Basics

July 26, 2016

1 Jupyter Notebook Basics

This box I am typing in is called a "cell." There are two main types of cells we will be using. The first is called "markdown." Markdown cells, when executed, simply become paragraphs of text (as if in a normal text editor such as Microsoft Word.) The second type of cell we will be using is code cells. Code cells, when executed, will run the code inside the cell.

What does it mean to "execute" a cell? We (the user) are telling the Jupyter notebook program to do everything we have typed in the cell, be it actual Python code or simple markdown text formating. To execute a cell, simply have that cell selected (be it in edit mode or command mode) and hold Shift and hit the Enter key.

What is edit mode? That is the mode indicated by a green cell border and a prompt in the box. You can access it by selecting the cell and pressing Enter or by double clicking in the cell's text box.

What is command mode? This is a mode indicated by a blue left margin and a grey cell border. With command mode, you can edit the notebook as a whole, but you cannot type into individual cells. Most importantly: the keyboard is mapped to a set of shortcuts that let you perform notebook and cell actions efficiently. For example if you are in command mode and you press c, you will copy the current cell.

Here's a list of basic commands keyboard shortcuts accessable in command mode:

1. Basic navigation: enter, shift-enter, up/k, down/j
2. Saving the notebook: s
3. Change Cell types:
    - y (change to code)
    - m (change to markdown)
    - 1-6 (change to headline, larger number is smaller text)
4. Cell creation: a, b
5. Cell deletion: d (press twice)
6. Cell editing: x, c, v, d, z
7. Kernel operations: i, 0 (press twice)

Commands like this can greatly increase productivity and are always worth spending the time to learn.

Bold and **italics** are also easily done: 1. Bold uses ** before and after 2. Italics use * before and after

These notebooks use "Latex formatting", which allows for some cool things. For instance, the Greek alphabet can be typed out using Latex formatting, such as ϕ and θ.

We can also do cool formula formatting

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$