Armando Gomez

2021-Nov-15

Foundations of Programming (Python)

Assignment05

Knowledge Document

# Introduction

First I loaded the CDInventory\_Starter.py and renamed it and put it in the new Assignment05 folder and renamed it as CDInventory.py, for the code see Appendix. Three basic parts to this assignment. Part 1, modify the script as required to replace the inner data structure by dictionaries. Part 2, add the functionality of loading existing data. Part 3, add functionality of deleting an entry. After I completed all of the parts, I put together this document to summarize my learning experience.

# Part 1, Script for dictionaries

Right away I recognized from the Module 5 Labs that I needed to declare the dictionary variable and also I’ve used a string for the table values. Right away I also recognized that when adding the data, it couldn’t go directly into a list. So I needed to construct the dictionary row, so I used one of the two possible methods to create a dictionary row, I thought it was cleaner to declare the keys and ask the user to input the values for each key. Then each key pair went into the dictionary. (Lines 44:49) Then I just appended this new dicRow to the lstTbl.

# Part 2, Loading existing data

To load the existing data, I first had to read the file and bring in the data that’s a string and make it into a list of dictionaries. Then I closed the file.

# Part 3, Deleting an entry

To delete an entry I first had to ask the user which ID the user wished to delete, this input basically became the Key of the Dictionary I was going to clear. I assigned this input as an integer and using the for loop I looked for this integer in the table, then using an if statement I deleted that item in the list (essentially getting rid of that dictionary that included the user’s ID). This came very straight forward.

# Summary

I had a really hard time figuring out how to read the file into a string and parse the inputs into a dictionary to then build the list. This is how I conceptualized loading in the data, but I couldn’t get it to work. I could read the data from the file, but I couldn’t build the string from it, looking back at my notes was really confusing from Module 4 because I got negative review of my code without much input about how to really structure it correctly.

# Appendix

## 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. *#------------------------------------------#*
8. *# Declare variabls*
10. **strChoice = '' *# User input***
11. lstTbl = [] *# list of lists to hold data*
12. *# TODO replace list of lists with list of dicts*
13. dicRow = {}
14. lstRow = [] *# list of data row*
15. **strFileName = 'CDInventory.txt' *# data storage file***
16. objFile = None *# file object*
17. strTbl = ''
19. *# Get user Input*
20. **print('The Magic CD Inventory\n')**
21. **while** True:
22. *# 1. Display menu allowing the user to choose:*
23. **print**('[l] load Inventory from file**\n**[a] Add CD**\n**[i] Display Current Inventory')
24. **print**('[d] delete CD from Inventory**\n**[s] Save Inventory to file**\n**[x] exit')
25. **strChoice = input('l, a, i, d, s or x: ').lower() *# convert choice to lower case at time of input***
26. **print**()
28. **if** strChoice == 'x':
29. *# 5. Exit the program if the user chooses so*
30. **break**
31. **if** strChoice == 'l':
32. *# TODO Add the functionality of loading existing data*
33. *# Show the result*
34. **print**('items in the list now:')
35. **objFile = open(strFileName, 'r')**
36. **for** row **in** objFile:
37. **print**(row)
38. **print**()
39. objFile.close()
40. **pass**
41. **elif** strChoice == 'a': *# no elif necessary, as this code is only reached if strChoice is not 'exit'*
42. *# 2. Add data to the table (2d-list) each time the user wants to add data*
43. **print**(lstTbl)
44. strID = input('Enter an ID: ')
45. **strTitle = input('Enter the CD\'s Title: ')**
46. strArtist = input('Enter the Artist**\'**s Name: ')
47. intID = int(strID)
48. dicRow = {'ID': intID, 'CD Title': strTitle, 'Artist': strArtist}
49. lstTbl.append(dicRow)
50. ***# lstRow = [intID, strTitle, strArtist]***
51. *# lstTbl.append(lstRow)*
52. **elif** strChoice == 'i':
53. *# 3. Display the current data to the user each time the user wants to display the data*
54. **print**('ID, CD Title, Artist')
55. **for item in lstTbl:**
56. **print**(item)
57. **print**()
58. **elif** strChoice == 'd':
59. *# TODO Add functionality of deleting an entry*
60. **keyID = input('Enter an ID you wish to delete: ')**
61. intKeyID = int(keyID)
62. **for** i **in** range(len(lstTbl)):
63. **if** lstTbl[i]['ID'] == intKeyID:
64. **del** lstTbl[i]
65. **break**
66. **pass**
67. **elif** strChoice == 's':
68. *# 4. Save the data to a text file CDInventory.txt if the user chooses so*
69. objFile = open(strFileName, 'w')
70. **strTbl = str(lstTbl)**
71. objFile.write(strTbl)
72. '''
73. for row in lstTbl:
74. strRow = ''
75. **for item in row:**
76. strRow += str(item) + ','
77. strRow = strRow[:-1] + '**\n**'
78. objFile.write(strRow)
79. '''
80. **objFile.close()**
81. **else**:
82. **print**('Please choose either l, a, i, d, s or x!')

# Figures

A screenshot of a computer

Description automatically generated with medium confidence

Figure 1, Screenshot of my script running in Spyder working on my computer

Text

Description automatically generated

Figure 2, Screenshot of my script running in Terminal working on my computer