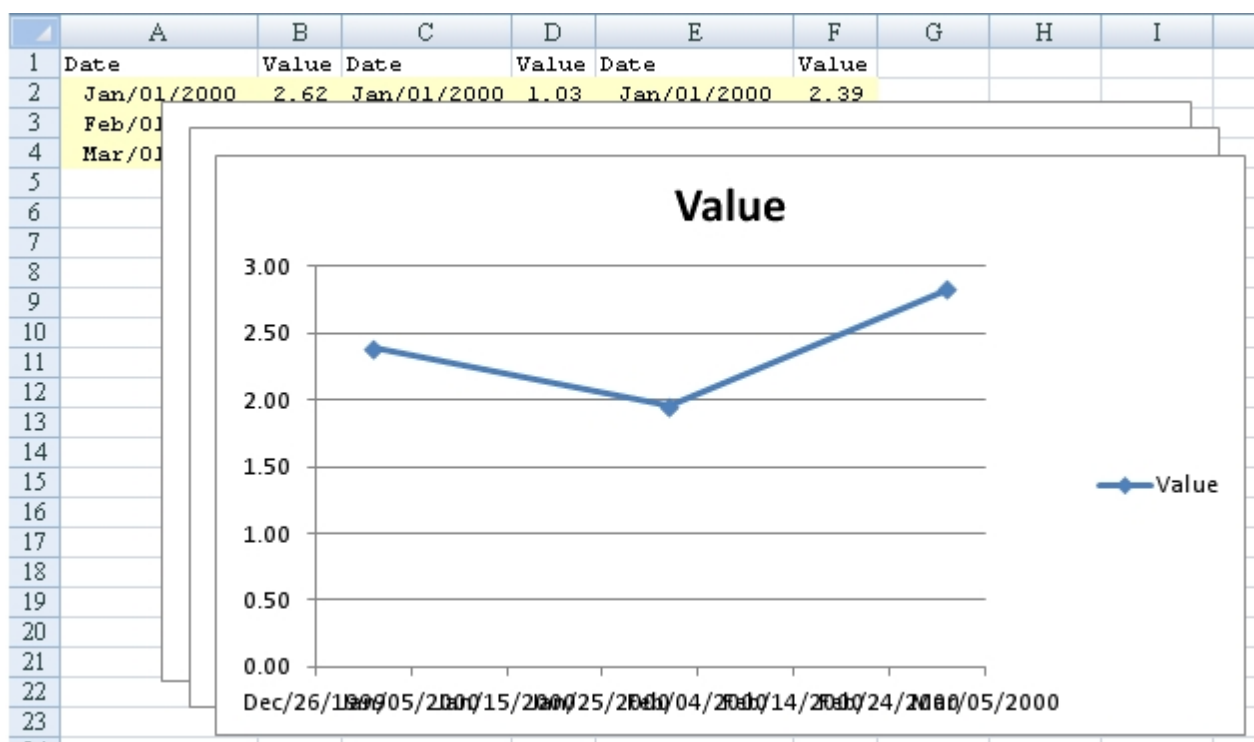Three charts were created using the data in the spreadsheet.

Figure Charts-02. Multiple charts were created

Batch Format Multiple Charts

This function includes a series of logical multiple charts processing tools:

- "Copy Charts" can be used to copy all the charts in the current workbook to one sheet named "All Charts";
- "Align Charts" will align all charts nicely;
- "Update Tiles" will update the chart titles, x-axis titles, and y-axis titles with only one click;
- "Format Charts" will format all the charts so that the formats of these chart are the same as the one you are satisfied with;
- "Export to Word" is the last step in this batch charts process. It will open a fresh Microsoft Word document and copies all charts to the word document as pictures.

Please note that you don't need to execute these tools in sequence. Each of them can be executed independently. In the following example, we skipped "Copy Charts" and applied "Align Charts" directly.

A dialogue box was pop-up asking for the number of columns you want to align the charts in the current spreadsheet (Figure Charts-03).
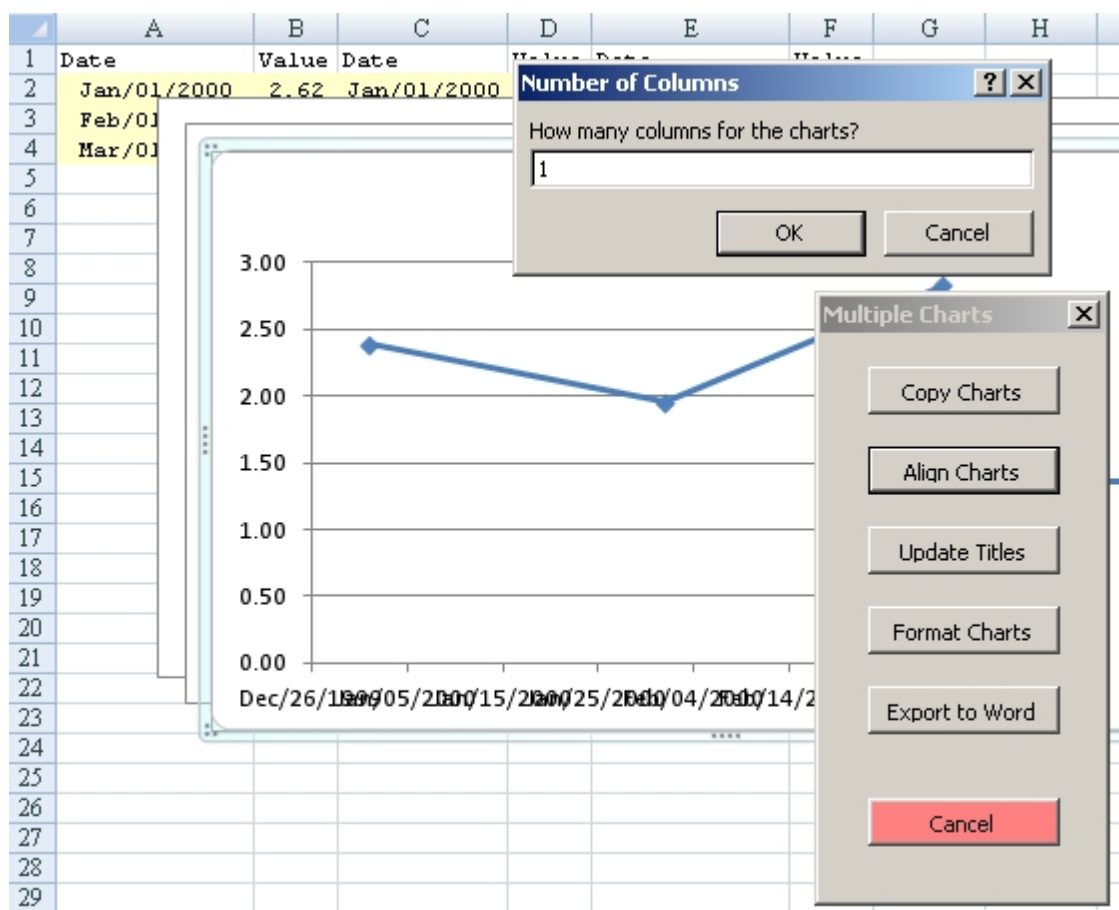

