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FDN of Programming (Python)

Assignment 07

Structured Error Handling Reading and Writing Files Including Binary

Introduction

This week we learned about pickling, structured error handling, typecasting and fie access operations. I learned about readline and working with binary files and raising custom errors. I also researched pickling and exception handling, both of which were used in the assignment. I will discuss which websites were useful for my research and which were not as well as my overall process for the assignment.

Python Pickling

I started off reading the book and going through the videos and doing the Labs. We were able to do Lab A and B in class which was helpful. After that I began doing my research on pickling and exception handling. Pickling means saving binary data. In Python Pickling is a means of serialization which means to convert an object in memory to a byte steam that can be stored on a disk or sent over a network (datacamp.com) *Figure 1*. Whatever load into the pickle will be the same stuff that you will unload. One of the resources which I found helpful was because there was a lot of questions that are commonly asked and some that I asked myself. I think the ease of this website was great. A website that I did not think was as helpful was <https://pythonlobby.com/pickle-module-dump-and-load-in-binary-files-in-python/> because it was not as thorough as the datacamp.com website.

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*Figure 1 - Datacamp.com Pickle Python Tutorial retrieved March 10, 2022*

Error Handling and Issues

<https://pythonlobby.com/pickle-module-dump-and-load-in-binary-files-in-python/> did not explain pickling as well as the other sources because it doesn’t dive into what pickling can do by collecting the information and returning the same information back to you.

When I was working on the assignment and adding error structured handling, I found the document that Dirk provided to helpful. I used the try/except method for adding a cd. I wanted to prevent the user from adding anything but numbers and, also for it to loop but the user to also have an option to exit the loop and return to the menu. I realized that the case became a little convoluted. After I added the try and except function, I added the “return” after the if statement in the while true loop because I wanted it to return to asking the user the rest of the inputs for strTitle and strArtist. I decided not to add any error handling here because I am aware that there are cd’s that include numbers, and letters and some even have special characters. *Figure 2* shows the datacamp.com website that I found to be helpful in exception and error handling. I liked the visuals as well as the thoroughness of it.

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Figure 2 Exception Error Handling

Try/Except

In the main loop I added a try/except function as well When I started working on pickling it all seemed simple when we were going through it in class, but it became a little complex, because we there were a few components in action together. The handout was helpful in this situation as well. Figure 3- is the code for my error handling within a while true statement.

File Processor

Another issue I ran into was that my File Processor line kept throwing errors and I needed to remove one argument because it’s supposed to have one and not two, I started getting the errors after changing my read and write code. Eventually I figured out that I needed to call the read function correctly. Figure 4 is a screenshot of my script working in Spyder and Figure 5 is a screenshot of my script working in the terminal.

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Figure 3 - Main loop using try/except function

Conclusion

Overall, I learned a great deal about programming a small but error handled program. I ran into many issues but needed to figure out what was happening. The more we’re building the more Reading and writing to file using different methods such as readline, and working with binary files, and pickling was a challenge even though it looked like it wouldn’t be sine we went over it in class. I am glad and grateful that went over the labs in class that was helpful. I thoroughly enjoyed error handling. My GitHub link is: https://github.com/eclecticbasil/Python/blob/3558913e76fe0f210373abc59380f226a8873f11/CDInventory.py

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Figure 4 Script working in Spyder

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Figure 5- Script working in Terminal