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Foundations of Programming (Python)

Assignment 05

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# Introduction

I will be modifying code provided by Dirk to create a short program that will help the user take inventory of some CDs with the following information – CD ID number, CD title, and artist name. The program will start with a menu that gives the user six options:

1 - Load inventory from file

2 – Add CD

3 – Display Current Inventory

4 – Delete CD from Inventory

5 - Save Inventory to File

6 - Exit

# Topic 1

**To create this program, I will be using anaconda’s spyder. I will need to use variables, basic math operators, the print() function, the input() function and the open() function. I will also be using the write() and close() methods along with if/else statements, while loops and for loops. Both lists and dictionaries are used in the program as well. Pseudo code was provided with the “CDInventory\_Starter.py” file, which helped me organize my thinking.**

**My first task was to change the existing code from list/list 2D data to list/dictionary data. This was a fairly straight forward task. I updated the lstRow variable to be dicRow and also changed it from a list to a dictionary. This also required updating all instances of lstRow to dicRow along with updating the write portion of the code to write using a dictionary.**

**I also had to add the ability to load existing data. No code was provided for this portion. I used the open function along with a “for row in objFile” loop to read the strings from file and then convert them into dictionaries to be added to the “lstTable” list using the append() method.**

**The last task was to add the ability to delete an entry. This required using a counter variable “x” and also a variable called “row\_del”. First the current “lstTbl” data is shown and the user is prompted to input which CD ID they would like to delete. A for loop was then set up, using “x” keep track of how many times the loop had been run through, which compared the “row\_del” to the “CD ID” of each CD entry. If “row\_del” match the “CD ID”, that entry was deleted.**

**After a few attempts, I was successful in creating the working code “CDInventory.py”. The working program can be seen in** Figure 1 **through** Figure 6. Figure 7 shows the program also works in the terminal window.

Text

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Figure 1 – Screen shot of first run in Spyder showing ADD menu option working

Text

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Figure 2 - Screen shot of first run in Spyder showing DELETE menu option working

Graphical user interface, text, application

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Figure 3 - Screen shot of “CDInventory.txt” prior to running READ function

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Figure 4 - Screen shot showing LOAD menu option working

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Figure 5 – Screen shot showing 5/five/FIVE being added to the list in memory and then the SAVE function working.

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Figure 6 – Screen shot showing resulting “CDInventory.txt” file from Figure 5.

A picture containing text, black, silver

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Figure – Screen shot showing program working in terminal window.

# Summary

In this assignment we covered functions print, input and open with methods write and close, basic math operators, if/else statements, for/while loops and the append() method. We updated Dirks “CDInventory.py” program to use list/dictionary 2D data structure and also added the ability to load existing data and the ability to delete data. I learned about reading data from files as strings and using the strip() and split() methods to convert the data into lists and then convert that data into dictionaries. This should be helpful for future programs.

# Appendix

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