

Pre-Lab 2 Exercise

CS 106: Introduction to Data Structures

Week 2

Note: this should be completed and you should be checked off by a TA or instructor before starting Lab 1. You should begin this exercise **before lab on Friday – it is okay to complete it during lab (you should be checked off by the end of lab).**

Goals:

- Practice creating classes and objects, in preparation for Lab 1.

BEFORE CODING

Look at the *StudentProfile.csv* file provided. Answer the following prompts:

1. What conceptual “object” does each row of the file represent?
2. List all “variables” stored on the csv file.
3. Next to each “variable” that you listed, write down the most appropriate type (int, String, etc) for that variable.

CREATING THE ROW CLASS

In the next steps, you will create a class for an object that represents one row of the csv file. To set up, make sure to import Lab 1 into Eclipse just like Lab 0. Then right click on the src/main/java folder. Create a new package called “prelab”. Then you should have two packages: “prelab” and “propublica.datadesign”.

1. Inside the “prelab” package, create a class, naming it appropriately based on your answer to #1 from prompts above.
2. Declare all the fields (instance variables), keeping in mind the types of each (*hint: how could you use the enums from Lab 0 and in-class to make this part more robust?*)
3. Create a constructor for the object.
4. For at least one of the fields, add a getter and a setter (for practice).
5. Add a toString() method that returns a String containing info about at least two of the instance variables.
6. Create another constructor, but with all inputs as String type. (The data from csv file when read in will be all Strings so we need a constructor that deals with String inputs.) You don’t have to do every case for every dorm or every class year, just get the basic idea. You are also encouraged to call helper methods from your constructor.
7. Test out **both** your constructors in a main method, using data from one row.

Note that over the course of Lab 1 and Lab 2 we’ll be modifying this code.