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Foundations of Programming: Python (IT FDN 100 A Sp 20)

Assignment08

[https://github.com/10neg9/IntroToProg-Python-Mod08.git](https://github.com/10neg9/IntroToProg-Python-Mod08.git%20)

Python: Script Using Classes and Objects

# Introduction

In this paper I describe the code that I wrote for the Python script file Assignment08.py.

# Script Header



Figure . Assignment 08 Script Header

# Separation of Concerns

The script file is structured into 4 sections: data, processing, input/output, and main. The main section calls the classes and methods in the data, processing, and input/output sections and uses the variables declared in the data section.

# Data – Variables



Figure . Variables

# Data – class Product Docstring



Figure . class Product docstring

# Data – class Product Constructor



Figure . Constructor Method of class Product

# Data – class Product Properties



Figure . product\_name Getter and Setter Properties



Figure . product\_price Getter and Setter Properties

# Processing – class FileProcessor Docstring



Figure . FileProcessor Docstring

# Processing – Read Data From File



Figure . read\_data\_from\_file() Method

# Processing – Save Data to File



Figure . save\_data\_to\_file() Method

# Presentation – class IO Docstring



Figure . class IO Docstring

# Presentation – Display Menu



Figure . Display Menu Method

# Presentation – Get User’s Menu Choice



Figure . Menu Choice Method

# Presentation – Print the Product List



Figure . Method to Print Product List

# Presentation – Request Product and Price from User



Figure . Method to Get Product and Price Input from User

# Presentation – Pause Program



Figure . Method to Pause Program

# Main – Startup



Figure . Main Body Code Executed at Program Start

# Main – Menu Option 1 Chosen



Figure . Print Current Product List

# Main – Menu Option 2 Chosen



Figure 18. Add a Product to the List

# Main – Menu Option 3 Chosen



Figure 19. Save Product List to File

# Main – Menu Option 4 Chosen



Figure 20. End the Program

# Main – Menu Option Invalid



Figure 21. Give User Feedback About Invalid Selection

# Testing Script in PyCharm

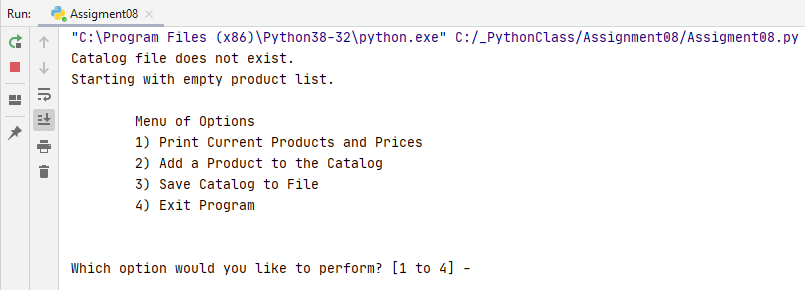


Figure . Assignment08.py Startup in PyCharm

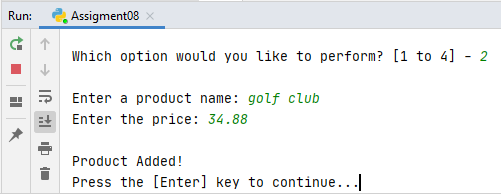


Figure . Added a Product

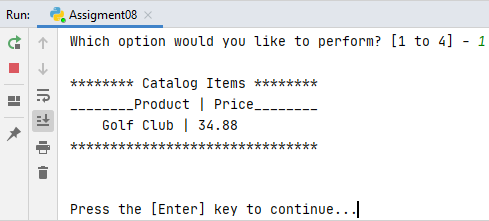


Figure . Print Product List

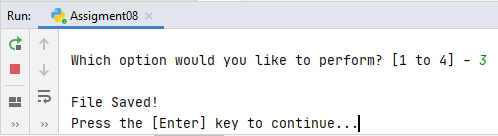


Figure . File Saved

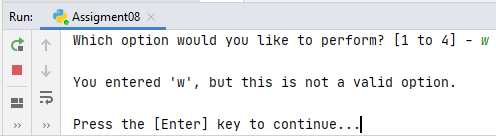


Figure . Invalid Selection

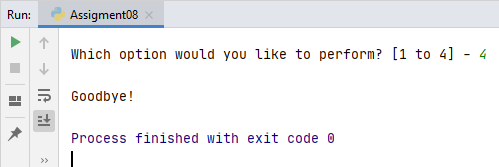


Figure . Exit Program

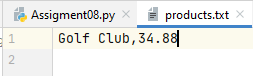


Figure . products.txt

# Testing Script in Command Prompt

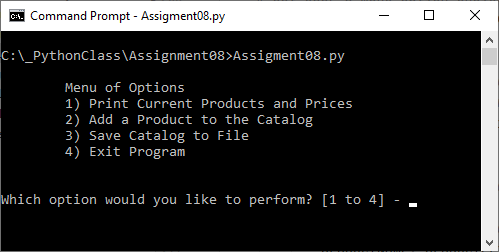


Figure 29. Assignment08.py Startup in Command Prompt

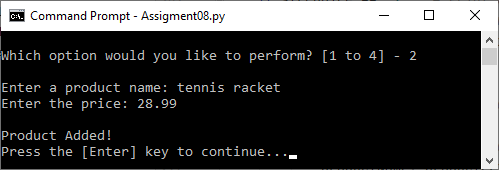


Figure 30. Added a Product

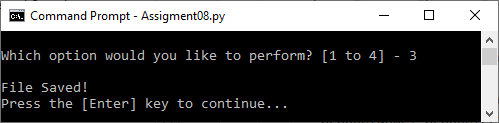


Figure 31. File Saved

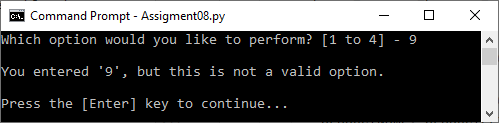


Figure 32. Invalid Selection

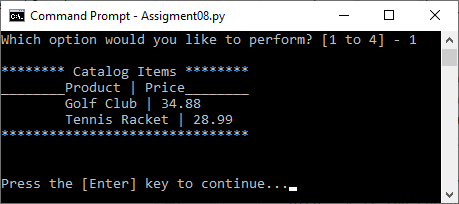


Figure . Print Product List

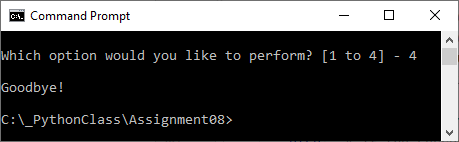


Figure 34. Exit Program

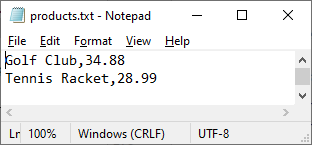


Figure . product.txt Text File

# Summary

In summary, I successfully wrote a program that creates object instances from classes.