Assignment # 65

Foundations of Programming, Python

https://github.com/purake/Assignment_06

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1 Introduction

In this document, I will outline the steps I took to create a Python program as part of the sixth assignment for *Foundations of Programming, Python*. This program serves as data storage for CD information, but builds on top of the features of the fourth and fifth assignments, while incorporating knowledge about classes, functions, documentation, and code organization.

2 Code Design

2.a Outline

This assignment involves creating a program to store CD information in a program as an archive. Previous programs have featured this functionality; this assignment requires that we use our newfound knowledge of classes and functions to organize our code. Starter code is given, with several TODO sections in which we are to remove code from the main program into individual functions.

The code changes are relatively few; there is mostly refactoring to do. For the most part, I just had to remove code from sections and place into new functions, while renaming variables as needed to ensure the function calls didn't get messed up. I did add a few changes of my own, however.

I noticed that the starter code would cause an error at startup, as it would always attempt to load from a text file. I added a check that the file exists, as well as a clause to create the file if it didn't exist yet. I also added validation for duplicate IDs, since deletion of CDs depends on IDs, and if there are any duplicate IDs, the functionality doesn't quite work the way it's intended to.

Lastly, I added a function to clear the table and reset. I did this because the program always loads a text file on startup, and it could be good to start from scratch without manually deleting all the CDs.

