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Foundations of Programming: Python
Assignment 05

CD Inventory Round 2

Intro

In module05 we continued with lists, looked into dictionaries, retouched on writing to a text file and how to read text files into memory. Assignment 05 was a continuation of our CD Inventory program while incorporating our new knowledge. Adding the functionality to delete CD's from the list proved to be a difficult task.

Data

We began by retouching lists and writing lists to a text file. Then we learned how to load data into memory from a text file.

```
elif strChoice == 'r':
    lstTbl.clear()
    objFile = open(strFileName, 'r')
    for row in objFile:
        lstRow = row.strip().split(',')
        lstTbl.append(lstRow)
    objFile.close()
```

Figure 1 - Reading a text file of lists into memory

Dictionaries[1] are mapping types. Mapping types store data by key: value pair verse sequence types which store data that is accessible via an index. There are also a number of built-in methods to assist working with dictionaries.

clear() - Remove all items from the dictionary.
items() - Return a new view of the dictionary's items ((key, value) pairs).
keys() - Return a new view of the dictionary's keys.
values() - Return a new view of the dictionary's values.[2]

[1] FDN_Py_Module_05.pdf page 7
[2] https://docs.python.org/3/library/stdtypes.html#mapping-types-dict

Labs/Assignment

The labs and the assignment this week are continuations of our CD Inventory program. In lab05 A we had to establish the functionality to input the artist and CD title into a list, read and write to a text file and display the list back to the user. For lab05 B we are updating the code to represent dictionaries for the inner lists while retaining the same functionality as lab05 A.

```
elif strChoice == 'r':
    # File to print
    lstTbl.clear()
    objFile = open(strFileName, 'r')
    for row in objFile:
        lstRow = row.strip().split(',')
        dicRow = {'artist': lstRow[0], 'title': lstRow[1]}
        lstTbl.append(dicRow)
    objFile.close()
```

Figure 2 - Reading a text file of dictionaries into memory

For the assignment we all were given a starter code and were tasked with modifying it. Similar to lab05 B we updated the code to represent dictionaries for the inner lists. Additionally we needed to include the functionality to delete dictionaries from the list table. This was by far the most difficult task for me to accomplish. After a few hours of trial, error and googling I finally found a way to write my program that would delete the dictionary by searching for the “ID”.

```
# using del + loop
# to delete dictionary in list
for i in range(len(test_list)):
    if test_list[i]['id'] == 2:
        del test_list[i]
        break
```

Figure 3 - Example code found googling[3]

Summary

Expanding on our CD inventory program was fun this week. Looking through our past assignments I was surprised to see how quickly we have progressed. I reviewed prior labs and assignments that I struggled with. I remember Lab03 D in particular being difficult at the time and now it seems like common knowledge.

[3] https://www.geeksforgeeks.org/python-removing-dictionary-from-list-of-dictionaries/