

Anthony Cabral

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IT FDN 110 A Au 24

Module 6

<https://github.com/Gamezpd/IntroToProg-Python-Mod05>

Module 6 Breakdown

Process Introduction

Module 6. Tasks at hand:

Classes

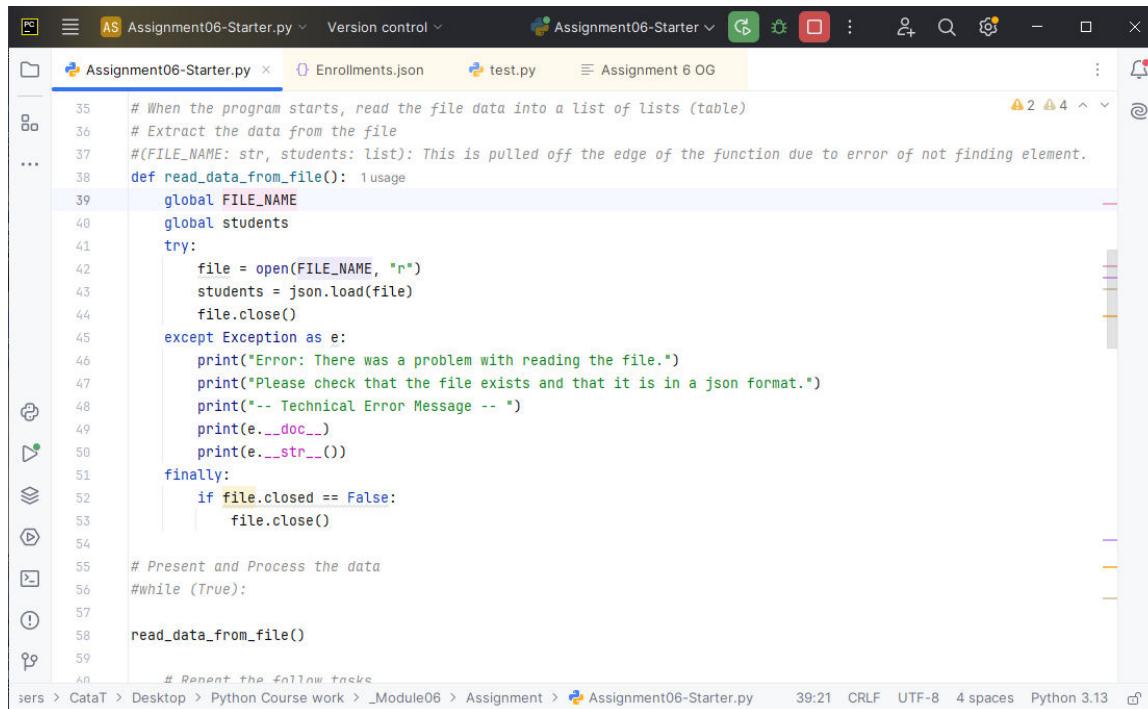
- The program includes a class named FileProcessor. x
- The program includes a class named IO. x
- All classes include descriptive document strings. x

Functions

- All functions include descriptive document strings.
- All functions with except blocks include calls to the function handling error messages.
- All functions use the @staticmethod decorator.
- The program includes functions with the following names and parameters:
 - output_error_messages(message: str, error: Exception = None) x
 - output_menu(menu: str) x
 - input_menu_choice() x
 - output_student_courses(student_data: list) x
 - input_student_data(student_data: list) x
 - read_data_from_file(file_name: str, student_data: list): x
 - write_data_to_file(file_name: str, student_data: list): x

This is now my checklist for classes and functions. The rest, like error handling, is present. Ok so first

attempt at adding a function myself to the code:

