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IT FDN 100 A

Assignment 5

Advanced Collections and Error Handling

Introduction:

The fifth module teaches us some advanced data collection methods utilizing JSON interactions and using error handling to our advantage. I'll begin by explaining the key takeaways from the module notes, labs, and video demos. I will then share my process for creating the required program and testing the program.

Performing the Assignment:

The module opened with practicing adding and removing data from example dictionaries within Python scripts and also within CSV files (Figure 01).

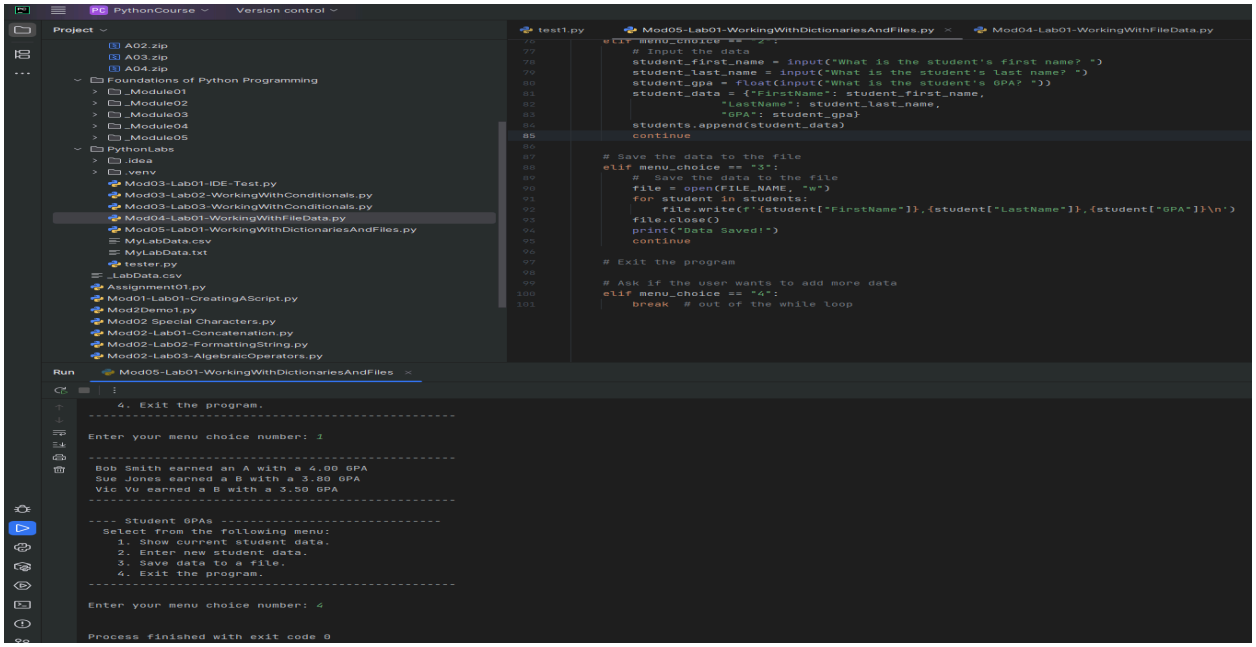

Figure 01 - Practicing writing new data with Lab01

After getting the basics down, we learned about JSON files and the benefits/use-cases of using them versus CSV files. One of the most important aspects that I was introduced to (at this point) was utilizing Python's modules. These were familiar to me as a SAS (Statistical Analysis System) user, as they are similar to procedures (PROC) in SAS programming. I was able to grasp the concepts of the second lab rather easily because of the similarities of SAS procedures and Python modules; the ordering and syntax is very similar (Figure 02).

