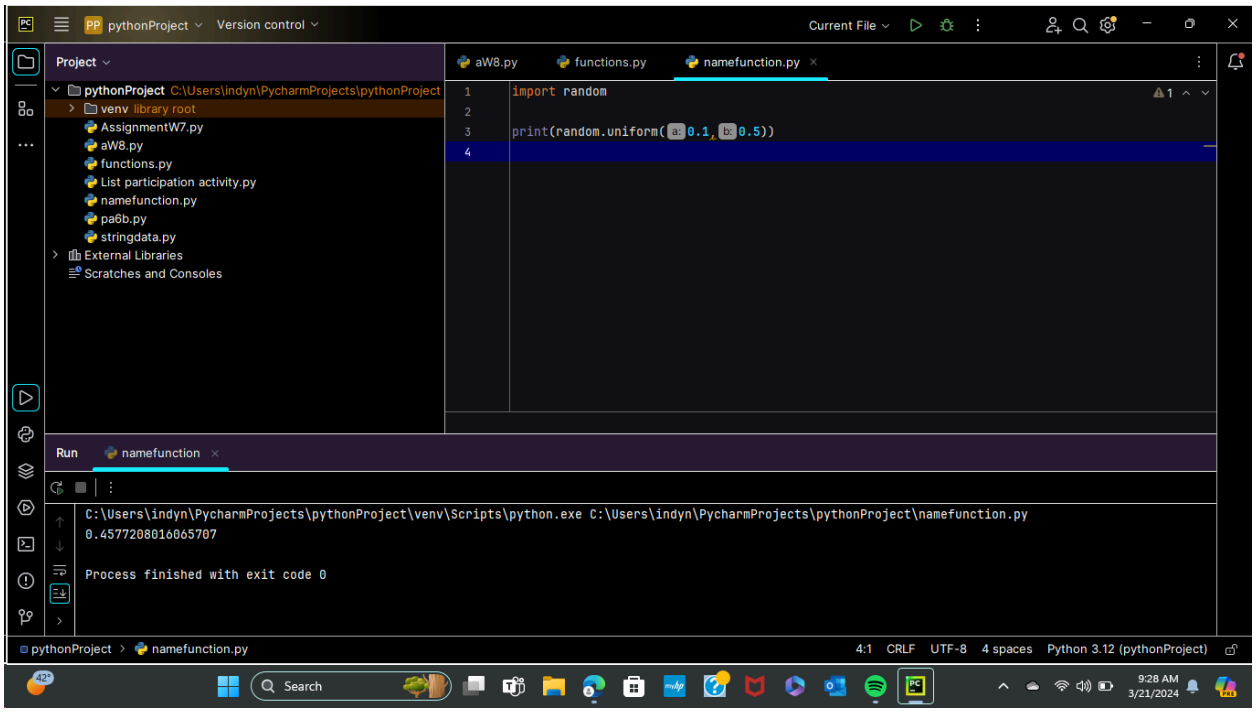
Question 1

1a. What is the significance of using functions in python programming

Using functions in programming allows you to create lines of code once, but can be used over and over again throughout the program. It makes the program both easier to read and easier to code because instead of writing out multiple lines of code over and over again, you can just call the function.

1b. What does the following statement do? print(random.uniform(0.1,0.5))

After importing the random library, the statement prints a random float number between 0.1 and 0.5.

