

## Milestone 5

*Due Monday, May 9<sup>th</sup> at EOD (end of day)*

### Learning Objectives:

- I. **What characters do I type next?** *How do I use object-oriented programming and functional programming syntax?* This milestone will give you the chance to practice the syntax you learned this week.
- II. **How do I plan a project and execute my plan?** *How do I identify appropriate uses for object-oriented and functional code?* This milestone will give you the opportunity to figure out when to use OOP and functional paradigms.
  - A. **Python is a physical system. Experiment!**
  - B. **Let me Google that for you.**
  - 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 #2

So far we've mentioned five useful habits that scientific programmers have. (See above, and see also page 4 of the syllabus.) 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 4 for an example.

### Part 1: Write a Piece of Object-Oriented or Functional Code

For this milestone we're asking you to pick a discrete piece of code that your project will need **for which object-oriented or functional programming would be a good use** and then write it, test it, and write docstrings for everything in it. **Take about an hour, but no more than two hours.**