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Foundations of Programming: Python

Assignment 08

<https://github.com/ampaulson/IntroToProg-Python-Mod08>

Using Classes and Objects in Python

# Introduction

In this paper I will discuss the steps I took to complete Assignment 08 for the class Foundations of Programming: Python. The assignment involves assessing pseudocode provided and then writing code while using python’s ‘class’ function to perform the actions called for in the pseudocode.

# Assessing the Pseudocode

The pseudocode pointed to the use of a list to save data entered by a user. This is a very similar task to the prior assignments’ programs that involved saving tasks and their priorities. The foundation structure of the script was to be similar to the script in the task and priority script. The structure features processing, presentation, and finally the main body of the script to tie it all together.

Writing the Script

I started with the main body of the script since it would tie back to the other sections of the script and would point to the main outcome or goal of the script. I went by every line of pseudocode and wrote it the script needed to achieve the prescribed goal as shown on the next page in figure 1.

A screenshot of a cell phone

Description automatically generated

***Figure 1. Main Body of Script***

After I completed the main body of the script, I moved on to the presentation section. I read through the pseudoscript and used the staticmethod as a cue to replicate how it was used in an old assignment as shown in figure 2. I plugged through and made sure the logic was sound and that everything in the script made sense, using the error indications that PyCharm provides.

A screenshot of a cell phone

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***Figure 2. Segment of the Presentation Section***

Finally, I completed the script by adding code to the data and processing sections. The processing section is where the classes came into play as a newer concept. I used “self” so that the objects can be properly accessed. The “product” class is initiated here and allows for the product and its price to be referenced. After testing the script I found that it needed an error handler for the first time it runs since there wouldn’t be any data yet. I proceeded to add the error handler to the processing section.

# Running the Script

I proceeded to run the script after it seemed to be consistently and logically complete. Figure 3 features the script running in PyCharm.

A screenshot of a cell phone

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***Figure 3. Script Running in PyCharm***

The user’s input in Figure 3 was successfully added to the list. The program was functioning properly.

# Summary

Assignment08 achieved the similar goals as other assignments by creating a list, but it shifted focus to using classes and objects. This program clearly expanded how classes and objects can allow whoever is writing a script in python to be able to use attributes like variables in more flexible ways. Dictionaries do not allow for as much control as the classes and objects do.