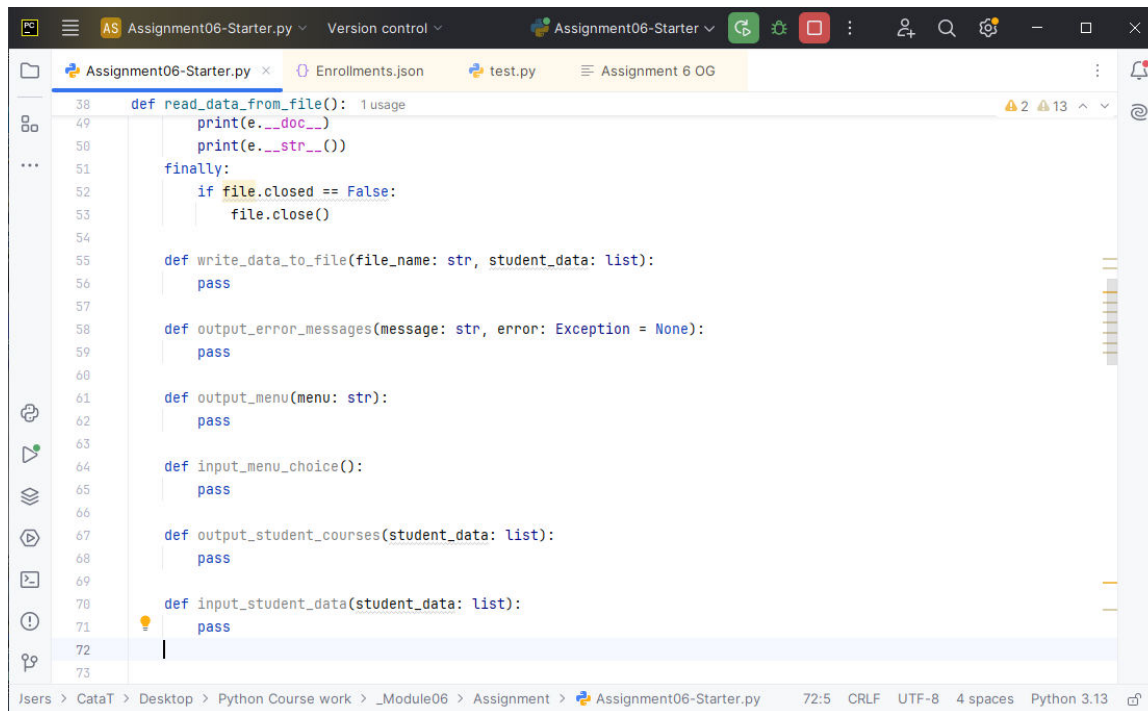


```
35 # When the program starts, read the file data into a list of lists (table)
36 # Extract the data from the file
37 #(FILE_NAME: str, students: list): This is pulled off the edge of the function due to error of not finding element.
38 def read_data_from_file(): 1 usage
39     global FILE_NAME
40     global students
41     try:
42         file = open(FILE_NAME, "r")
43         students = json.load(file)
44         file.close()
45     except Exception as e:
46         print("Error: There was a problem with reading the file.")
47         print("Please check that the file exists and that it is in a json format.")
48         print("-- Technical Error Message -- ")
49         print(e.__doc__)
50         print(e.__str__())
51     finally:
52         if file.closed == False:
53             file.close()
54
55 # Present and Process the data
56 #while (True):
57
58     read_data_from_file()
59
60 # Repeat the follow tasks
```

def read_data_from_file is good. I called the function directly below immediately to see if it works without crashing everything. I went global because you can see in my sharped' notes:

(FILE_NAME: str, students: list): This is pulled off the edge of the function due to error of not finding element.

Global works. Defining them as parameters didnt. Ill look back on the notes again and see why. I also just realized a potential problem. Closing, or basically ending a function. At the end of a while loop? The functions go at the top-ish of the script, but where exactly? Im hoping Im right and a good spot is after data variables and constants have been defined. Anyways I added the other needed functions and wore out the pass feature:



```
38 def read_data_from_file(): 1 usage
49     print(e.__doc__)
50     print(e.__str__())
51 finally:
52     if file.closed == False:
53         file.close()
54
55 def write_data_to_file(file_name: str, student_data: list):
56     pass
57
58 def output_error_messages(message: str, error: Exception = None):
59     pass
60
61 def output_menu(menu: str):
62     pass
63
64 def input_menu_choice():
65     pass
66
67 def output_student_courses(student_data: list):
68     pass
69
70 def input_student_data(student_data: list):
71     pass
72
73
```

Oh the assignment demands the correct use of parameters. I have to remove my global variables.