Figure Charts-03. Specify the number of columns you want to align the charts

After applying "Align Charts", all the charts in the active sheet were aligned nicely in one column.
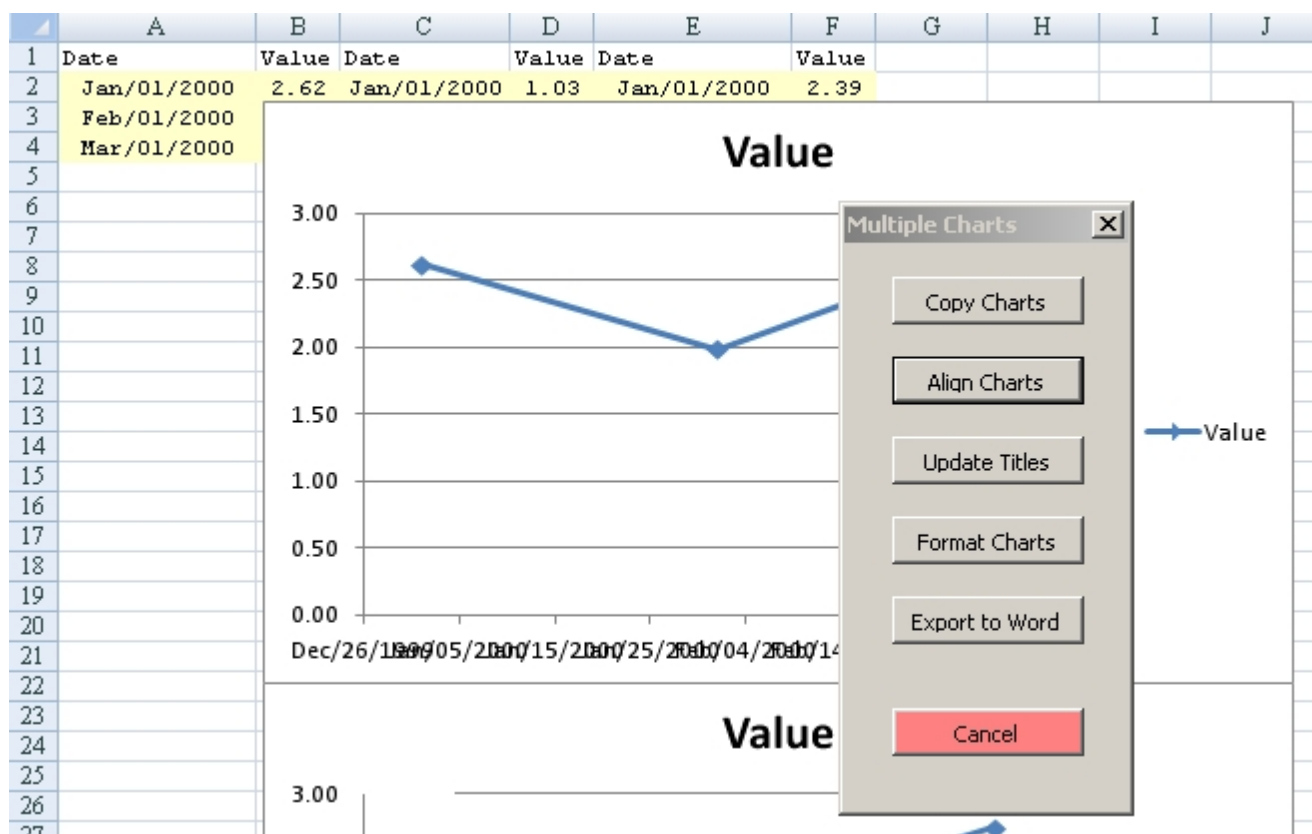
To update the titles at once, you have to prepare the titles first as that demonstrated in the following figure:
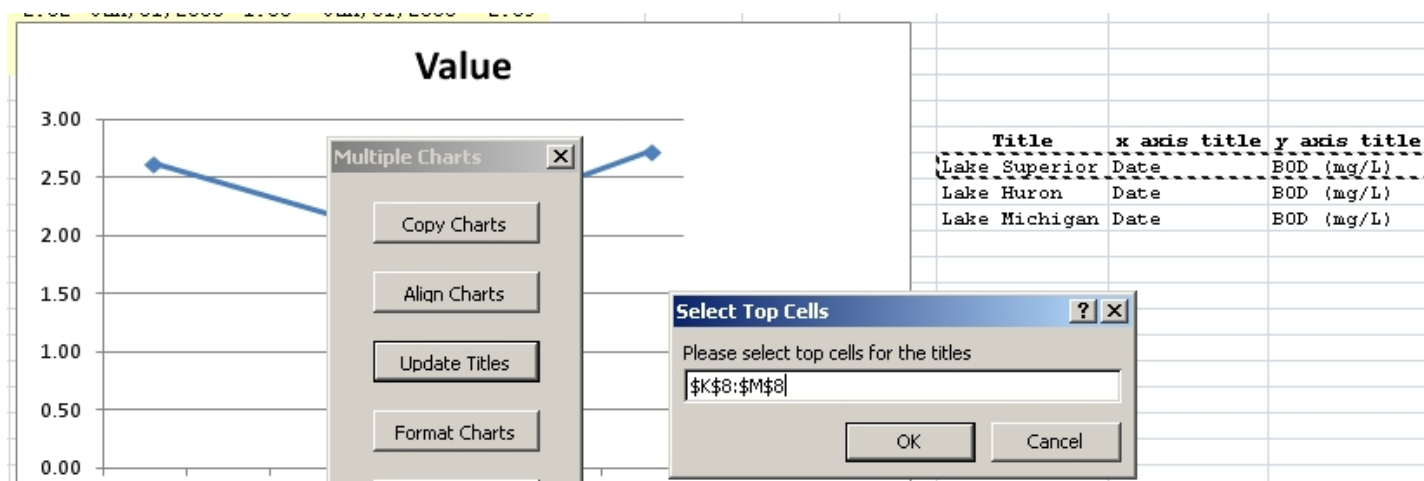

