

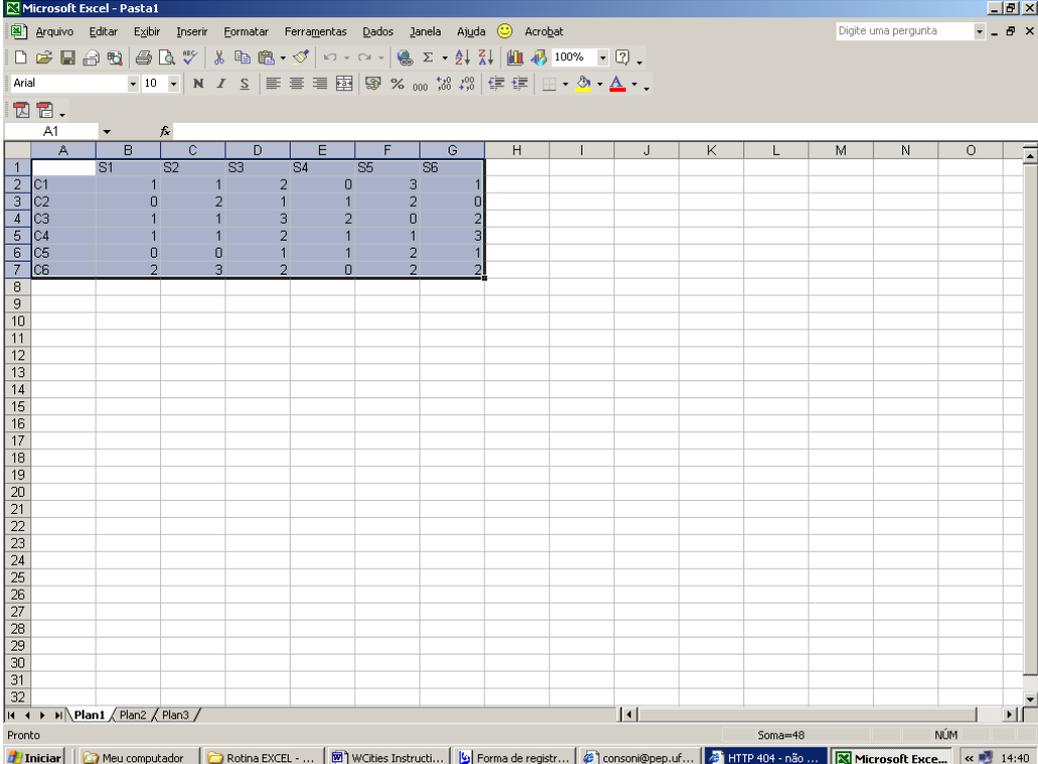
# World Cities Subroutine for MS Excel PC (not tested in a Mac)

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## Instructions for use (<= 254 cities)

1. Print the file **WCities\_Instructions.pdf** and read it first.
2. Save the file <**WCitiesSub.xla**> in your Desktop directory.
3. Open Excel.
4. Paste your data set (never use your original data set file!!!!) to test the World Cities Subroutine for Excel. It must be as following:
  - **Cities** in column **A**, the **first city name must be in cell A2**...
  - **Services** in row **1**, the **first service name must be in cell B1**...
  - **data must begin in cell B2**... the biggest data set will finish in cell **IV255**

**This is a sample:**



The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1		S1	S2	S3	S4	S5	S6								
2	C1	1	1	2	0	3	1								
3	C2	0	2	1	1	2	0								
4	C3	1	1	3	2	0	2								
5	C4	1	1	2	1	1	3								
6	C5	0	0	1	1	2	1								
7	C6	2	3	2	0	2	2								

5. Select menu <Tools><Add-Ins...> .
6. In the **Add-Ins** dialog box select the button <Browse>
7. At the **Browse** dialog box select the file <**WCitiesSub.xla**> you have just saved in **Desktop** and click <OK>
8. At the **Add-Ins** dialog box select the item <**World Cities - Subroutine**> and then click <OK>
9. Select menu <Tools><Customize...>

10. In the **Customize** dialog box... select tab **Commands**. In the <Categories> list box, select <Macros>. In the <Commands> list box click the <Custom Button> item (The one with an yellow smiley icon...) and **drag it to the right of menu <Help>**
11. Let the focus remain on the icon you just dragged to the toolbar
12. In the **Customize** dialog box, tab **Commands**, in **Selected command** click on <Modify Selection>
13. Select the option <Macro assign...>. The dialog box **Macro assign** will open.
14. In the Label box <Macro name> t y p e: **WorldCities**. Click <OK>.
15. Close the **Customize** dialog box.
16. Click the Smiley icon button you just dragged to the toolbar;
17. VOILÀ!!! You should have gotten a new sheet workbook named <**OutPut**>, where the results are at <**RowSum**> column. The original data will remain in the sheet named <InPut> and will be painted cyan, for you to know which data the program selected for its calculations;

### **REMEMBER:**

- This routine can not accept more than 254 cities and 255 services, because MS Excel has only 256 columns in each sheet. (A new version of this routine will be needed to circumvent this awful limitation!);
- You will have just 2 worksheets: **InPut** and **OutPut**. This routine will delete all others.
- In the cells that cross between cities and services you should inform a number to weight their relationship. If you fail to inform a weight, it will be considered zero. If you inform a letter or a sign (Note: a <space> is a sign. Be careful!) instead of a number, the program will halt with an error;
- Inform only the data you will be using to get the results through this routine. **Never** leave a complete row or column blank in the data. If you do so the program will fail to select all the data and results you get will be useless;
- The data (numbers, weights) you inform should always begin at cell <B2> and extend to the right and downward. If you should absolutely write something in the sheet, leave at least 2 rows or 2 columns between the data and these annotations. The data should ALWAYS be informed ABOVE and TO THE LEFT of any annotations. The program will fail if you do not do so;
- I wish this program helps you in your work! My tests showed that for 254 cities and 255 services, in a Pentium III, 550MHz PC workstation (I do not have Mac!), it spent less than 30 seconds to read the data, calculate, sort and format the final results. Hope it is fast enough... GOOD LUCK!

**Last but not Least:** Do not click the Smiley Button when you have loaded other workbooks and sheets. YOU WILL RUIN YOUR DATA IN THESE WORKBOOKS!!!

For safety remove the Smiley Button if you are not going to use this routine again:

1. Move the mouse to point to the Smiley Button and click the right mouse button.
2. The **Customize** dialog box will open.
3. Move the mouse to point to the Smiley Button and click again the right mouse button.
4. Select **Delete**.

ANYWAY: if you close your file without save it, its integrity will remain.