TypeError: read_data_from_file() missing 2 required positional arguments: 'file_name' and 'students'

Yeah thats the issue. Lets fix it.

Ok so a lots happened since I went to fix the error. I found having the parameters equal the variables outside the function make it work. And also other things can ruin the function like using a shadowing parameter wrong. And watching the instructor have the same issue helped too.

```
22 # FILE_NAME: str = "Enrollments.csv"
23 FILE_NAME: str = "Enrollments.json"
24
25 # Define the Data Variables and constants
26 #student_first_name: str = '' # Holds the first name of a student entered by the user.
27 #student_last_name: str = '' # Holds the last name of a student entered by the user.
28 #course_name: str = '' # Holds the name of a course entered by the user.
29 #student_data: dict = {} # one row of student data
30 students: list = [] # a table of student data
31 #json_data: str = '' # Holds combined string data in a json format.
32 file = None # Holds a reference to an opened file.
33 menu_choice: str # Hold the choice made by the user.
34
35 #classes
36 class FileProcessor:
37     """A collection of processing layer functions that work with json files"""
```

PEP 8: E265 block comment should start with '#'

Reformat the file Alt+Shift+Enter More actions... Alt+Enter

Run Assignment06-Starter

```
menu_choice = input("What would you like to do: ")
File "<frozen codecs>", line 322, in decode
KeyboardInterrupt
```

Process finished with exit code -1073741510 (0xC000013A: interrupted by Ctrl+C)

desktop > Python Course work > _Module06 > Assignment > Assignment06-Starter.py 33:48 CRLF UTF-8 4 spaces Python 3.13

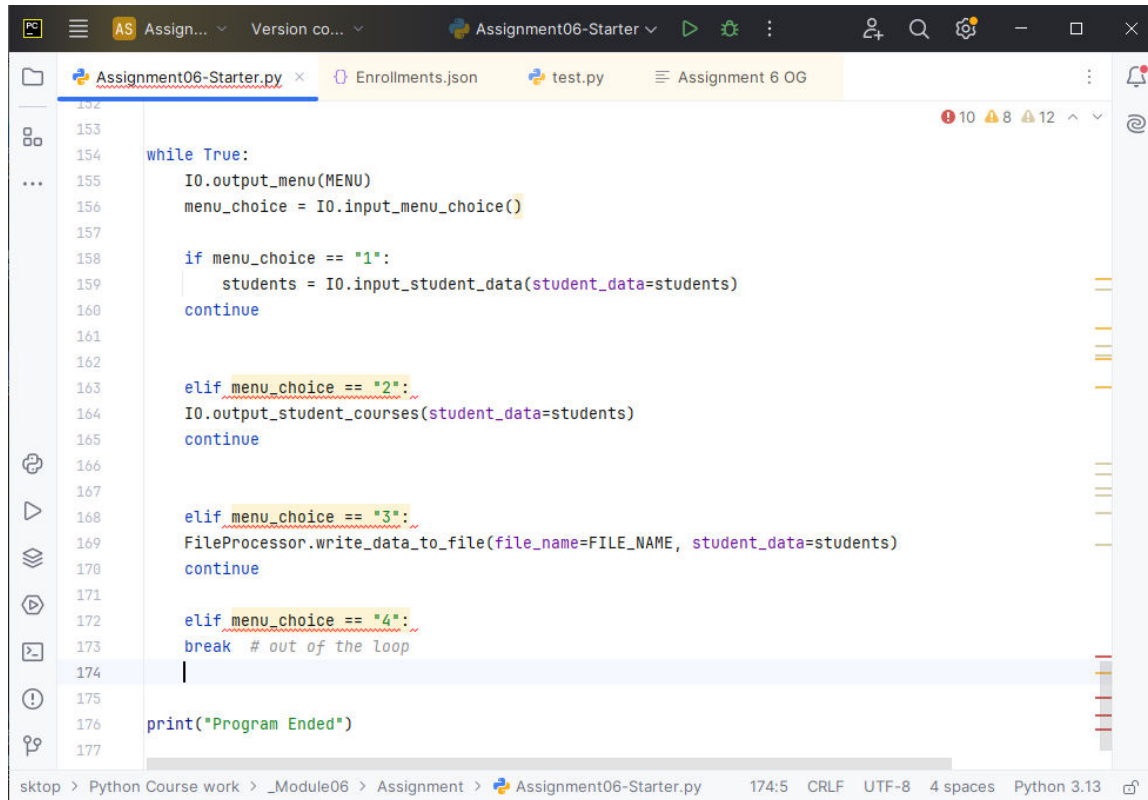
I've commented out the variables I don't need. Added the file processor class. Added the IO class further down for processing data. Added some strings to explain function use.

```
67 class IO:
68     @staticmethod
69     def output_error_messages(message: str, error: Exception = None):
70         """This function displays custom error messages to the user."""
71         pass
72
73     @staticmethod
74     def output_menu(menu: str):
75         """Displays the menu to the user"""
76         pass
77
78     @staticmethod
79     def input_menu_choice(self):
80         """Takes input from the user"""
81         pass
82
83     @staticmethod
84     def output_student_courses(student_data: list):
85         """Displays saved inputs from the user"""
86         pass
87
88     @staticmethod
89     def input_student_data(student_data: list):
90         pass
91
92
93
94
```

