Tiffany Ascanio

11/16/2021

Foundations of Programming (Python)

Assignment 05

Dictionaries.com

Intro

Module 05 substituted the previously discussed lists with dictionaries. Although there is a slight variation between all the uses, I found that dictionaries were significantly easier to consume as I was able to really rely on the columns verse rows example. Previously, I seemed to be getting lost within my 2D tuples and lists, but consuming the information row by row has been easier to manipulate.

Assignment 05

To begin with the revisions of this code, it was important for me to breakdown what I knew needed to be changed, what I knew I'd have difficulty with and what I thought was already complete. I did this by creating gaps between all the existing if and elif statements.

From there I looked at the initial declaration of variables and swapped out the lstRow for the first declaration of the dictionary, dicRow. The other variables were to stay the same. Next, I targeted the load existing data TODO as it was a direct repeat of what was seen throughout the module notes. And exercises. I also left the exist script alone because that was complete.

From that point I dropped down to number 4 because that too was an example that was clearly laid out within the notes and exercises. It is important to note that I passed on the center portion of the script as I had deemed that more difficult in complexity. At this point, I was able to analyze that the delete function would be the last item to tackle.

Moving back towards the top of the script, the addition of information was relatively simple to add in the form of a dictionary. I found this method to be easier to read and understand than some of the previous scripts.

Finally, when trying to resolve the delete row function it seems I had gotten stuck on the dictionary loop instead of working with the out table of the 2D list. At first, I was attempting to recall certain rows from the dictionary itself instead of analyzing the table to find the particular 'key' in question. After much frustration, I'm pleased to say that I was able to look back on our predecessor assignments to complete the function.

C:_FDProgramming\Mod_05\CDInventory.py

CDInventory.py

```
#------------------------------------------#
# Title: CDInventory.py
# Desc: Assignment 05
# Change Log: (Who, When, What)
# DBiesinger, 2030-Jan-01, Created File
# TAscanio, 2021-Nov-21, Revised file for Assignment 05
#------------------------------------------#

# Declare variabls

strChoice = '' # User input
lstTbl = []  # list of lists to hold data
# TODO replace list of lists with list of dicts
dicRow = {}
strFileName = 'CDInventory.txt'  # data storage file
objFile = None  # file object

# Get user Input
print('The Magic CD Inventory\n')
while True:
    # 1. Display menu allowing the user to choose:
    print('[l] load Inventory from file\n[a] Add CD\n[i] Display Current Inventory')
    print('[d] delete CD from Inventory\n[s] Save Inventory to file\n[x] exit')
    strChoice = input('l, a, i, d, s or x: ').lower()  # convert choice to lower case at time of input
    print()

    if strChoice == 'x':
        # 5. Exit the program if the user chooses so
        break
    if strChoice == 'l':
        # TODO Add the functionality of loading existing data
        objFile = open(strFileName, 'r')
        for row in objFile:
           lstTbl = row.strip().split(',')
        objFile. close()
        pass
    elif strChoice == 'a':  # no elif necessary, as this code is only reached if strChoice is not 'exit'
        # 2. Add data to the table (2d-list) each time the user wants to add data
        strID = input('Enter an ID: ')
        strTitle = input('Enter the CD\'s Title: ')
        strArtist = input('Enter the Artist\'s Name: ')
        intID = int(strID)
        dicRow = {'id': intID, 'title': strTitle, 'artist': strArtist}
        lstTbl.append(dicRow)
        pass
    elif strChoice == 'i':
        # 3. Display the current data to the user each time the user wants to display the data
        print('ID, CD Title, Artist')
        for row in lstTbl:
            print(*row.values(), sep = ', ')
        pass
    elif strChoice == 'd':
        # TODO Add functionality of deleting an entry
        delID = int(input('Enter the ID to delete: '))
        for row in lstTbl:
            if row['id'] == delID:
                lstTbl.remove(row)
        pass
    elif strChoice == 's':
        # 4. Save the data to a text file CDInventory.txt if the user chooses so
        objFile = open(strFileName, 'a')
        for row in lstTbl:
            strRow = ''
            for item in row.values():
                strRow += str(item) + ','
            strRow = strRow[:-1] + '\n'
            objFile.write(strRow)
        objFile.close()
        pass
    else:
        print('Please choose either l, a, i, d, s or x!')


```

Assignment 05: Script

```
l, a, i, d, s or x: s

[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: i

ID, CD Title, Artist
1, two, three
2, four, six
3, six, nine
[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: d


Enter the ID to delete: 2
[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x: i

ID, CD Title, Artist
1, two, three
3, six, nine
[l] load Inventory from file
[a] Add CD
[i] Display Current Inventory
[d] delete CD from Inventory
[s] Save Inventory to file
[x] exit

l, a, i, d, s or x:
```

Assignment 05: Console Execution

Summary

In this assignment, I created a CD inventory menu that executes depending on the user input. The starter code did work as a good foundation to lead me towards the expectations of the final code. Turning the existing lists into dictionaries was not as difficult as anticipated. However, I did run into issues when it came to deleting the rows from within the dictionary.

Appendix

Listing assignment05.py

```
#------------------------------------------#
# Title: CDInventory.py
# Desc: Assignment 05
# Change Log: (Who, When, What)
# DBiesinger, 2030-Jan-01, Created File
# TAscanio, 2021-Nov-21, Revised file for Assignment 05
#------------------------------------------#

# Declare variabls
strChoice = '' # User inputlstTbl = []  # list of lists to hold data
# TODO replace list of lists with list of dicts
dicRow = {}
strFileName = 'CDInventory.txt'  # data storage file
objFile = None  # file object

# Get user Input
print('The Magic CD Inventory\n')
while True:
    # 1. Display menu allowing the user to choose:
      print('[l] load Inventory from file\n[a] Add CD\n[i] Display Current Inventory')
    print('[d] delete CD from Inventory\n[s] Save Inventory to file\n[x] exit')
    strChoice = input('l, a, i, d, s or x: ').lower() # convert choice to lower case at time
        of input
    print()

    if strChoice == 'x':        # 5. Exit the program if the user chooses so        break
    if strChoice == 'l':        # TODO Add the functionality of loading existing data
        objFile = open(strFileName, 'r')        for row in objFile:            lstTbl =
        row.strip().split(',')        objFile. close()        pass
    elif strChoice == 'a':  # no elif necessary, as this code is only reached if strChoice is
        not 'exit'        # 2. Add data to the table (2d-list) each time the user wants to add
        data        strID = input('Enter an ID: ')        strTitle = input('Enter the CD\'s
        Title: ')        strArtist = input('Enter the Artist\'s Name: ')        intID =
        int(strID)        dicRow = {'id': intID, 'title': strTitle, 'artist': strArtist}
        lstTbl.append(dicRow)        pass
    elif strChoice == 'i':        # 3. Display the current data to the user each time the user
        wants to display the data        print('ID, CD Title, Artist')        for row in
        lstTbl:            print(*row.values(), sep = ', ')        pass
     elif strChoice == 'd':        # TODO Add functionality of deleting an entry
        delID = int(input('Enter the ID to delete: '))        for row in lstTbl:
        if row['id'] == delID:            lstTbl.remove(row)        pass
    elif strChoice == 's':        # 4. Save the data to a text file CDInventory.txt if the
        user chooses so        objFile = open(strFileName, 'a')        for row in lstTbl:
        strRow = ''    for item in row.values():                strRow += str(item) + ','
        strRow = strRow[:-1] + '\n'            objFile.write(strRow)        objFile.close()
        pass
     else:        print('Please choose either l, a, i, d, s or x!')
```