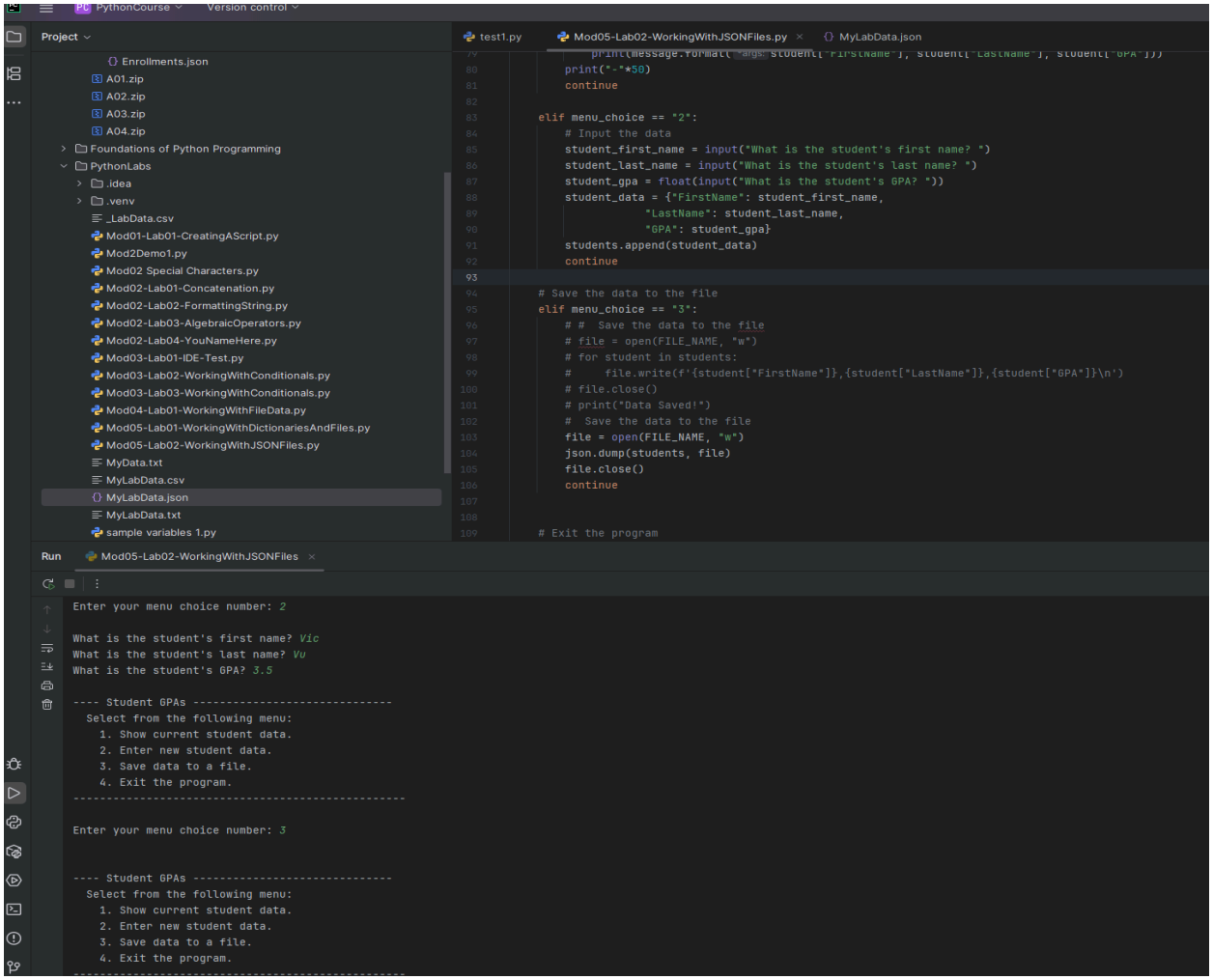

Figure 02 - Practicing writing new data with JSON with Lab02

The next useful tool introduced was error-handling. It's a useful way to keep your program from stopping completely and allowing the user to navigate mistake correction from within the program; useful especially when working with many different types of inputs and users. Lab 3 built on the first two labs by taking the program that was

incrementally built upon and added in error-handling and exception management. It also gave great examples of what those errors should look like and how to make them understandable to the user (Figure 03).

