15-110 Recitation Week 1

Reminders

- Check1 due at Noon EDT Monday 1/24!
- Exercises are after every lecture, due 1 hour before the next lecture
  - Revision Deadline: noon EST on the day before the next assignment's corresponding quiz
- Post recitation feedback form: https://bit.ly/s22-post-recitation

Overview

- TA + student introductions, Course Logistics
- Algorithms
- Abstraction
- Working with Pyzo

TA + Student Introduction

Let us know your name, pronouns, major + year, and something fun you did over winter break!

Problems

ABSTRACTION

First, write an algorithm at a **low** level of abstraction that instructs a person on how to wash their hands. Assume the person you are instructing has almost no prior knowledge.

Second, write an algorithm at a **high** level of abstraction that does the same. This time you can assume the person you're instructing has a little more prior knowledge- what soap is, what a sink is.

ALGORITHMS

Suppose you have quarters (25 cents), nickels (5 cents), dimes (10 cents), and pennies (1 cent) and want to make change for a certain number of cents, how would you get change in the fewest number of coins? Write an algorithm to solve this, using moderate abstraction (assume the user understands basic arithmetic and the values of coins).

PYZO

Installation instructions:

1. Download and install Pyzo here.
   - If you are on a Mac, you may need to verify that Pyzo is a safe application in your settings.
   - Go to System Preferences > Security & Privacy.
   - There should be a notification about Pyzo being blocked. Click 'Open Anyway' to verify Pyzo.
   - Note, for some versions of MacOS (Big Sur and above), the above link to install Pyzo will not work and will give you an error of the type "Pyzo is broken". Instead of using the above installation link, use the following alternate installation link.
2. Launch Pyzo.
3. Setup your shell configuration to run Python 3
   - On the top menu, click **Shell->Edit Shell Configurations**
   - Click the dropdown labeled **exe**, and choose **python.exe [v3.x]**
   - Under **gui**, select **None - no GUI support** (otherwise you may have problems when we do graphics)
   - Press **Done**
   - Restart Pyzo and you're ready to go!

4. For a simple Python3 test, type this line of code in the shell/interpreter (with ">>>"):

   print(5/3)

   then press Enter. You should not get 1 (which you would get if you are using Python2) but instead should get 1.666666667.

Now download the starter file from the website. Open the file in Pyzo and go to File -> Run File as script. If you see the message "Welcome to your 15-110 Recitation!" pop up in the interpreter, this means you've successfully ran your first python program in 15-110!

As a second exercise, change the print statement so that it says "Welcome to your **first** 15-110 Recitation" (add the word first). Save and re-run the program to assure that this works!