desktop > Python Course work > _Module06 > Assignment > Assignment06-Starter.py 84:1 CRLF UTF-8 4 spaces Python 3.13

Now Im going to move the lines in, get the functions functioning. I dont need to post more screenshots unless any of them give me trouble because it seems to be a matter of just moving the script into the correct function.

Heres the ending body of the script.

A screenshot of a code editor window. The title bar shows 'Assignment06-Starter' and other icons. The editor has several tabs: 'Assignment06-Starter.py', 'Enrollments.json', 'test.py', and 'Assignment 6 OG'. The main editor area shows Python code from line 152 to 177. The code is a while loop that handles a menu. Line 154: 'while True:'. Line 155: ' IO.output_menu(MENU)'. Line 156: ' menu_choice = IO.input_menu_choice()'. Line 158: ' if menu_choice == "1":'. Line 159: ' students = IO.input_student_data(student_data=students)'. Line 160: ' continue'. Line 163: ' elif menu_choice == "2":'. Line 164: ' IO.output_student_courses(student_data=students)'. Line 165: ' continue'. Line 168: ' elif menu_choice == "3":'. Line 169: ' FileProcessor.write_data_to_file(file_name=FILE_NAME, student_data=students)'. Line 170: ' continue'. Line 172: ' elif menu_choice == "4":'. Line 173: ' break # out of the loop'. Line 174: ' |'. Line 176: 'print("Program Ended")'. Line 177: (empty line). The status bar at the bottom shows 'sktop > Python Course work > _Module06 > Assignment > Assignment06-Starter.py', '174:5', 'CRLF', 'UTF-8', '4 spaces', 'Python 3.13', and a magnifying glass icon.

```
152
153
154 while True:
155     IO.output_menu(MENU)
156     menu_choice = IO.input_menu_choice()
157
158     if menu_choice == "1":
159         students = IO.input_student_data(student_data=students)
160     continue
161
162
163     elif menu_choice == "2":
164         IO.output_student_courses(student_data=students)
165     continue
166
167
168     elif menu_choice == "3":
169         FileProcessor.write_data_to_file(file_name=FILE_NAME, student_data=students)
170     continue
171
172     elif menu_choice == "4":
173         break # out of the loop
174     |
175
176 print("Program Ended")
177
```

I feel like I followed the majority of the module. Everything is moved into the correct spots. These errors for "an illegal target for variable notation" isnt specific enough for me to figure out. But after I comment out the body the rest of the script functions up to that point. Looking up the error didnt really help. Its obvious issues like missing a parantheses, bad syntax, etc.