Figure Charts-05. Select a range to update all the charts at once

Sometimes, sheet names in sheet "TOC" (which can be created using "Add Table of Contents") can be used at chart names.

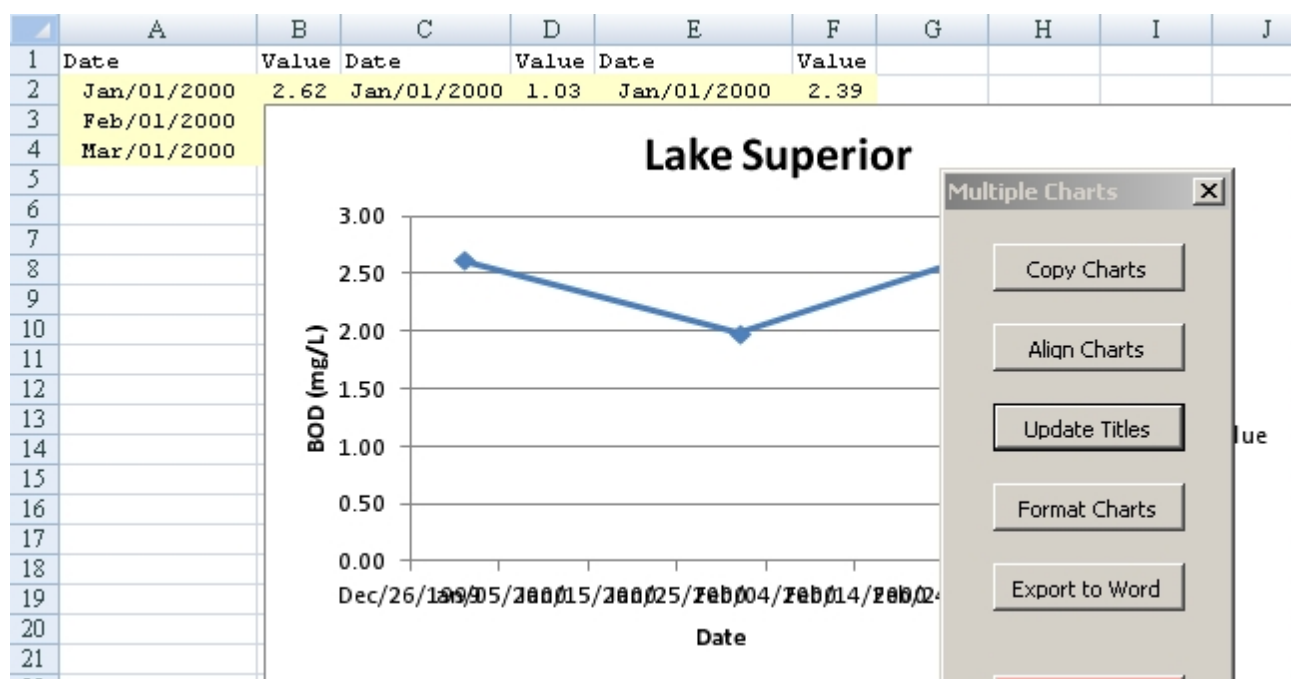The following figure shows what the charts looks like after "Update Titles":

Figure Charts-06. After "Update Titles"

Often the times, a lot of time were spent on formatting charts so that they are looks the same. "Format Charts" was intended to make formatting multiple charts easy and fun.

