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Foundations of Programming: Python

Assignment 08

https://github.com/Kumatakasan/IntroToProg-Python-Mod08

Assignment 08

Introduction

In This document I will be going over the process I used in completing assignment 08 of the course "Foundations of Programming: Python" by instructor Randall Root. The assignment is to create a custom program for the final assignment utilizing classes and objects more.

Creating the Program

This program required using classes and creating instances. The program is comprised of four parts. The product class, file processor class, Input/Output class, and the main while loop. Figure 1 shows a snippet of the product class code. Figure 2 shows a snippet of the File processor class. Figure 3 shows the output if selecting choice 1 from the menu. Figure 4 shows output in console after executing menu choices 2 and 3. Figure 5 shows the saved data.

```
# -- Constructor --
def __init__(self, product_name: str, product_price: float):
    # -- Attributes --
    self.__product_name = product_name
    self.__product_price = product_price

# -- Properties --
# Product Name
@property
def product_name(self):  # (getter or accessor)
    return str(self.__product_name).title()  # Title case

@product_name.setter
def product_name(self, value):  # (setter or mutator)
    if str(value).isnumeric() == False:
        self.__product_name = value
    else:
        raise Exception("Cannot have numbers in the name!")
```

Figure 1. Snippet of File Processor code.

```python
    @staticmethod
    def add_data_to_list(name, price, lstOfProductObjects):
        """ Adds new user input data
        :param product: (string) product name to add.
        :param price: (string) product price to add
        :param lstOfProductObjects: (list) of dictionary rows
        :return:(list) of dictionary rows
        """
        product_new = Product(name, price)  # class instance
        lstOfProductObjects.append(product_new)  # save the instance object to list
        print("New data was added to the list")
        return lstOfProductObjects
```

Figure 2. Snippet of file_processor class.

```
Which option would you like to perform? [1 to 4] - 1

******* The current data in the file: *******
Chair,    12.50
*****************************************

        Menu of Options:
        1) Show current data
        2) Add new data
        3) Save data to file
        4) Exit Program
```

Figure 3. Snippet of choosing item 1 from the menu.

```
Which option would you like to perform? [1 to 4] - 2

Please enter the a name for the product: chair
Please enter a price for the product: 40
Price input is not numeric!
Please start over!

        Menu of Options:
        1) Show current data
        2) Add new data
        3) Save data to file
        4) Exit Program


Which option would you like to perform? [1 to 4] - 3

Save this data to file? (y/n) - y
```

Figure 4. Output running items 2 and 3 in the console.

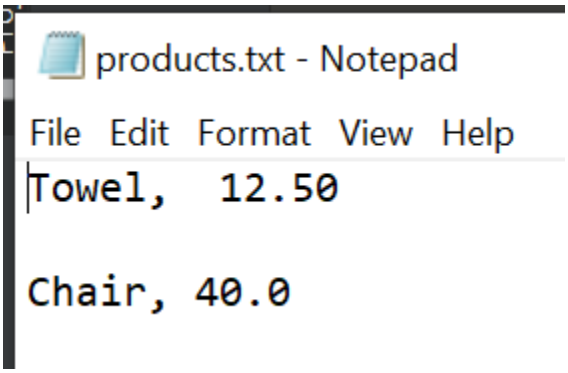

Figure 5. Output saved.

Summary

Assignment 08 provided a lot of experience with creating a mostly from scratch program. Testing the classes and certain intervals proved to help make sure errors were found early and fixed. The classes and objects were a difficult concept for me to understand and still need to do more learnings to understand better.