Reece Wonio

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IT FDN 110 A

Assignment 08

Using Custom Classes

Introduction

In this assignment, we revisited a previous topic of using functions but added the additional piece of custom functions. We add custom functions to the code to help organize the functions and data and build a more organized layout of the program. This was all done within the concept of creating a menu for the user to enter data in. This assignment was quite the challenge, but very insightful and brought a visual to the more complex aspects of python.

Topic 1

This assignment began by creating the product class which would run in the data section of the code. The first new concept used here, was the concept of constructors. Constructors are functions or special methods that initialize an object and assign values to the data members of a class. Here we use the \_\_init\_\_ constructor and give in the parameters of our product name and price. This will pass any argument I enter this method.

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***Figure 1: Using a constructor***

Topic 2

Next, I created some properties for product name and price. Properties are used as functions to manage attribute data and you usually need to create a getter and setter property for each attribute of data. The getter allows you to format code while the setter is used for validation and error handling. Here we are telling the getter to set the product name as a string and the setter to catch the error of the user entering the name as number. The same is done for the product price but as a float.

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***Figure 2: Using Properties***

Topic 3

Next, I added a method to record the user input as a string. Python does this automatically when working with a class, but I needed to add it myself so I could include all the attributes of the class. This done by using the \_\_str\_\_ method and turning the product price and name as a string.

Graphical user interface, text, application

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***Figure 3: Using Methods to make a string***

Topic 4

Next was using code that had been used in other assignments but tailoring it to use the functions and methods needed for this assignment. For example, in the save data to a file function, we must use @staticmethod so we can call from the class directly without creating an object. From there, I used the appropriate arguments to write user data to text file and save it. Similar methodology was used throughout the rest of the code to create the menu so the user could write data to the file and save it.

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*Figure 4: Using a Static Method*

Summary

This assignment was a challenge and something I will need to study some more to fully understand. I see the practicality and flexibility of using classes and properties, I just need to study the syntax some more and make sure I am using the correct methods and commands moving forward to build this code.

Note that code says there are errors, but it seems to be working so I am not sure why that is happening.

Text

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***Figure 5: Code running in Pycharm Figure 6: Code Running in IDLE***