A chart has to be selected first. All other charts will be formatted the same way (Figure Charts-07):
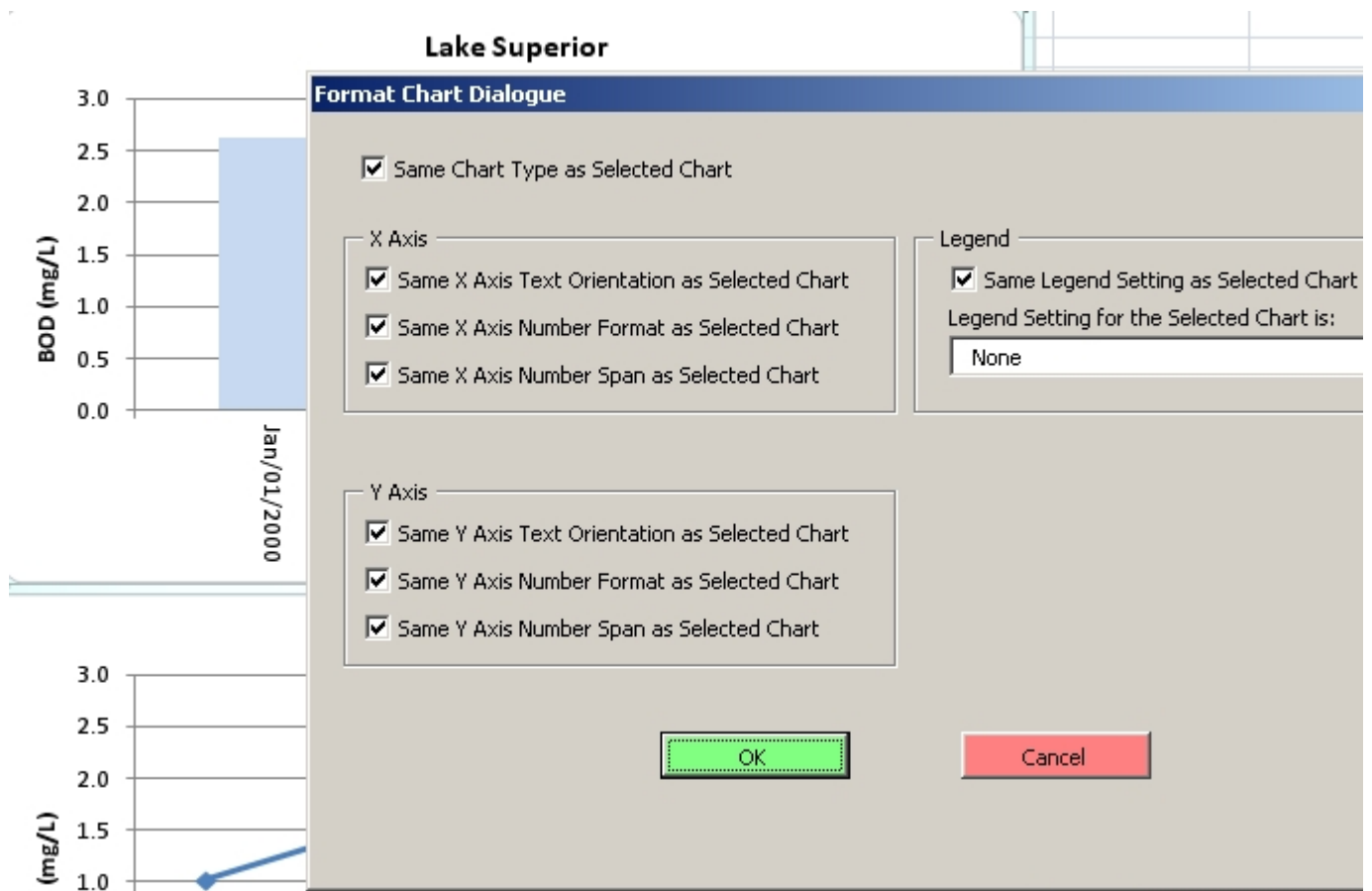
Figure Charts-07. Format multiple charts dialogue box

After formatting, all the charts will appear similar (Figure Charts-08):
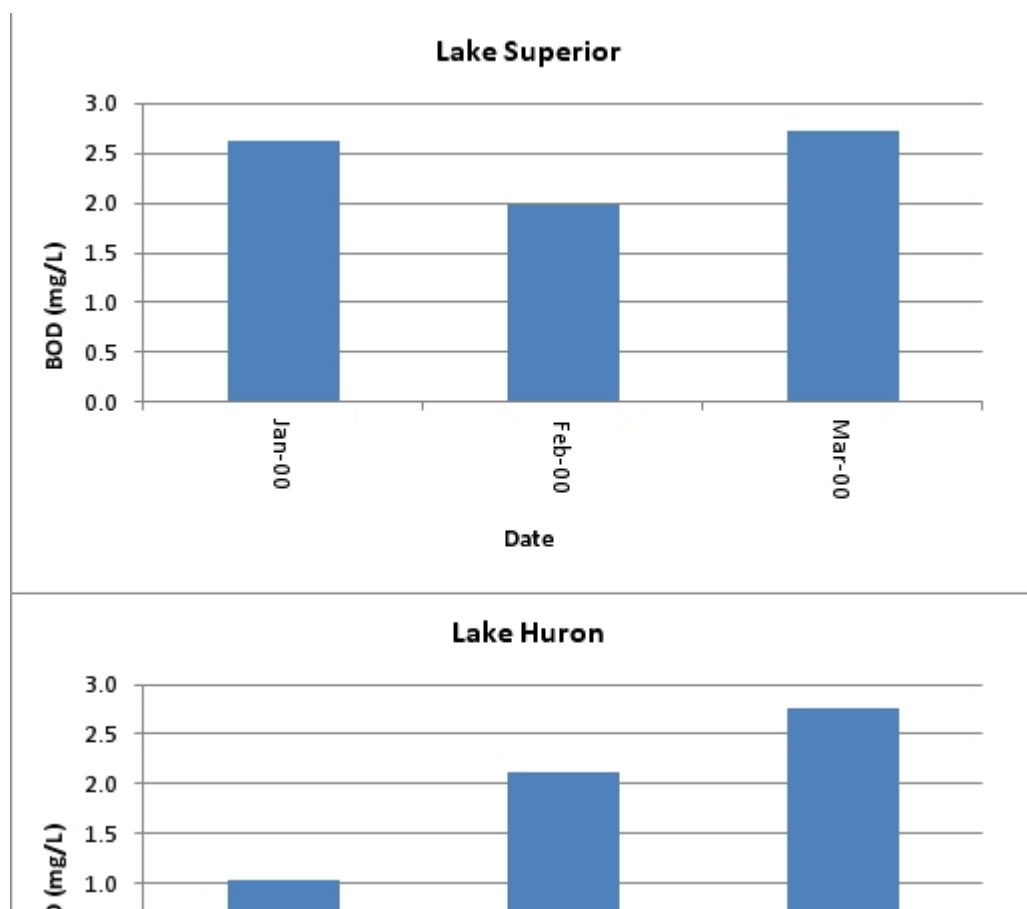

