Problem Set 0: Introduction & Installation

The questions below are due on Friday September 09, 2022; 09:00:00 PM.

1) Background Survey

What is your Grade Level?

○ Freshman

○ Sophomore

○ Junior

○ Senior

○ Graduate Student (Non MBA)

○ MBA Student

Submit

You have infinitely many submissions remaining.

What is your (first) major? If freshman, choose "Freshman".

[-- ▼]

Submit

You have infinitely many submissions remaining.

What is your second major? If not double majoring or undecided, do not answer this question.

[-- ▼]

Submit

You have infinitely many submissions remaining.

Approximate Lines of Code written before enrolling in 6.100L [-- ▼]

Submit

You have infinitely many submissions remaining.

Prior Programming Experience?

- ☐ None
- ☐ HTML
- ☐ AP Computer Science
- ☐ Online coding course (code academy, etc.)
- ☐ Programming Experience in language other than Python
- ☐ Programming Experience in Python
- ☐ Took 6.0001/6.100A/6.100L before
- ☐ Took a Python course at MIT during IAP before (e.g. 6.145)
- ☐ Watched or Participated in Programming course in OCW or edX
- ☐ College course using programming language other than Python
- ☐ College course using Python

Submit

You have infinitely many submissions remaining.

Why did you enroll in 6.100A?

- ☐ To Learn how to Program
- ☐ To Fulfill a Course Requirement
- ☐ To Get a Good Grade
- ☐ other

Submit

You have infinitely many submissions remaining.

Select all of the resources that you are aware of or have used to help learn how to program.

- ☐ Google
- ☐ Online coding courses
- ☐ Stack Overflow
- ☐ Friends that know how to program

Submit

You have infinitely many submissions remaining.

2) Pset Buddy

Do you want to sign up for Pset buddies? Each week you will get assigned a new person to collaborate with on the pset. You and your buddy will be matched based on timezone/experience/class year, and may collaborate on the pset as much as you

wish, without penalty for similar code. You can change your options for each pset, up until 9pm the night before the pset is released.

3) Class Info Assessment

Which of the following count towards your grade?
- ☐ problem sets
- ☐ mandatory exercises
- ☐ optional exercises on MITx
- ☐ exams
- ☐ lecture attendance and participation
- ☐ recitation attendance and participation

Submit

You have infinitely many submissions remaining.

When are problem sets due?
- ○ every Monday
- ○ every Wednesday
- ○ depends on the pset, check the calendar

Submit

You have infinitely many submissions remaining.

When are mandatory finger exercises due?
- ○ generally available with the pset, and due with the pset
- ○ generally available with a lecture, and due by the beginning of next lecture
- ○ no deadline per exercise, but must do them all by the end of the course

Submit

You have infinitely many submissions remaining.

Microquizzes are in the last 20-45 minutes of specific lectures outlined in the calendar. What happens if you cannot make it to a microquiz?
- ○ Email S^3 and post to the forum to schedule a conflict microquiz
- ○ Conflict microquizzes are not given but the lowest quiz grade is dropped

Submit

You have infinitely many submissions remaining.

You are working with a friend (not your assigned pset buddy) on the problem set. Your friend tells you to use a specific kind of loop to solve a part. Is this a collaboration violation?

○ Yes for you and the friend

○ Yes only for the friend

○ Yes only for you

○ no

Submit

You have infinitely many submissions remaining.

You are stuck debugging the problem set. Your friend (not your assigned pset buddy) already finished but they can't stay to help you anymore, so they email you the code. You look over the part you are stuck but write up your own code. Is this a collaboration violation?

○ Yes for you and the friend

○ Yes only for the friend

○ Yes only for you

○ no

Submit

You have infinitely many submissions remaining.

4) Introduction to Python & Spyder

This problem set will introduce you to the programming environment Spyder from the Anaconda Distribution of Python, and to programming in Python, as well as to our general problem set structure. In this problem set, you will confirm your installation of Python, write a simple Python program, and hand it in. **Be sure to read this problem set thoroughly, especially the Collaboration and Hand-in Procedure sections.**

4.1) Collaboration

You may work with other students. However, each student should write up and hand in his or her assignment separately. *Be sure to indicate with whom you have worked in the comments of your submission.*

4.2) Installing Python & Spyder

Follow the steps in the **Getting Started handout** for installing the Anaconda distribution of Python and Spyder onto the machine you plan to be using this term. The numpy and matplotlib packages, which will be used primarily in 6.0002, should come with the installation. Familiarize yourself with Python and Spyder using the exercises given in the handout. Once you are ready, proceed to the programming part of this assignment.

This class uses Python version 3.0 or higher.

When you first start using your system, make sure that the version number displayed is 3.0 or higher. Python 3 is not backwards compatible with versions starting with 2.x.

4.3) Your First Program: Raising a number to a power and taking a logarithm

The goal of this programming exercise is to make sure your python and numpy installations are correct, to get you more comfortable with using Spyder, and to begin using simple elements of Python. Standard elements of a program include the ability to print out results (using the `print` operation), the ability to read input from a user at the console (for example using the `input` function), and the ability to store values in a variable, so that the program can access that value as needed.

4.3.1) Assignment

Write a program that does the following in order:

1. At the top of your file and type: `import numpy`
2. Now write a line that sets a variable named `x` to 5.
3. Now write a line that sets a variable named `y` to 8.
4. Add variables x and y, and save the result to a variable named `z`.
5. Now save the result of this command: `numpy.log2(z)` to a variable named `a`.

Use Spyder to create your program, and save your code in a file named 'ps0.py'.

Hints:

- Remember that if you want to hold onto a value, you need to store it in a *variable* (i.e., give it a name to which you can refer when you want that value). You may find it convenient to look at the variables and strings section of the Python Wikibook.

5) Hand-in Procedure

5.1) Save

Save your code in `ps0.py`. *Do not ignore this step or save your file(s) with different names.*

5.2) Time and Collaboration Info

At the start of each file, in a comment, write down the number of hours (roughly) you spent on the problems in that part, and the names of your collaborators. For example:

```
# Problem Set 0
# Name: Jane Lee
# Collaborators: John Doe
# Time Spent: 3:30

… your code goes here …
```

5.3) Submit

After you completed the steps in the file "Getting Started" from the downloaded files and Problem 3 above, upload your file here. You may upload new versions of each file until the 9PM deadline, but anything uploaded after that time will be counted towards your late days, if you have any remaining. If you have no remaining late days, you will receive no credit for a late submission.

When you upload a new file, your old one will be overwritten.

Select File | No file selected

Submit

You have infinitely many submissions remaining.