Ed Buchmayer
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IT FDN 100A
Foundations of Python Programming Assignment05
Github link:
https://github.com/buch7575/IntroToProg-Python-Mod05

Advanced Collections and Error Handling

Introduction

This is Assignment 05 – Advanced Collections and Error Handling. The focus of this assignment was to build on the knowledge of lists and dictionaries from previous lessons and add the use of JSON files to store and retrieve data, as well as using structured error handling with Try-Except blocks, and lastly to learn the basics of Github and to store this assignment's files there.

Writing the Program

The instructor provided a startup file with comments (Assignement05-Starter.py), which helped greatly with knowing where to put different sections of code. The labs were also of great help, and I used some of the code from them in my own program.

I started out with the import json statement but later had to add the import _io statement as well since I was getting an 'Unresolved reference' error on the file = _io.TextIOWrapper line.

I next added the statements to read the JSON file into a students list using json.load. Then I went through the menu options for inputting data and adding it to the list, displaying the data in the list, saving the data to the JSON file, displaying the data that was saved, and lastly to exit the script. I also added an 'other' case if the user entered an invalid menu entry. Using JSON files and the associated JSON functions was a lot simpler and cleaner than the previous method of using a csv file.

I then went back and added the Try-Except blocks, testing each one as I added them. I also removed the .isalpha() statement I had added to the course name check, because some course names may have numbers in them.

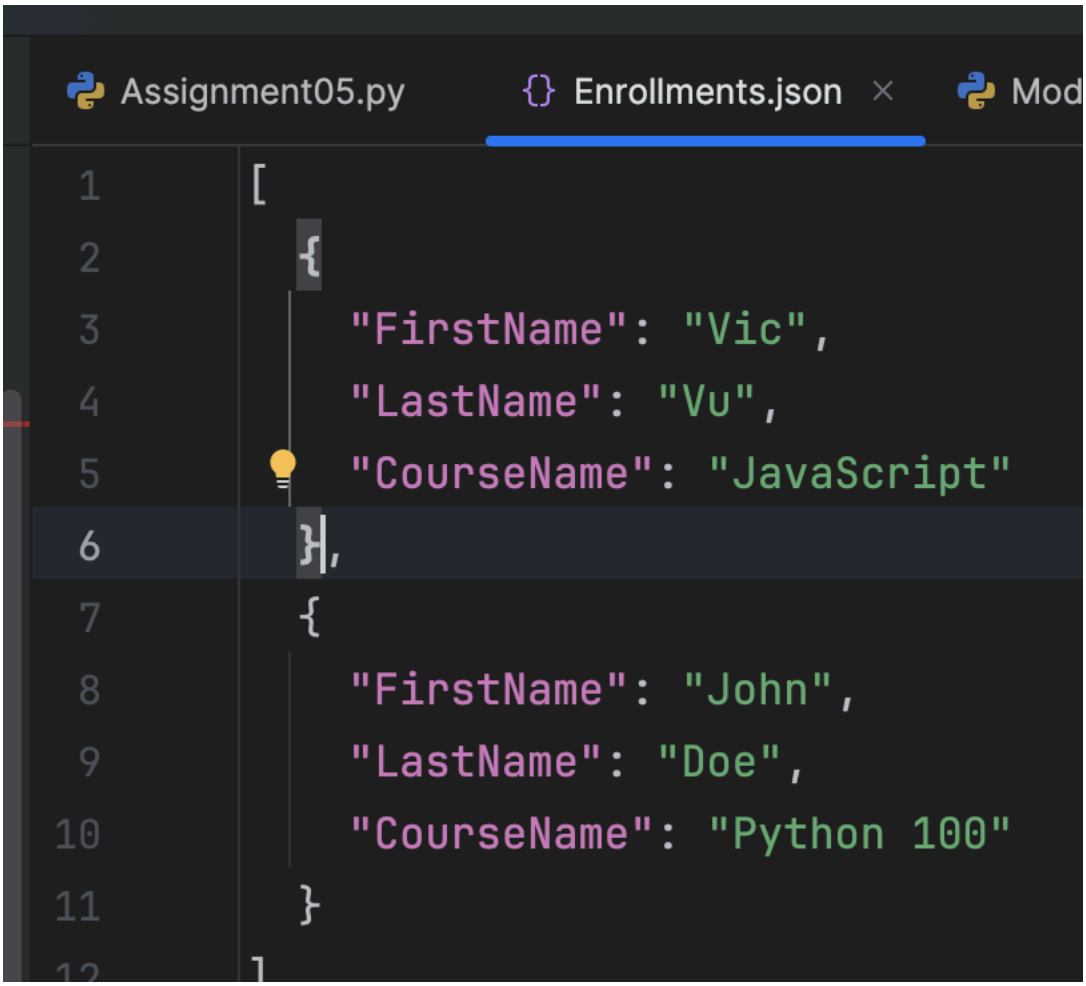
Running the Program

Running the program from either PyCharm or the command line produced the same result.
Command line:

```
---- Course Registration Program ----
  Select from the following menu:
    1. Register a Student for a Course
    2. Show current data
    3. Save data to a file
    4. Exit the program
-------------------------------------

Enter a menu option: 2
Vic,Vu,JavaScript
John,Doe,Python 100
```

JSON file:



Renaming Enrollments.json file to test error checking:

```
/usr/local/bin/python3 /Volumes/NAS/Files/Classes/UW/Assignments/A05/Assignment05.py
Text file must exist before running this script!

-- Technical Error Message --
[Errno 2] No such file or directory: 'Enrollments.json'
File not found.
<class 'FileNotFoundError'>


---- Course Registration Program ----
  Select from the following menu:
    1. Register a Student for a Course
    2. Show current data
    3. Save data to a file
    4. Exit the program
-----------------------------------
```

Summary

Using the material provided in module 05 of this course, I expanded on the module 04 assignment by using a JSON file to store the user data, added Try-Exception blocks for error handling, and lastly uploaded my assignment to Github.