Figure Charts-08. After multiple charts format

Now, you are satisfied with all the charts. It's the time to export all the charts to a Microsoft Word document:
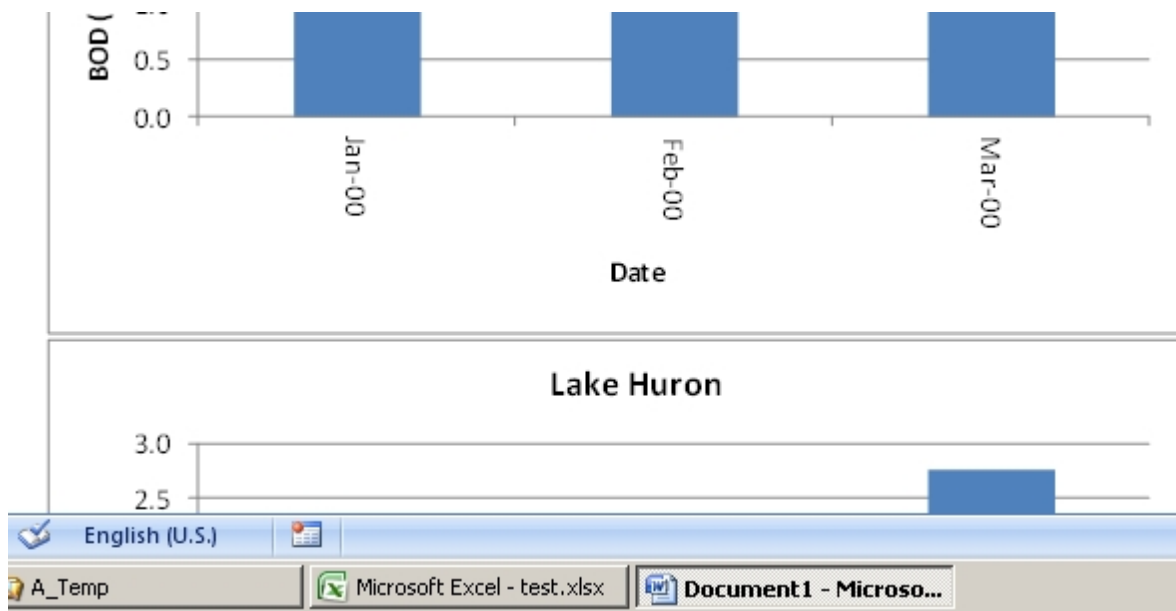

Figure Charts-09. Export all charts to a Microsoft Word document

Time Series

Inputs
Pre-processing
Fill Missing Times
Fill Missing Data
Stats1
Stats2
Column to Table
Table to Column

Inputs

The first page, "Inputs", is shared by all the utilities in this module for data input purposes. Some utilities require all the three data entries to be filled before execution, some utilities only require two data entries (Data Entry 1 and 2, or Data Entry 2 and 3) to be filled before execution.
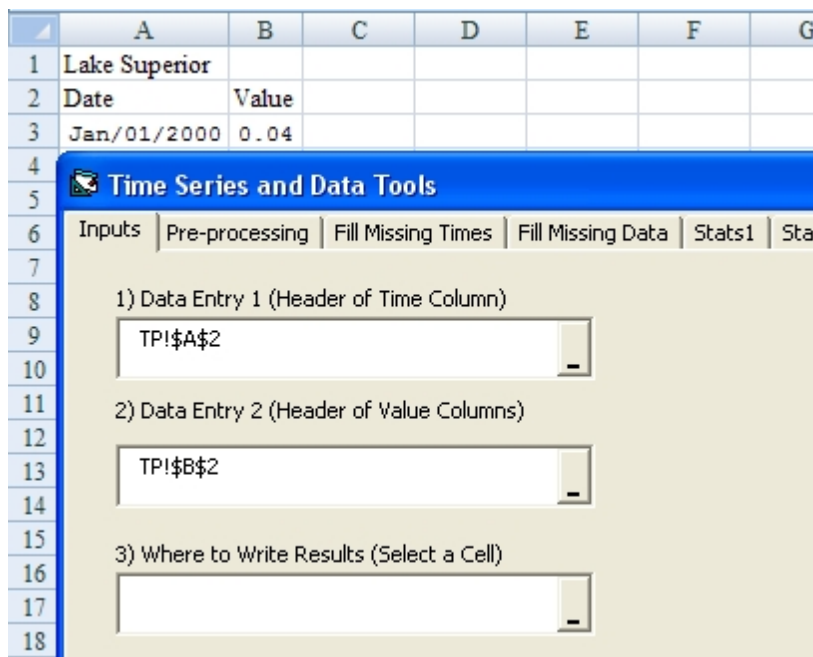
Figure T-01. Data entry interface for time series processing

Pre-processing

Pre-processing can be used to make sure that all the values in the date/time column are the date/time type, sorted according to date/time, and all duplicated rows have been fixed properly.