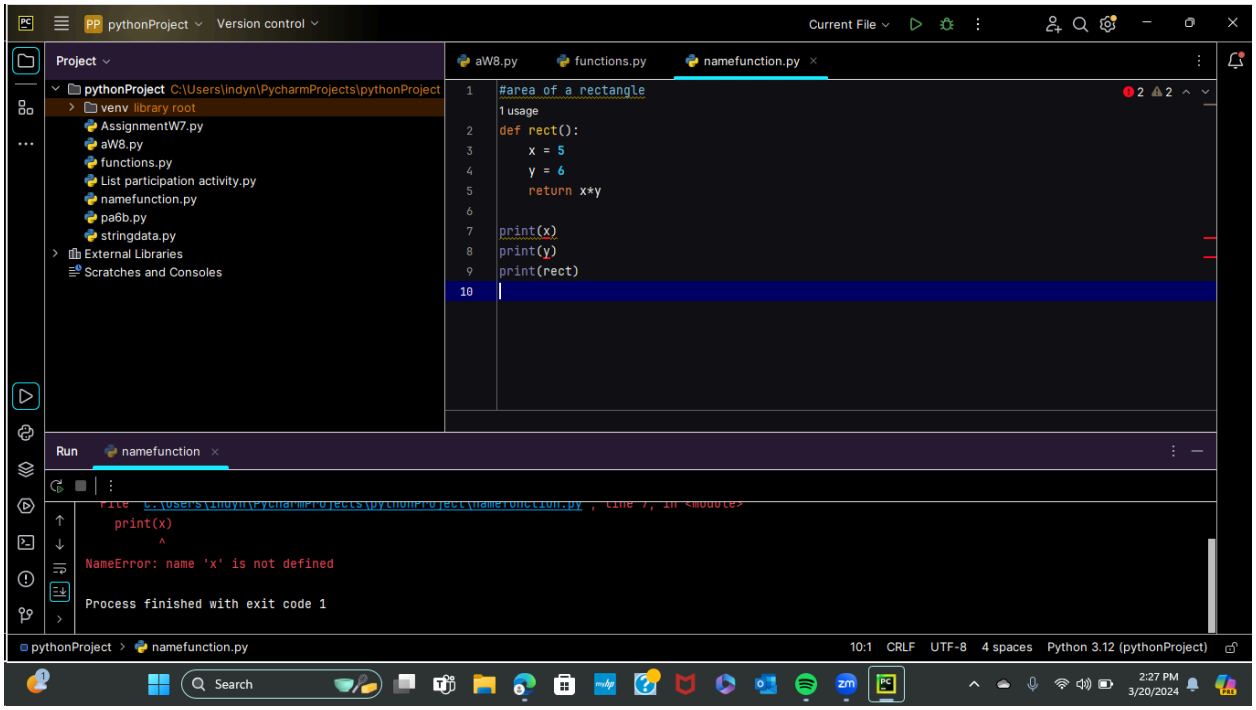


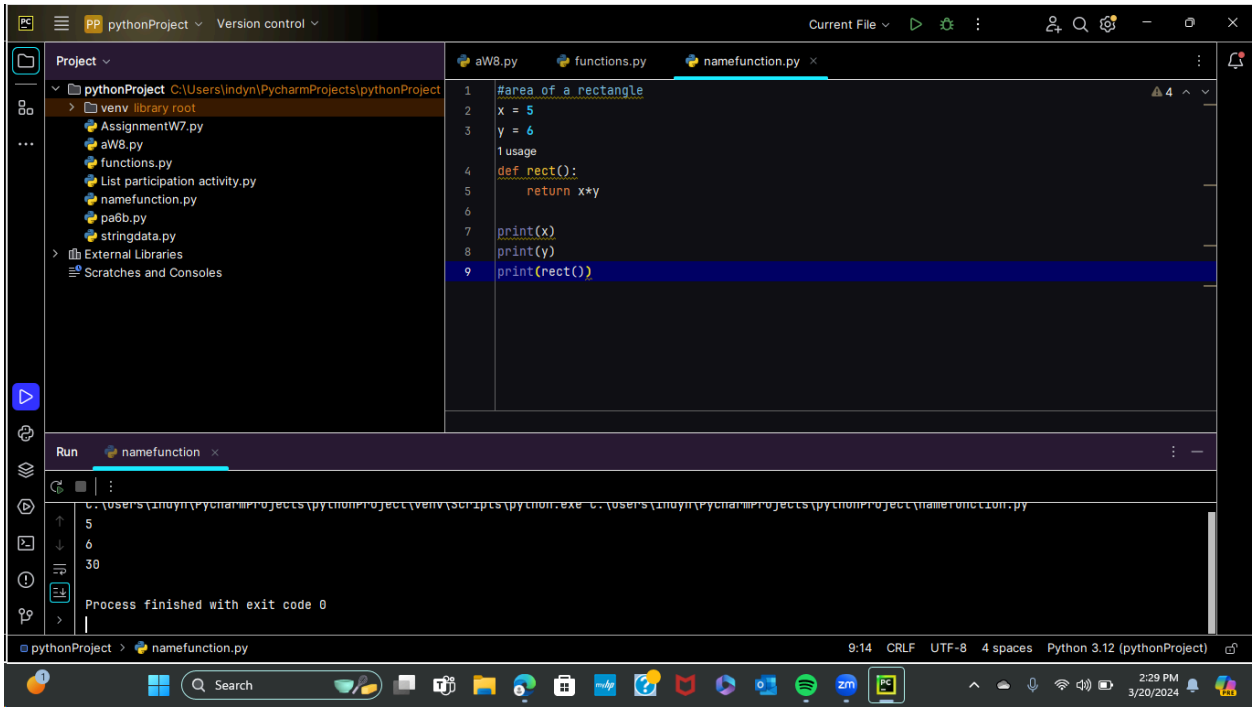
1c. List five built-in functions in python

