

LAB #8

Lists/Arrays and File I/O in Python

Check your grades on Canvas to make sure they are accurate!!! If not, then contact the TAs or myself!!!! Remember, there is no lab during Thanksgiving Holidays.

You need to use the TAs office hours to get extra help in understanding the material and what is required from an assignment or lab!!!

At this time, you can pair with someone in the lab or finish it on your own.

(5 pts) Practice Lists in Python

Let's **make a list**, which is mutable.

Design and implement a program that generates a random number 1-20 and has a user guess the number. The user gets 5 guesses, and the numbers that the user guesses gets stored in an array. The user should not be able to guess the same number twice. If they do guess the same number, it should not count as a guess. You will need to iterate through the array with stored guesses to see if the user already guessed a number. The program should end when the user guesses the right number or uses all 5 guesses.

To generate a random number, **import random**. You will also need to seed the random number generator by making only one call to **random.seed()**. Read the documentation to figure out which random function you want to use to generate a random number, **randint()** or **randrange()**. <https://docs.python.org/3/library/random.html>

- You need to have a main function that serves as the starting place for the program. In this main you can call **random.seed()** to this only once!
- You need to have a function called **get_guesses()** and one called **check_guesses()**. Your **get_guesses()** will need to call your **check_guesses()** to make sure the guess is valid and can be stored in the array.
- Append to a file, the random number generated and the array of guesses in your main function, and get the filename from the command-line arguments.
- **Make sure you don't open a file that doesn't exist. Is there a way you can test for this?**

(5 pts) Let's practice 2-d lists/arrays

Write a program that creates a 2-d list/array from reading input from a file.

- First, how are you going to setup the file?
- You need to have a main function that serves as the starting place for the program.

- You need to have a function called **read_multiplication_table()** and one called **print_table()**, which generates a pretty table. Your main function should call both these functions.

Extended learning: Finish coding your exercise #7 from Wednesday's class. You need to get the patients name, address, and phone number for all the patients in your office!!!

Make sure you get checked off by a TA prior to leaving the lab!!!!