Figure T-02. Pre-processing

Fill Missing Times

Often, because of malfunction of the instrument, there are duplicates (several rows of data for the same time) or missing values in the time series. The duplicates in the time series can be removed using Delete Rows (Conditioned on a Column) tool. It's assumed that duplicated times have been removed before implementation of this tool.

After click "Fill Missing Time" button, the tool will detect the time interval (from 1 minute to 1 month) automatically according to the times in the first two rows. The missing times will be filled and shaded in yellow. However, the value(s) of missing times remain unknown (blank cells).
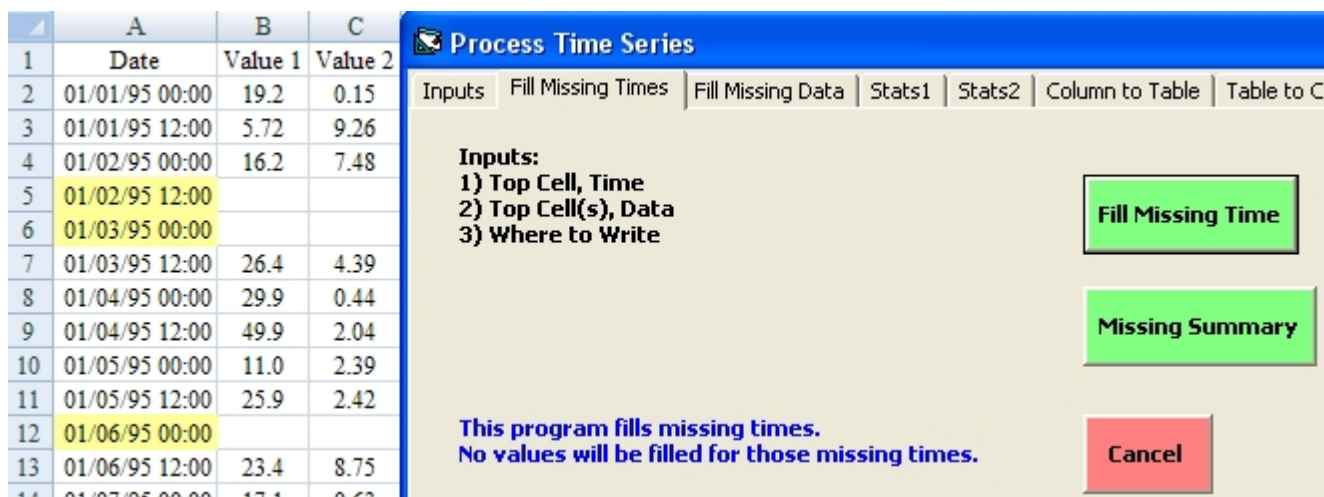
Figure T-03. Fill missing time and missing times summary

If "Missing Summary" button was clicked (Data Entry 1, 2, and 3 on "Inputs" page has to be filled for this tool), the missing times would be summarized as that demonstrated in Figure 3.

Figure T-04. An example of missing times summary

Fill Missing Data

This tool fills missing data via linear interpolation. The filled cells will be shaded yellow. If first or last data set is missing, the value will be filled via extrapolation.
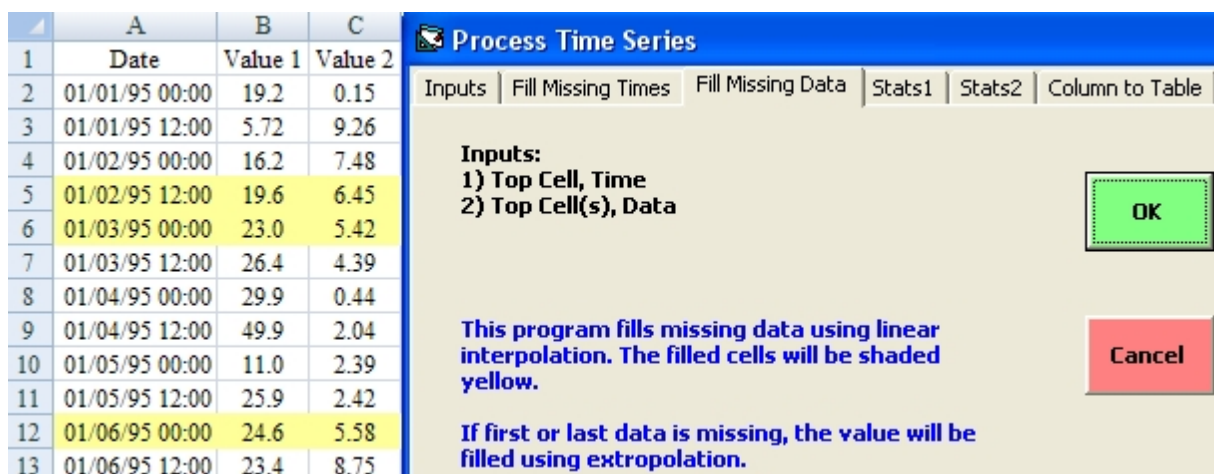

Figure T-05. Fill missing data

Stats1

Statistics (maximum, minimum, average, count, sum >0 count, blanks and non-numeric count, median, standard deviation, time of maximum, time of minimum) can be calculated based on the data group method chosen by the user.

The data can be grouped by year, year/month, year/month/day, or category.

Figure T-06. Methods to group data for statistics calculation purposes

Figure T-07. Select required statistics

Figure 7 is a screen snapshot of statistic calculation results when the time series (Value 1) was grouped by year/month and all statistics listed in the "Statistics Required" were required.