1. int()
2. str()
3. print()
4. input()
5. sum()

1d. What is meant by scope of a variable in python (function). Explain with an example

Scope means the accessibility of a statement within a program. For example, if you define a variable inside of a function and then try to access that variable outside of the function, you won't be able to access the variable because it is considered a "local" variable that is only accessible within the function or when the function is called. However, if a variable is defined outside of a function, a "global" variable, then it is accessible both inside and outside of a function.





Question 2

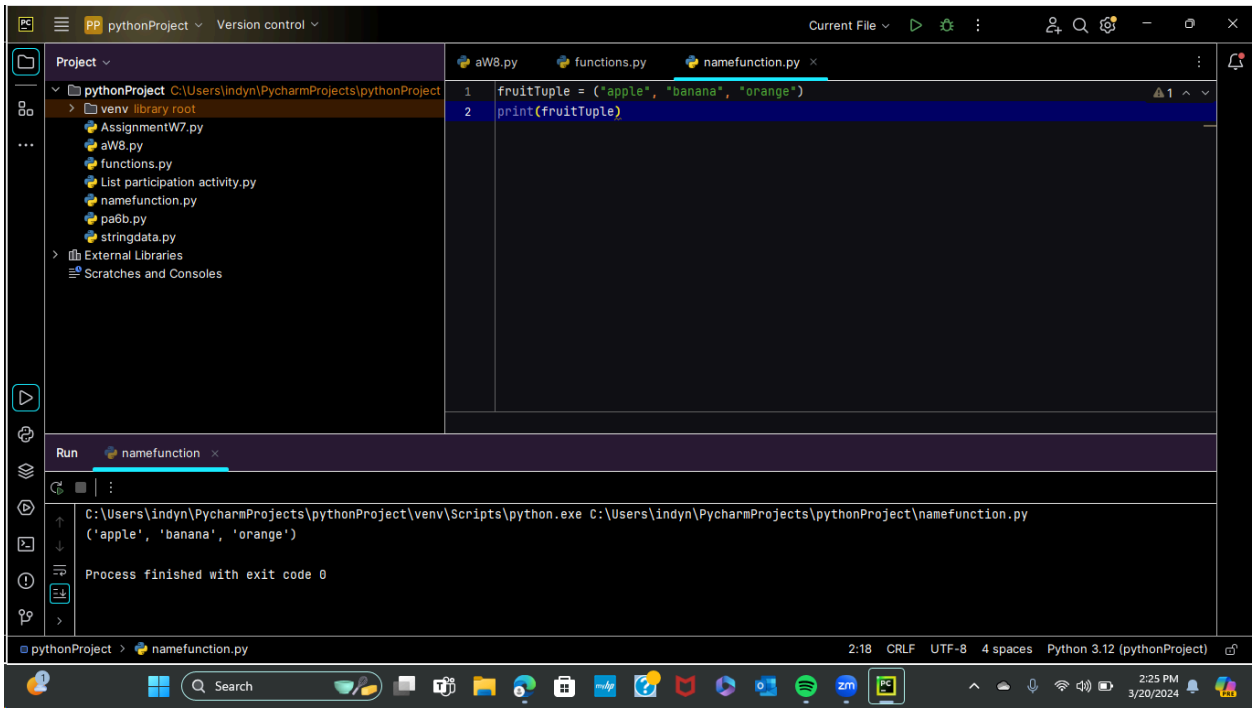
2a. What is the difference between List, Tuple, and Dictionary in python?

