Intro to Programming (Python)

Assignment 08

# Overview

In this activity, you will learn more about creating and using classes.

This assignment will include the following tasks:

1. Watch the module videos.
2. Review some web pages.
3. Apply your knowledge.
4. Submit your work.
5. Document your knowledge (*Optional*).

# Assignment Steps

The following assignment steps will ask you to read about programing, do some programing, and write about what you did.

## Step 1 - Module Videos

Please watch the following Module videos:

### <https://www.youtube.com/playlist?list=PLfycUyp06LG9Ix4ngxqZR7P7mqcdtYh9q> (external site)

## Step 2 - Research Classes in Python

Search the web for examples of how to use create and use Python classes.

### <https://en.wikibooks.org/wiki/A_Beginner%27s_Python_Tutorial/Classes> (external site)

## Step **3** - Apply your knowledge

Now that understand what classes are let's have you make a class that uses some instructor’s code.

### Step 3.1 Create a Folder

Create a **new sub-folder** **called Assignment08** inside the **\_PythonClass folder**.

### Step 3.2 Create a new Project in PyCharm

Create a new project in PyCharm that uses the \_PythonClass\Assignment08 folder as its location

### Step 3.3 Create a Python Script

Create a python script file within your project.

### Step 3.3 Add Code to the Script

Add code to your script that will perform that assignment’s task using one or more classes.

I am providing existing code that reads and writes Product data in a file. However, you are tasked to improve my code by creating a set of one or more classes. I suggest that you create one class to hold data about products (like the Person class in the videos) and another class that can process product data to and from a file. If you find that too much, just make a Product class and work with it from the Main body of the script.

Here is some code the currently used:

*#Data*objFile **= None** *#File Handle*strUserInput **= None** *#A string which holds user input  
  
#Processing***def** WriteProductUserInput**(**File**):  
 try:** print**("Type in a Product Id, Name, and Price you want to add to the file")** print**("(Enter 'Exit' to quit!)")  
 while(True):** strUserInput **=** input**("Enter the Id, Name, and Price (ex. 1,ProductA,9.99): ")  
 if(**strUserInput**.**lower**() == "exit"): break  
 else:** File**.**write**(**strUserInput **+ "\n")  
 except** Exception **as** e**:** print**("Error: " +** str**(**e**))  
  
def** ReadAllFileData**(**File**,** Message**="Contents of File"):  
 try:** print**(**Message**)** File**.**seek**(**0**)** print**(**File**.**read**())  
 except** Exception **as** e**:** print**("Error: " +** str**(**e**))***#I/O***try:** objFile **=** open**("Products.txt", "r+")** ReadAllFileData**(**objFile**, "Here is the current data:")** WriteProductUserInput**(**objFile**)** ReadAllFileData**(**objFile**, "Here is this data was saved:")  
except** FileNotFoundError **as** e**:** print**("Error: " +** str**(**e**) + "\n Please check the file name")  
except** Exception **as** e**:** print**("Error: " +** str**(**e**))  
finally:  
 if(**objFile **!= None):**objFile**.**close**()**

Note: I have created a very long and detailed “Hint” video that shows how I would think through a similar task. You will find in on the Canvas Module Page. I recommend you try doing the assignment first before you watch it so that it will make more sense to you. Still, I made it to help with being stuck or feeling overwhelmed so please use it as needed.

### Step 3.4 Run Your Script

With the script created in its proper location, run the script in **BOTH** PyCharm and a OS command/shell window and optionally capture images of it working on your computer.

## Step 4 - Document your knowledge (optional)

If you want to, you can create a Blog showing how you accomplished this and announce it on the discussion forum. However, this is not required!

## Step 5 - Submit your work

Now place your python script in the Assignment08 folder. Zip this folder into a “.zip” file, then upload the file to the class assignment page as usual.

Congratulations! You are done!

# Optional Steps:

## Document your knowledge (optional)

If you want to, you can create a Blog showing how you accomplished this. However, this is not required!

## Upload to GitHub (optional)

If you want to, you can upload your file(s) to GitHub, link them to your Blog. However, this is not required!