Assignment 05

Lists and Dictionaries

Introduction

This week we were expected to create a script that manages a To Do List and post it in github. My program can be found here: https://github.com/zeynepo/IntroToProg-Python

Creating, Managing and Saving a Dictionary

This week's assignment looks deceptively simple. The main difference from all the exercises we did is the need to create and manage a dictionary without saving it into the file at each step. So the whole set up of the program needs to be different. Also generating priorities and updating them as tasks are added and taken out was a challenge

Pseudocode:

Initialize table # read file, create a table with priorities

1 – print out table

2 – add new task by appending to the table, generate priority

3 - remove task from table, edit priorities

4 – save table to file

5 - exit

I started with a list of tasks to make it easy on myself for troubleshooting. Doing the exercise certainly made me understand how dictionaries are used better. It took a lot of trial and error as usual but I managed to get it to run as I want it in the end

PyCharm console view:

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```
C:\Python\Python3.x\python.exe "C:\Users\TOSHIBA\Desktop\Python Course\Assignments\Assignment05\Assignment05_Zeynep.py"

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 1

Your 4 tasks to do are:
Priority 1 Task: do write up
Priority 2 Task: do homework
Priority 3 Task: walk the dog
Priority 4 Task: call parents

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 2
```

```
Please enter task: go to the gym
Task added to your to do list

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 3

Enter the priority of the task to remove: 4
Task with Priority 4 has been removed.

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 1
```

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```
Your 4 tasks to do are:
Priority 1 Task: do write up
Priority 2 Task: do homework
Priority 3 Task: walk the dog
Priority 4 Task: go to the gym

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 4


    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 5

Good luck with those tasks!
```

Command prompt view:

```
C:\Users\TOSHIBA>python "C:\Users\TOSHIBA\Desktop\Python Course\Assignments\Assignment05\Assignment05_Zeynep.py"

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 1

Your 4 tasks to do are:
Priority 1 Task: do write up
Priority 2 Task: do homework
Priority 3 Task: walk the dog
Priority 4 Task: go to the gym

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 2

Please enter task: call parents
Task added to your to do list

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program
```

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```
Good luck with those tasks!

C:\Users\TOSHIBA>python "C:\Users\TOSHIBA\Desktop\Python Course\Assignments\Assignment05\Assignment05_Zeynep.py"

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 1

Your 5 tasks to do are:
Priority 1 Task: do write up
Priority 2 Task: do homework
Priority 3 Task: walk the dog
Priority 4 Task: go to the gym
Priority 5 Task: call parents

    Menu of Options
    1) Show current data
    2) Add a new item.
    3) Remove an existing item.
    4) Save Data to File
    5) Exit Program

Which option would you like to perform? [1 to 5] - 5

Good luck with those tasks!

C:\Users\TOSHIBA>S
```

Summary

Chapter 5 exercise I found useful:

```
scores = []
choice = None

while choice != '0':
    print ("""
    High Scores Keeper
    0 - Exit
    1 - Show Scores
    2 - Add a Score
    3 - Delete a Score
    4 - Sort Scores
    """)
    choice = input("Choice: ")
    print
    if choice == "0":
        print("Goodbye..")
    elif choice == "1":
        print("High Scores")
        for score in scores:
            print(score)
    elif choice == "2":
        score = int(input("What score did you get? "))
        scores.append(score)
    elif choice == "3":
        score = int(input("Delete which score? "))
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```
        if score in scores:
            scores.remove(score)
        else:
            print(score, "isn't in the scores list")
    elif choice == "4":
        scores.sort()
        scores.reverse()
    else:
        print(f"Sorry", choice , "isn't an option")
input("\n\nPress the enter key to exit")
```

My take on Lab 5.1

```
# ------------------------------------------------ #
# Title: Lab 5-1
# Description: Writing and Reading Data from a file
# ChangeLog: Zeynep, Aug 1 2023, Added read/write to file code
# ------------------------------------------------ #

# Declare my variables
strChoice = '' # User input
lstRow = []  # list of data
strFile = 'HomeInventory.txt'  # data storage file
objFile = None  # file handle

# Get user Input
while(True):
    print("Write or Read file data, then type 'Exit' to quit!")
    strChoice = input("Choose to [W]rite or [R]ead data: ")

    # Process the data
    if (strChoice.lower() == 'exit'): break
    elif (strChoice.lower() == 'w'):
        # List to File
        objFile = open(strFile, "w")
        lstRow = ["Item", "Value"]
        objFile.write(lstRow[0] + ',' + lstRow[1] + "\n")
        lstRow[0] = input("Please enter item name: ")
        lstRow[1] = input("Please enter item value: ")
        objFile.write(lstRow[0] + ',' + "$"+lstRow[1] + "\n")
        lstRow[0] = input("Please enter item name: ")
        lstRow[1] = input("Please enter item value: ")
        objFile.write(lstRow[0] + ',' + "$"+lstRow[1] + "\n")
        objFile.close()
    elif (strChoice.lower() == 'r'):
        # File to List
        objFile = open(strFile, "r")
        for row in objFile:
            lstRow = row.split(sep =',')
#            print(lstRow[0] + '|' + lstRow[1])
            print(lstRow[0] + '|' + lstRow[1].strip())
        objFile.close()
    else:
        print('Please choose either W or R!')
```

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My take on Lab 5-2:

```
#
# Description: Writing and Reading Data from a file
# ChangeLog: Zeynep, Aug 6 2023, Changed rows from lists to dictionaries
#

strChoice = '' # User input
dicRow = {}  # list of data
strFile = 'HomeInventory.txt'  # data storage file
objFile = None  # file handle

# Get user Input
while(True):
    print("Write or Read file data, then type 'Exit' to quit!")
    strChoice = input("Choose to [W]rite or [R]ead data: ")

    # Process the data
    if (strChoice.lower() == 'exit'): break
    elif (strChoice.lower() == 'w'):
        # List to File
        objFile = open(strFile, "w")
        dicRow = {"item":"Lamp", "value":"$30"}
        objFile.write(dicRow["item"] + ',' + dicRow["value"] + '\n')
        dicRow = {"item":"End Table", "value": "$60"}
        objFile.write(dicRow["item"] + ',' + dicRow["value"] + '\n')
        objFile.close()
    elif (strChoice.lower() == 'r'):
        # File to List
        objFile = open(strFile, "r")
        for row in objFile:
            lstRow = row.split(",") # Returns a list!
            dicRow = {"item": lstRow[0], "value": lstRow[1].strip()}
            print(dicRow)
        objFile.close()
    else:
        print('Please choose either W or R!')
```