Lists and *tuples* are very similar in that they are both a set of objects separated by commas that are accessible via indexing, but lists are mutable, so changes can be made to lists, while tuples are immutable, no changes can be made after the tuple is declared. Lists are

represented by brackets while tuples are represented by parenthesis. *Dictionaries* are a collection of data values that are stored in a key:value pair, represented by brackets. Lists and tuples allow for duplicates but dictionaries do not.

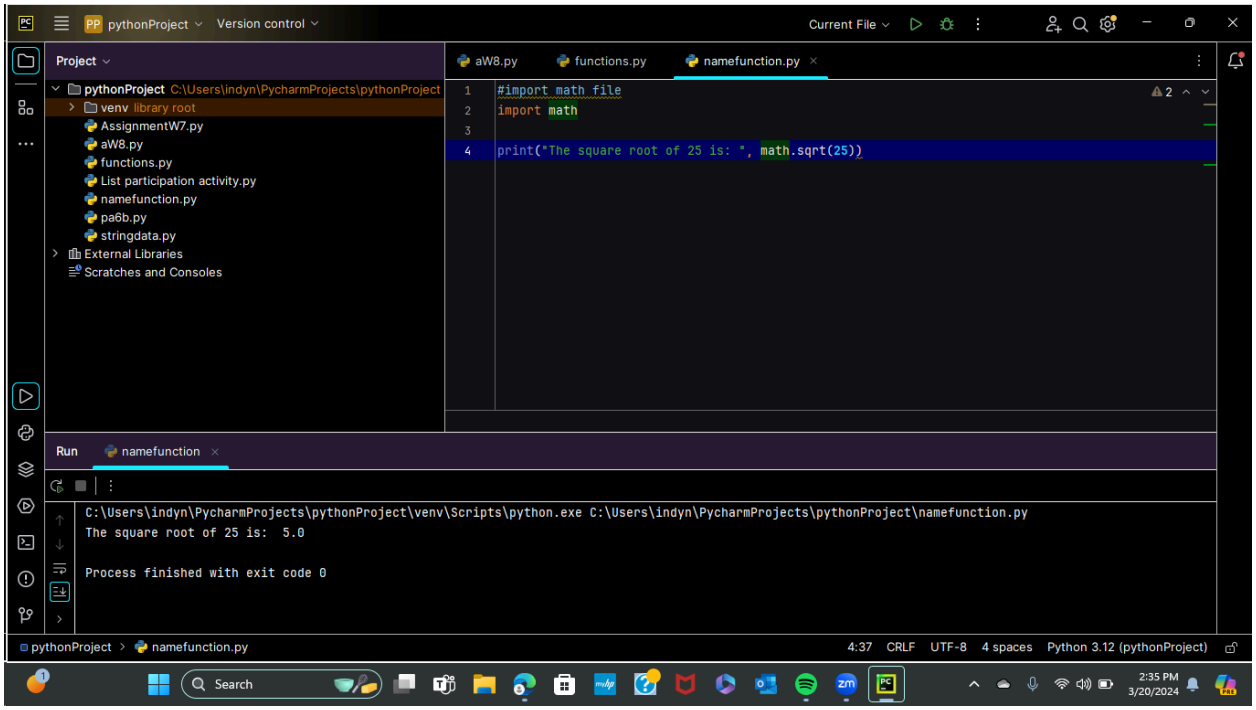
2b. What is tuple in python? Explain with an example.

