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IT FDN 110 B – Foundations of Programming (Python)

Assignment 05

Modifying CD Inventory Script

# Introduction

This script works with a CD inventory stored in CDInventory.txt and asks the suer if they would like to add a CD, display the current inventory, save the inventory or exit. In this assignment I was tasked with adding the functionality of loading the inventory from a file as well as deleting a CD from the inventory. Also, I was tasked with replacing the inner data structure list with a dictionary.

# Updating the code from lists to dictionary

Initially the script set lstRow = [] which is a list, I removed that and instead used dicRow = {} which is a dictionary. I then made sure to update the variables throughout the script, for example in line 34 lstRow = [intID, strTitle, strArtist] becomes dicRow = {'id': line[0], 'title': line[1], 'artist': line[2],}

# Loading existing data

This part of the script data is loaded into the dictionary from a file. The file is opened, whitespace is stripped using strip() and appended to the end of the list.

# Deleting an entry

This was a bit more complicated than I thought it would be. I ask the user for the CD ID they would like to delete, then use a for loop to look for the CD ID and finally using remove() I delete the CD.

# Summary

In this assignment we start with someone else’s code then we updated it by changing the inner data structure from a list to a dictionary. After that we added the functionality to load an existing data file as well as delete a CD.

# Appendix

## Listing CDInventory.py

1. *#------------------------------------------#*
2. *# Title: CDInventory.py*
3. *# Desc: Starter Script for Assignment 05*
4. *# Change Log: (Who, When, What)*
5. ***# DBiesinger, 2030-Jan-01, Created File***
6. *# DDefelici, 2021-Nov-14, replaced inner data structure (list) with dictionary, added functionality to load data and delete entry*
7. *#------------------------------------------#*
9. *# Declare variabls*
11. strChoice = '' *# User input*
12. lstTbl = [] *# list of lists to hold data*
13. dicRow = {} *# dict of data row*
14. strFileName = 'CDInventory.txt' *# data storage file*
15. **objFile = None *# file object***
17. *# Get user Input*
18. **print**('The Magic CD Inventory**\n**')
19. **while** True:
20. ***# Display menu allowing the user to choose:***
21. **print**('[l] load Inventory from file**\n**[a] Add CD**\n**[i] Display Current Inventory')
22. **print**('[d] delete CD from Inventory**\n**[s] Save Inventory to file**\n**[x] exit')
23. strChoice = input('l, a, i, d, s or x: ').lower() *# convert choice to lower case at time of input*
24. **print**()
26. **if** strChoice == 'x':
27. *# Exit the program if the user chooses so*
28. **break**
29. **if** strChoice == 'l':
30. ***# Load existing data***
31. objFile = open(strFileName, 'r')
32. **for** row **in** objFile:
33. line = row.strip().split (',')
34. dicRow = {'id': line[0], 'title': line[1], 'artist': line[2],}
35. **lstTbl.append(dicRow)**
36. objFile.close()
37. **pass**
38. **elif** strChoice == 'a': *# no elif necessary, as this code is only reached if strChoice is not 'exit'*
39. *# Add data to the table (2d-list) each time the user wants to add data*
40. **strID = input('Enter an ID: ')**
41. strTitle = input('Enter the CD**\'**s Title: ')
42. strArtist = input('Enter the Artist**\'**s Name: ')
43. intID = int(strID)
44. dicRow = {'ID': intID, 'Title': strTitle, 'Artist' :strArtist}
45. **lstTbl.append(dicRow)**
46. **elif** strChoice == 'i':
47. *# Display the current data to the user each time the user wants to display the data*
48. **print**('ID, CD Title, Artist')
49. **for** row **in** lstTbl:
50. **cdStr = ''**
51. **for** key, val **in** row.items():
52. cdStr += str(val) + ', '
53. **print**(cdStr + '**\n**')
54. **elif** strChoice == 'd':
55. ***# Delete entry***
56. chosenID = input('What is the ID of the CD you would like to delete?')
57. cdtodel = None
58. **for** row **in** lstTbl:
59. **if** row['id'] == str(chosenID):
60. **cdtodel = row**
61. **break**
62. **if** cdtodel != None:
63. lstTbl.remove(cdtodel)
64. **pass**
65. **elif strChoice == 's':**
66. *# Save the data to a text file CDInventory.txt if the user chooses so*
67. objFile = open(strFileName, 'a')
68. **for** row **in** lstTbl:
69. strRow = ''
70. **for key, val in row.items():**
71. strRow += str(val) + ','
72. strRow = strRow[:-1] + '**\n**'
73. objFile.write(strRow)
74. objFile.close()
75. **else:**
76. **print**('Please choose either l, a, i, d, s or x!')

Listing 1 - function demo

Using [highlight.hohli’s](https://highlight.hohli.com/index.php) (external reference) webpage[[1]](#endnote-1) to highlight code.

Text

Description automatically generated

Figure - Example showing loading and deleting in spyder

Text

Description automatically generated

Figure - Example showing loading and deleting in terminal

1. Retrieved 2021-Nov-14 [↑](#endnote-ref-1)