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Foundations of Programming: Python
Assignment 06

# Functions and Classes

## Introduction

In week 6, we covered the topics of creating scripts using functions and classes, using the PyCharm debugger, and launching a GitHub web page.

## Definitions

Functions: Is a grouping of one or more statements
Parameters: Allows for values to pass through a function
Arguments: Are the values that pass through the function using parameters
Return Values: Allows the function to operate as an expression, where the results of the function are used immediately rather than placing them in a variable
Local Variables: Are variables declared within a function and cannot be accessed from outside the function
Global Variables: Are variables declared in the body of the script and can be accessed from anywhere in the script

## Creating and Running My To Do List Script

After reviewing the given videos/course materials provided in Module 6, our sixth assignment was to edit a given script and convert as many areas of the script into classes and functions in an effort to reduce the redundancy in the script. Essentially, any given script is recommended to be broken into 3 sections: data, processing, and main body of the script. However, to be able to write effective scripts, we were tasked to structure processing and presentation code in classes and functions to recall repetitive tasks in the main body of the script. In this assignment, we took a fully functioning script and refactored it to run more effectively.

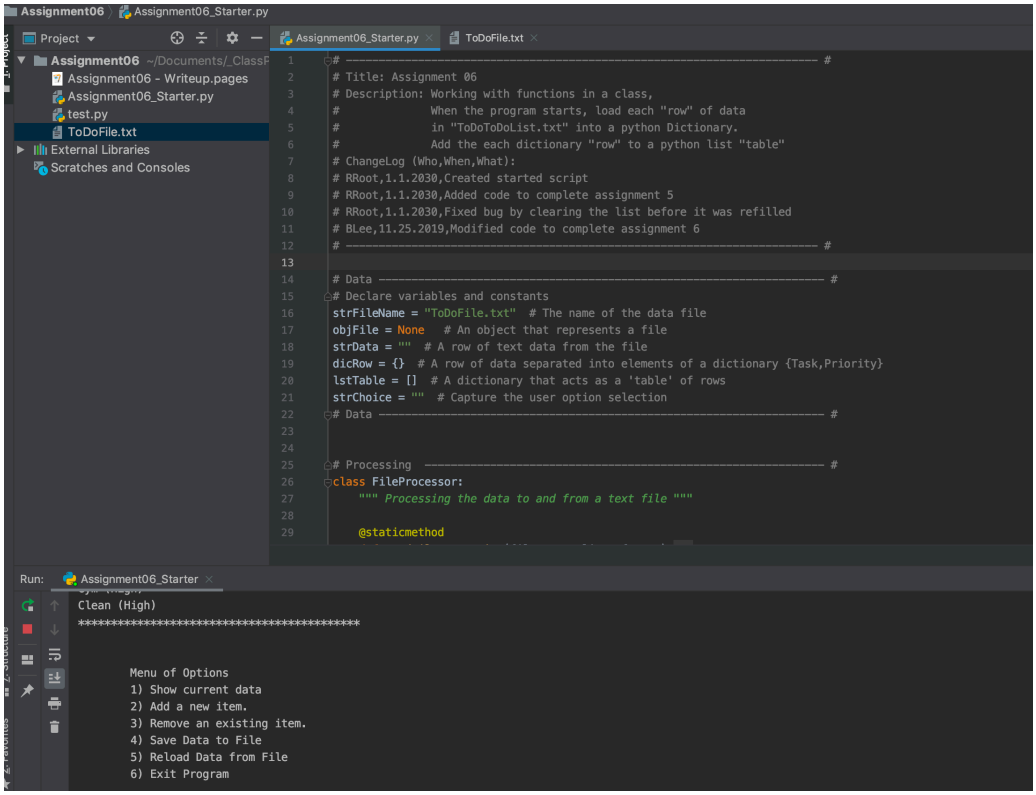


Figure 1. Code in PyCharm

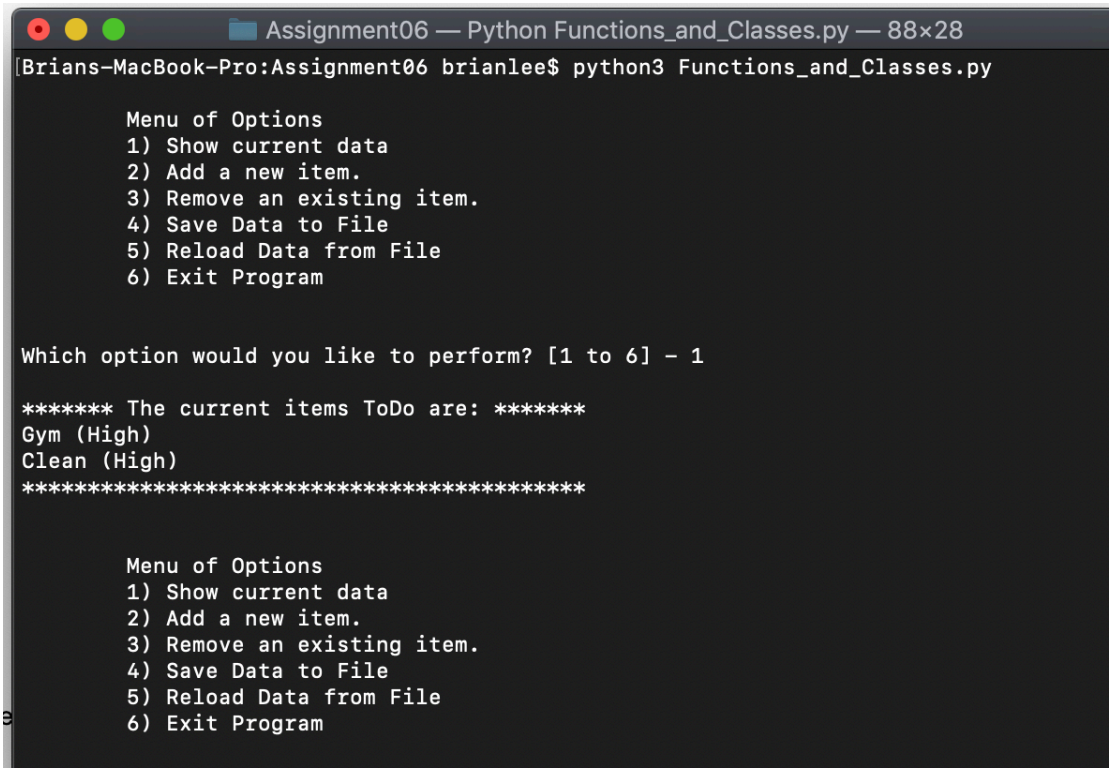


Figure 2. Running the Python Script in Terminal

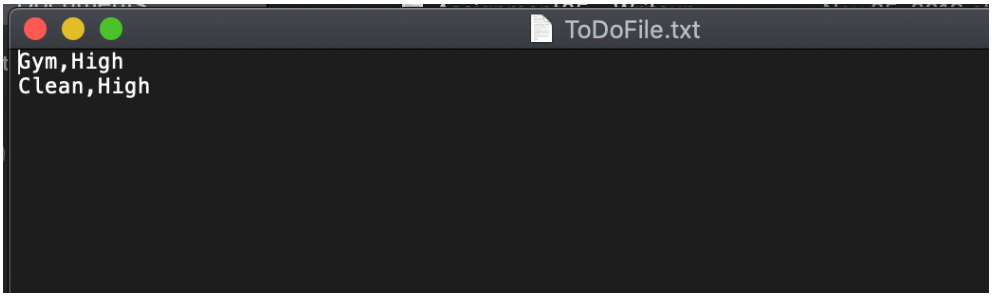


Figure 3. Output file from the Assignment6_Starter.py Script

**Summary**
Again, this assignment was a challenge, but I think I'm starting to getting a better grasp of how parameters are placed within functions and how arguments are passed through for processing. I agree, the ability to write code in this fashion does reduce redundancies and helps the script look a lot cleaner when reading through it. I can see how this will be extremely helpful when classes and functions are written not specific to the current script, so they would useful in other scripts as well. One section of the code that was provided in this assignment where I am still unsure of what is happening is the function where a task is removed from the list. I am having trouble understanding how row_number = 0 is used as a counter and why the boolean flag for item_removed = False is necessary.