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Foundations of Programming - Python

Assignment 05

<https://github.com/MOkimura/IntroToProg-Python>

Git-ing Functional Dictionaries & Errors

Introduction

I thought this was a fun assignment. Particularly using the exception handling. It's nice writing code correctly and having the program still run despite errors occurring. The dictionaries have shown to be much more powerful of a tool versus lists with the key / value pairing, being able to nest lists inside, etc. Signing up for and exploring GitHub is somewhat eye-opening. There are unlimited resources in this community through access to other people's coding. If there's a problem you have, it's likely you'll find a solution here. I'm going to make a concerted effort to keep this down to a couple of pages versus my usual 4 – 5 pages through less screenshots.

Creating the Program

Program Objective

We're looking to continue enhancing our course-long project by using dictionaries, functions, and exceptions. We'll adjust some lists to dictionaries, move all the code that runs inside each menu options into functions, and add some exceptions to avoid a missing csv file or empty inputs. Lastly, we'll post everything to GitHub.

Processing

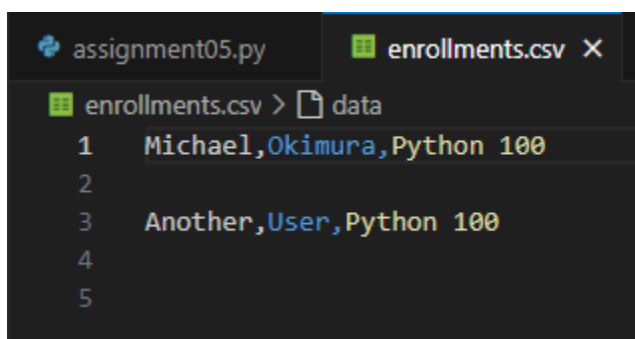
The first adjustment I made here from the previous assignment was moving all the menu option's processing into functions. The addition of the csv module allowed us to eliminate for loops to display the inputs and write data to the csv file. For the flow of the code, the modules are at the top, followed by the list of constants and variables, then the defined functions, and finally the "start line" of the program where the code begins executing.

Error Handling

There are 4 sections in which the assignment requests error handling to be added. The first is where the file is read into a list of dictionary rows in the Dict.Reader at program opening. The exception will display an error if no file is found. The next 2 for the first and last name inputs, although I did include the course name input as well, are in the same function. The exception will disallow the user from inputting blank information, looping back to the beginning of the function, until each input has been completed correctly. Lastly, there's an exception for writing the dictionary rows to the file if there is a key missing in the data that's trying to be written.

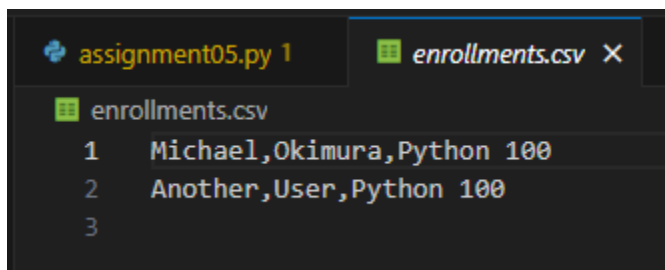
Input / Output Testing

The program meets all the test requirements of the assignment however I ran into a discrepancy of the output into the CSV file using Visual Studio Code (VSC) on Windows. I receive a line break after every saved entry into the CSV file (Figure 1). Reviewing my code, I did not include any line breaks. I thought there might be a function of the code I wrote that inherently includes a line break. Testing the displaying of the inputs does not reflect any line breaks. I tested this through alternative methods. The next was using VSC on Linux and the results came back normal (Figure 2). The last test was in Windows Command Line using Notepad to display the CSV results and those were normal (Figure 3). It's unclear what is producing the line break using VSC in Windows but otherwise the results and functionality of it are accurate.



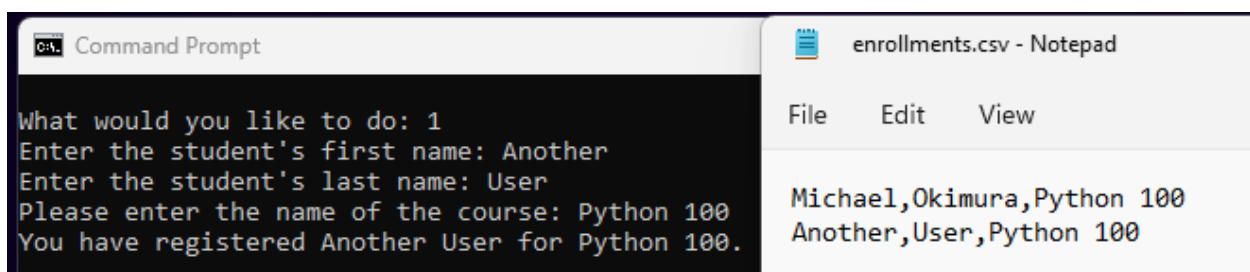
```
assignment05.py  enrollments.csv X
enrollments.csv > data
1  Michael,Okimura,Python 100
2
3  Another,User,Python 100
4
5
```

Figure 1: Terminal output for CSV file in Visual Studio using Windows.



```
assignment05.py 1  enrollments.csv X
enrollments.csv
1  Michael,Okimura,Python 100
2  Another,User,Python 100
3
```

Figure 2: Terminal output for CSV file in Visual Studio using Linux.



```
Command Prompt
What would you like to do: 1
Enter the student's first name: Another
Enter the student's last name: User
Please enter the name of the course: Python 100
You have registered Another User for Python 100.

enrollments.csv - Notepad
File Edit View
Michael,Okimura,Python 100
Another,User,Python 100
```

Figure 3: Output in Command Prompt using Notepad to display CSV results.

GitHub

Here is the link to my GitHub repository: <https://github.com/MOkimura/IntroToProg-Python>
The files I'll be uploading are the Python file, this report, and the CSV file with the correct formatting from the program being ran in Windows Command Line.

Summary

Outside of the line break phenomenon as disclosed above, the assignment went very well for me. Again, I enjoyed using the exceptions as it's nice for the program to continue to intentionally run despite getting errors and using those errors to get the results you're looking for from the input data. I can see the utilization of dictionaries becoming quite complex as we get into more advanced coding features so practicing the use of them regularly will be highly beneficial. GitHub will be a fun tool to continue using. The ability to share code and work on projects is an exciting prospect to take on. I'm looking forward to working on my first project with other programmers.