Tuples are used to store multiple items in one variable, this is made using parenthesis. For example, if I wanted to make a code that had a list of fruits that cannot be changed throughout the duration of the program, I would put the names of the fruits inside a tuple so it couldn't be changed during the program.



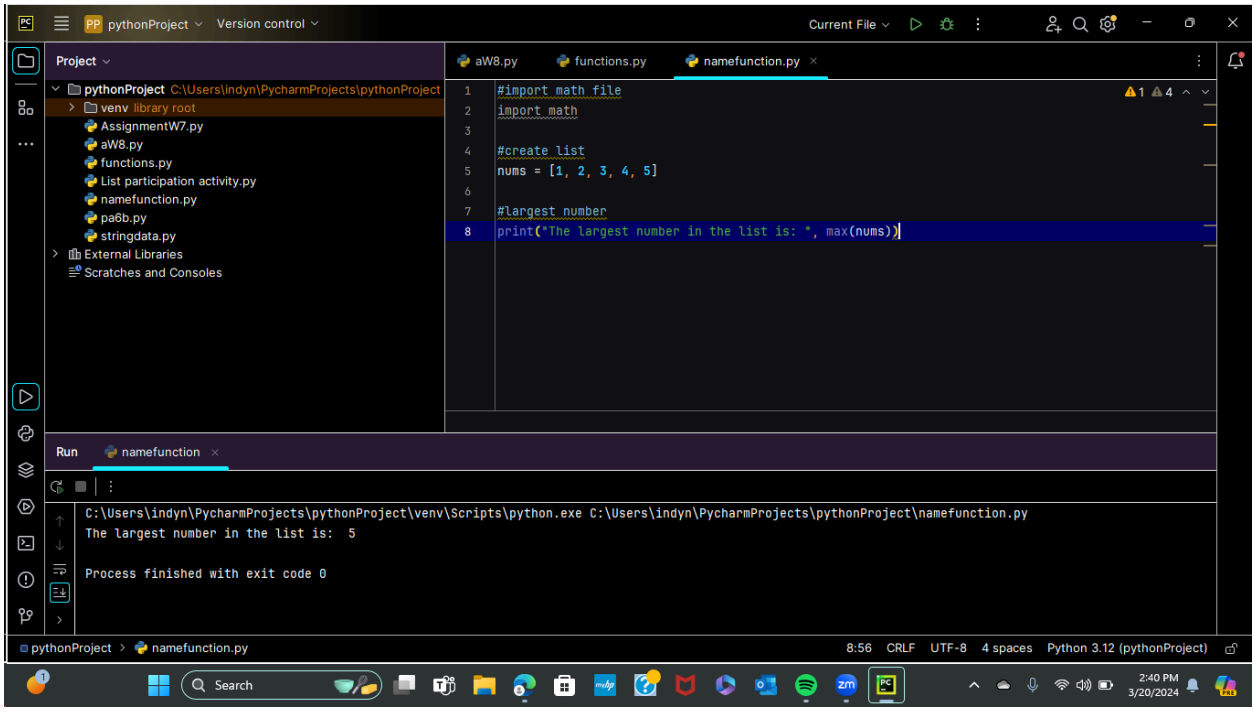
2c. What is a module in python? How can you access a module in python? Explain with an example.

Modules are python source files that can be imported to make programs easier to code and read. Modules can contain functions, classes, definitions, statements, etc. An example would be the calc.py module that, when imported, allows different math functions to be used without having to define each function individually.



Question 3

3a. Using/importing "math" library/module, use the built-in function to find the largest item from a given list (submit screenshot of code)



3b. Write a function in python that does the following: (Screenshot of Code)

I. **Add (num1, num2): Returns the sum of two numbers num1 and num2**

II. **Subtract (num1, num2): Returns the result of subtracting num2 from num1**

III. **Multiply(num1, num2): Returns the product of two numbers num1 and num2**