3 Script Results

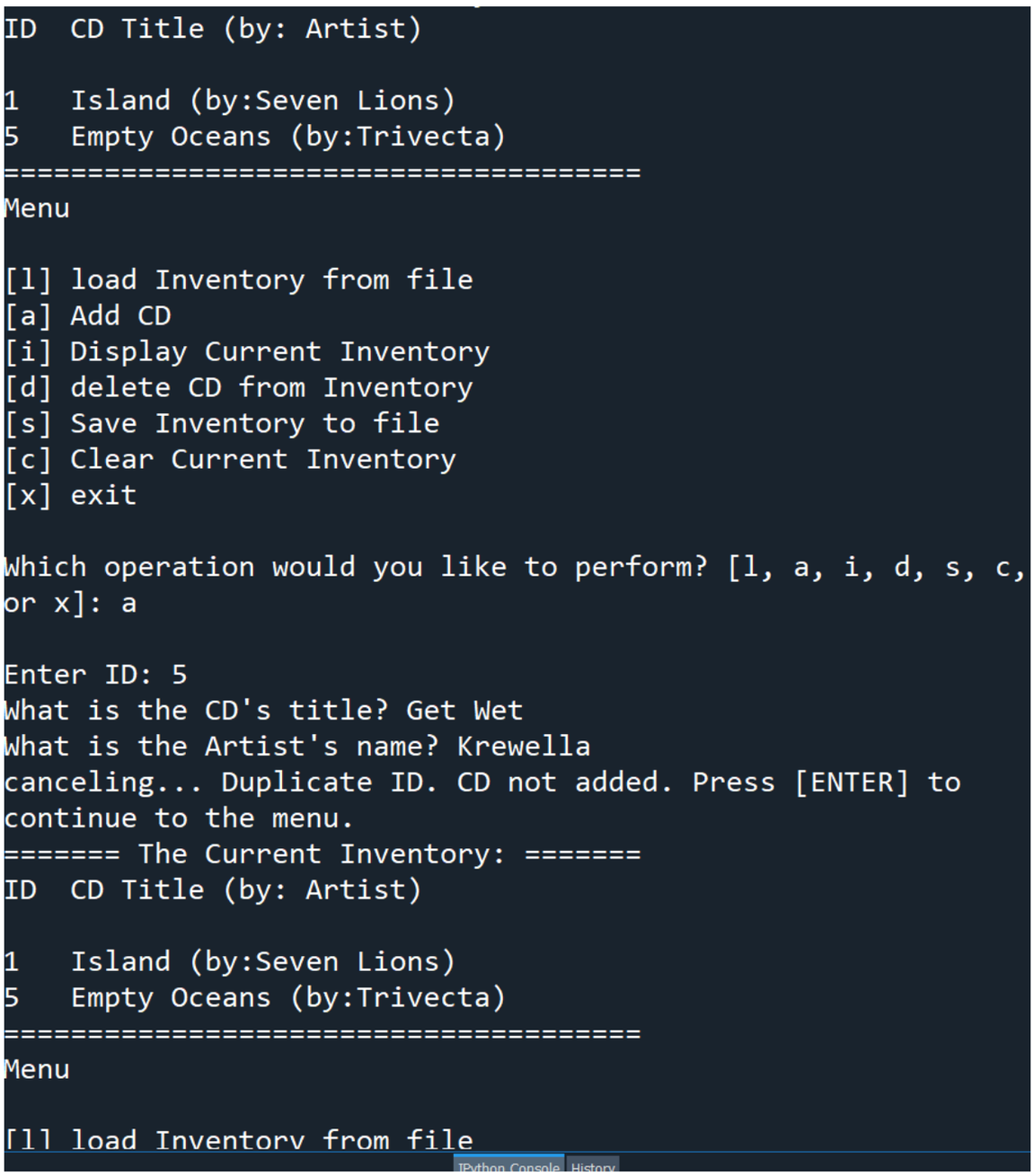

Figure 1: Results of running program in Spyder

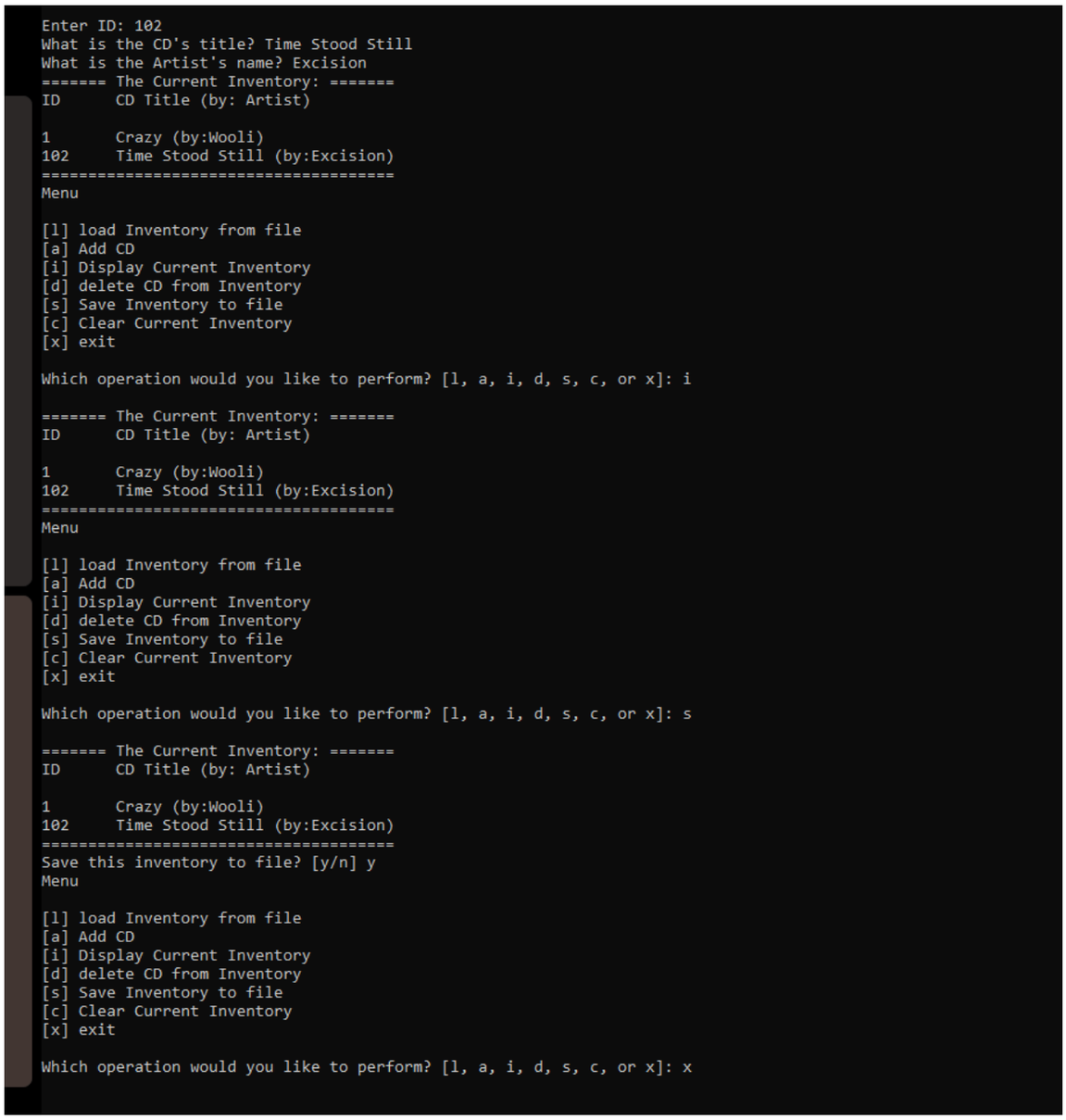

Figure 2: Results of running program in terminal

4 Conclusion

Much of what was needed for this program was introduced in previous modules or the current module. There wasn't too much new information that was difficult, so I feel like I was well-prepared for this assignment from the given materials. I understood functions and classes to some extent from previous work with Java, so it was not a major stretch to complete this. I did opt to add some additional features I felt were lacking in the original starter code.