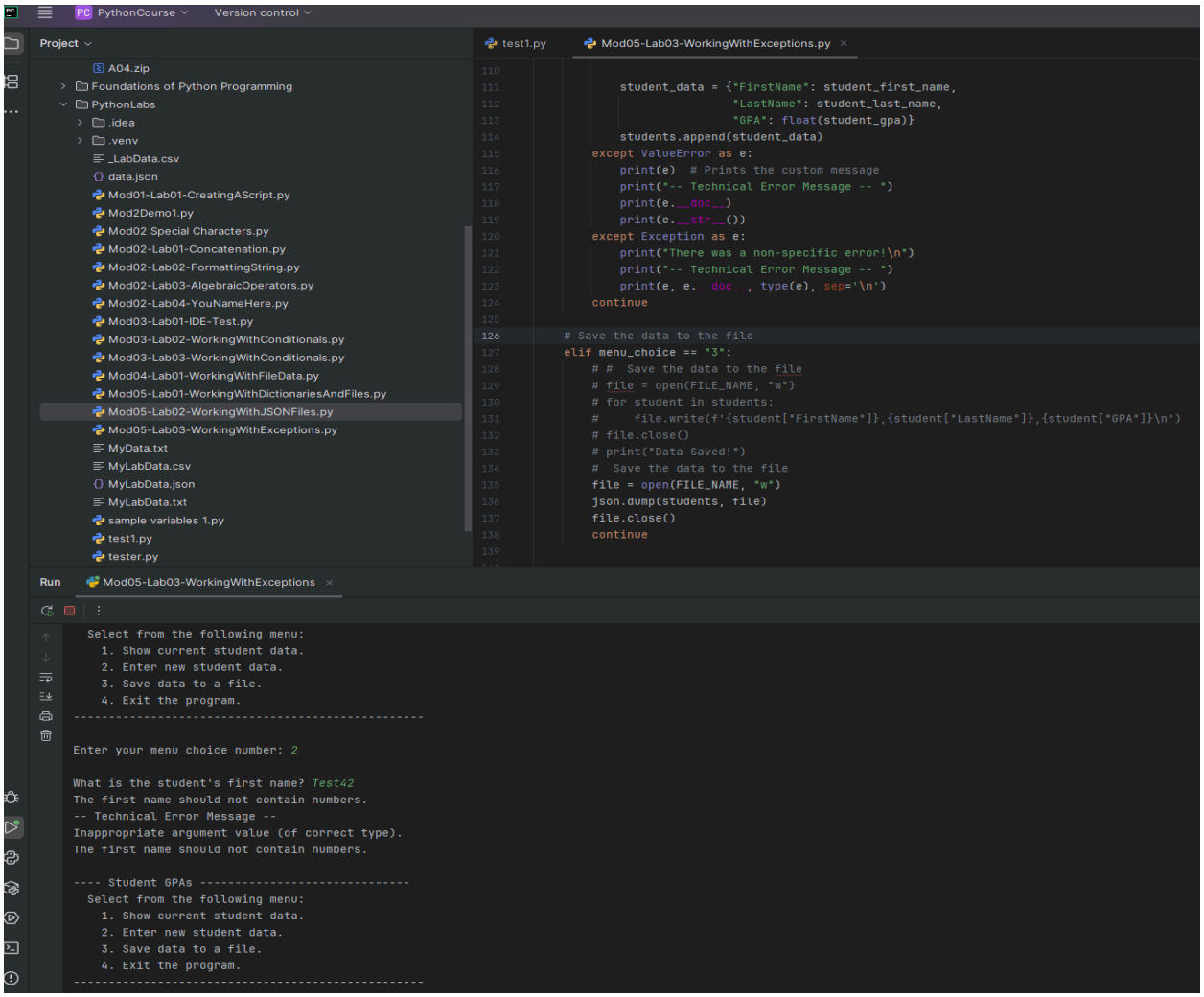

Figure 03 - Practicing writing new data with JSON plus Error Handling with Lab03

The assignment pulled all the items I learned in this module and required me to build a program utilizing JSON interaction and understanding, structured error handling, and also utilizing a new aspect: GitHub repositories. GitHub is a useful tool for organizing code work, storing files, and documenting version histories. I tried to utilize multiple tricks I learned in this module and from previous modules to make this program work as smoothly as possible (Figure 04).