	Date	Value 1	Value 2	Month/Year	Time of Min	Time of Max	Standard I	Median	Blanks + I	>0 Count	Sum	Count
1												
2	01/01/95 00:00	19.2	0.15	Jan/95	21/Jan/95 00:00	04/Jan/95 12:00	12.65	23.86	0	62	1,537.24	
3	01/01/95 12:00	5.72	9.26	Feb/95	01/Feb/95 12:00	25/Feb/95 12:00	15.52	24.40	0	56	1,378.60	
4	01/02/95 00:00	16.2	7.48	Mar/95	23/Mar/95 12:00	23/Mar/95 00:00	13.90	28.16	0	62	1,649.95	
5	01/02/95 12:00	19.6	6.45	Apr/95	02/Apr/95 12:00	20/Apr/95 12:00	14.65	27.83	0	60	1,527.15	
6	01/03/95 00:00	23.0	5.42	May/95	08/May/95 12:00	26/May/95 00:00	14.92	25.58	0	62	1,557.05	
7	01/03/95 12:00											
8	01/04/95 00:00											
9	01/04/95 12:00											
10	01/05/95 00:00											
11	01/05/95 12:00											
12	01/06/95 00:00											
13	01/06/95 12:00											
14	01/07/95 00:00											
15	01/07/95 12:00											
16	01/08/95 00:00											
17	01/08/95 12:00											
18	01/09/95 00:00											
19	01/09/95 12:00											
20	01/10/95 00:00											
21	01/10/95 12:00											
22	01/11/95 00:00											
23	01/11/95 12:00											
24	01/12/95 00:00											

Stats2

"Stats2" (Figure 8) can be used to calculate monthly or weekly statistics of a time series. Figure 9 is a screen snapshot if monthly average was required. Sometimes, a few data are missing for a month. However, statistics derived from the remaining data may still be a good representative. For instance, an average value derived from 29 day's values of a month will be close enough to an average value derived from 31 day's values of that month. The user is allowed to specify the number of days, beyond which the statistics will be calculated for that month. Otherwise, the statistics for that month will not be calculated (Figure 8).

Figure T-09. Interface for monthly or weekly statistics calculation

Figure T-10. Results if monthly average values were required

Column to Table

This tool can be used to transform a daily time series in columns format (Column E and F in Figure 10) to a user specified tabular format.
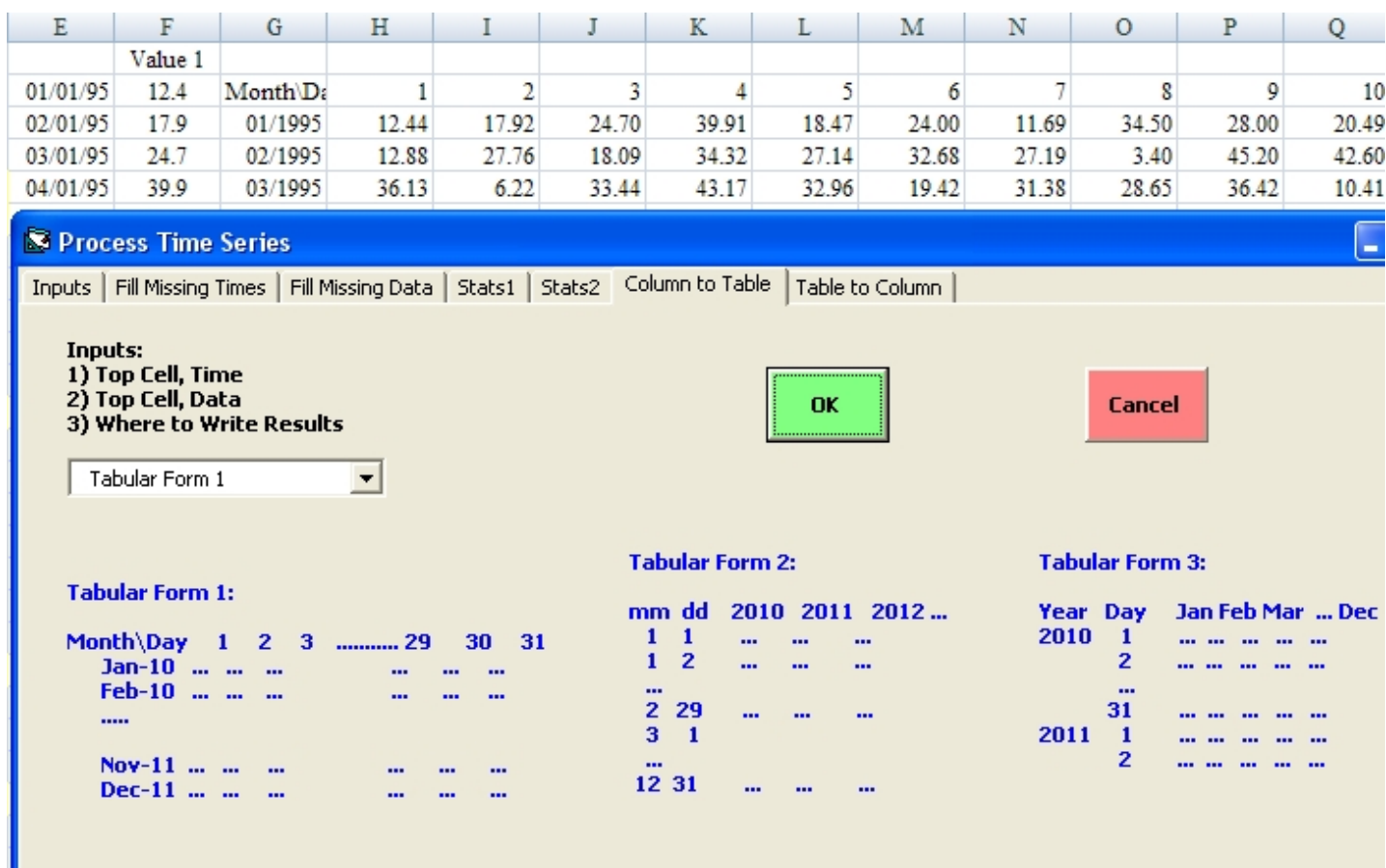
E	F	G	H	I	J	K	L	M	N	O	P	Q
	Value 1											
01/01/95	12.4	Month\D:	1	2	3	4	5	6	7	8	9	10
02/01/95	17.9	01/1995	12.44	17.92	24.70	39.91	18.47	24.00	11.69	34.50	28.00	20.49
03/01/95	24.7	02/1995	12.88	27.76	18.09	34.32	27.14	32.68	27.19	3.40	45.20	42.60
04/01/95	39.9	03/1995	36.13	6.22	33.44	43.17	32.96	19.42	31.38	28.65	36.42	10.41

