Milestone 6

Due Sunday, May 28 at 11:59pm

Learning Objectives:

I. **What characters do I type next?** *How do I use more complicated kinds of plots?* This milestone will give you the chance to learn how to plot vector fields, 3D data, or anything else you might need for your project.

III. **What broke and how do I fix it?** *How do I get a Python project to produce actual results?* This milestone asks you to come up with some preliminary results so that you can plot them. This means you'll have to deal with all the little bugs that may have come up while working on previous milestones—and the results still might not be what you expected.

IV. **How do I communicate science and Python with others?** *How do I make publication-quality plots?* This milestone will give you the chance to practice annotating and customizing your plots to make them clear and accessible.

A. **Python is a physical system. Experiment!**
B. **Let me Google that for you.**
C. **Computing time is cheap—use it.**
D. **Read the error output. Read it.**
E. **Don't reinvent the wheel.**
F. **Write and test, write and test…**

While You Work: Habit Summary #4

We've talked about six useful habits that scientific programmers have. (See above) You've started using these habits, possibly without knowing it! This part of the milestone will help you notice and solidify those habits.

While you're working, you will doubtless make use of one of these habits. When you notice yourself using one of these habits **about which you haven't already written a summary**, write down the habit and what you used it for. See Milestone 3 for an example.

Part 1: Get Results

Pick some important results that you would want to plot in order to visualize. Then write and debug the code that you still need to get to that point. **Whether your results are *correct* doesn't matter for this milestone**—you can fix them later, as long as you get something to plot.

Part 2: Plot Them

Pick a sensible type of plot for your results, plot them, annotate the plot, and save it in a format that would look good if included in a published document.