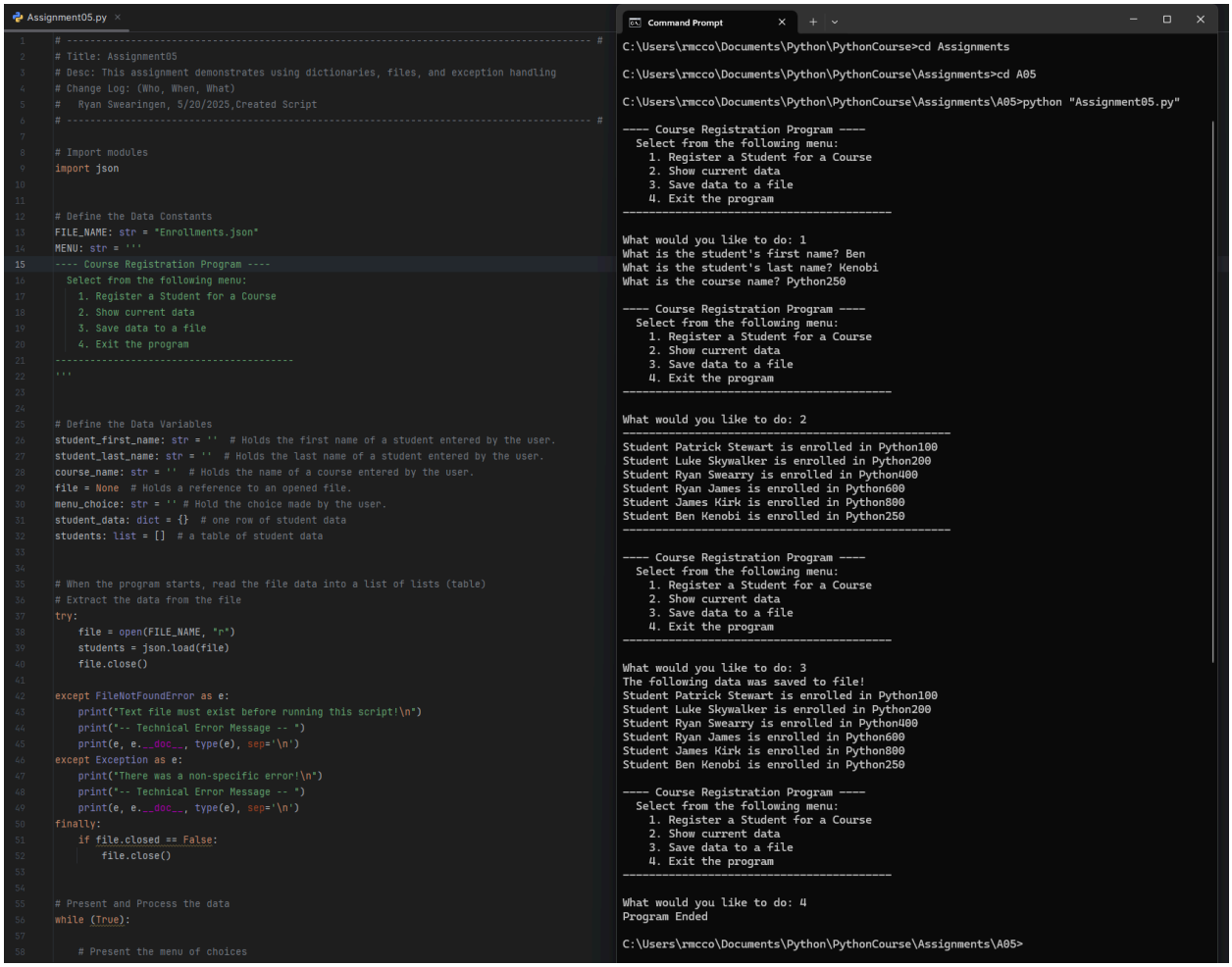

Figure 04 - Testing Assignment 5 in Command Prompt

The GitHub repository link for this assignment is located here:

https://github.com/swearry17/IntroToProg-Python-Mod05.git

Conclusion:

Learning about JSON interactions, modules within Python, error handling, as well as resources like GitHub has really helped me understand the capabilities of Python.