

Tools and Mindset Needed for these Modules

“Tell me and I’ll forget; show me and I may remember; involve me and I’ll understand.

-Reputably a Chinese proverb

What You Need to Know About Excel

The Area.py and EasyVisual.py programs have been implemented in Excel for you. Download the Excel implementation file from the Intro module web page. This Excel workbook contains three worksheets: *AreaCircle*, *EasyVisual* and *Steps*.

A typical workflow of developing a computational model in Excel is:

1. **Generating Data.** Data might come from your experiments, a publication or someone else’s model. In Excel, Data is usually entered in columnar format.
 - a. It is customary to have a first column with a number of iterations (compare it to Python code `for x in arange(0, 100, 1)`).
 - b. Then there is a column for x-axis values which might depend (or not) on the number of iterations.
 - c. Then there might be one or more columns (y-axis values) where a dependent variable(s) is calculated. One of these dependent variables is your model (your expectation of how y depends on x).
2. **Visual Representation of Data.** *Steps* worksheet in the [Implementation](#) file contains selected screenshots of the workflow during development of the visual representation (Chart) of the data.

Excel Help is a very powerful resource. There are plenty of Excel tutorials and demos on Web. We recommend these two at the moment:

1. [TutorialReference](#) from the <http://academic.pgcc.edu/~ssinex/excelets/> web-site.
2. <http://www.shodor.org/tutorials/excel/IntroToExcel> is a great example of creating a computational model in Excel. We recommend that you work your way through it.

Of course you cannot do this unless you have Excel running on your computer to do this properly.