Process Time Series

Inputs | Fill Missing Times | Fill Missing Data | Stats1 | Stats2 | Column to Table | Table to Column

Inputs:
1) Top Cell, Time
2) Top Cell, Data
3) Where to Write Results

OK   Cancel

Tabular Form 1

Tabular Form 2:

Tabular Form 3:

Tabular Form 1:

Month\Day	1	2	3	....	29	30	31
Jan-10	...	...	...		...	...	...
Feb-10	...	...	...		...	...	...
.....							
Nov-11	...	...	...		...	...	...
Dec-11	...	...	...		...	...	...

mm	dd	2010	2011	2012 ...
1	1	...	...	...
1	2	...	...	...
...				
2	29	...	...	...
3	1	...	...	...
...				
12	31	...	...	...

Year	Day	Jan Feb Mar ... Dec
2010	1	... ...
	2	... ...
	...	
	31	... ...
2011	1	... ...
	2	... ...

Figure T-11. Column to Table options for daily time series

Table to Column

This is a reverse process to "Column to Table". It transform daily time series from tabular format to two columns. One column contains times, one column contains values.

Select

[Extend Selection to the Last Used Row](#)
[Extend Selection to the Last Used Column](#)
[Extend Selection to the Last Used Cell](#)
[Select Cells based on Criteria](#)

Extend Selection to the Last Used Row

You can use CTRL+SHIFT+END to extend the selection of cells to the last used cell if the data is continuous (no blanks in between). This tool aims to help you extend your selection to the last used row in case there are gaps in your data.

Extend Selection to the Last Used Column

Extend the selection to the last used column.

Extend Selection to the Last Used Cell

One click to extend selection to the entire used range in a spreadsheet. For example, in the following figure, Cell A2 was selected.

Figure S-01. Current selection, Cell A2

After extend the selection to the last used cell, a range of cells were selected.

Figure S-02. After extending the selection to the last used cell

Here is another example, in this case, Cell B3 was selected.

Figure S-03. Current selection, Cell B3

After extend the selection to the last used cell, Range B3 to F4 was selected. Please note that the direction of extension is to the right hand side and down side.Therefore, it didn't extend to Cell F13.

Figure S-04. After extending the selection to the last used cell

Select Cells based on Criteria

Select a range of cells first, then, click the icon to execute this function, a user form will pop-up as that in the following figure.
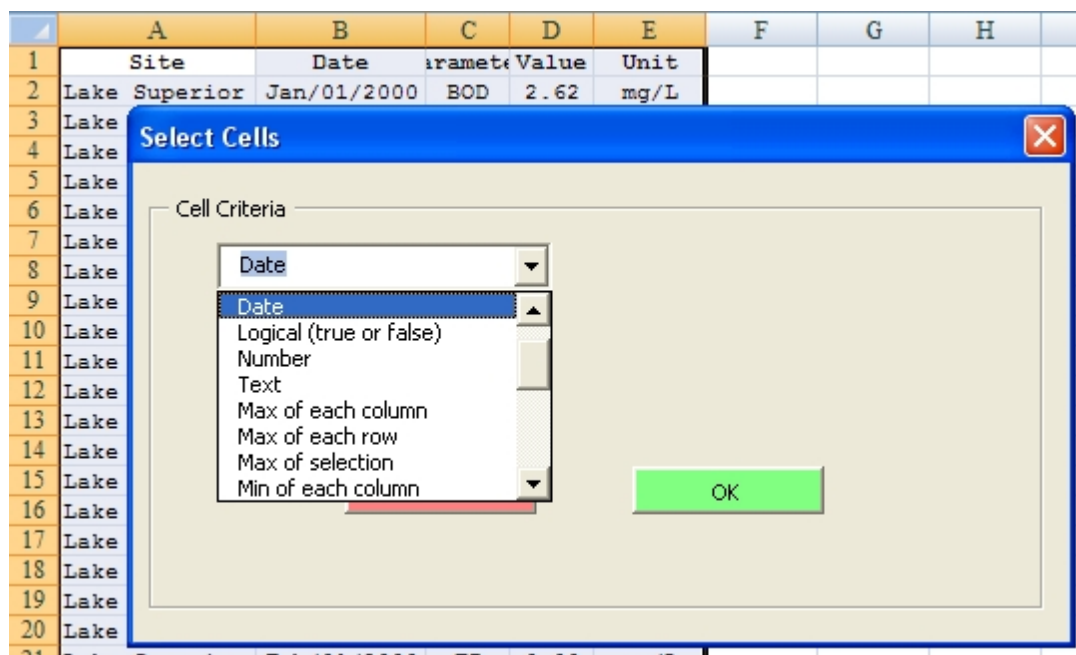

Figure S-05. Select cells based on criteria

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