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IT FDN 110 A Au 22: Foundations Of Programming: Python

Assignment05

<https://github.com/yiy4/IntroToProg-Python>

Working with Dictionaries

Introduction

In creating an editable to-do list, a dictionary was used. Dictionaries work like lists and tuples with only a slight difference—the main difference being the use of `{}` operator and writing out the **keys** instead of numeric indexes.

I. Showing current data

```
print("Current To Do List:")
print("-----")
i = 0
while(i < len(lstTable)):
    TempRow = lstTable[i]
    print(TempRow["Task"] + " - " + TempRow["Priority"])
    i += 1
print()
```

Unlike working with list or tuple, the dictionary had keys and their values as a single element. So, I had to create a variable called TempRow to separate each key and value.

II. Adding a new item

```
while(True):
    Task = input("Add a task: ")
    Priority = input("
    Select priority level for this task:
    1-Urgent | 2-High | 3-Medium | 4-Low
    ")
    if(Priority.lower() == '1' or Priority.lower() == '2' or Priority.lower()
    == '3' or Priority.lower() == '4'):
        dicRow = {"Task": Task, "Priority": Priority}
        lstTable.append(dicRow)
        break
    else:
        print("Please select 1, 2, 3, or 4 for task prioritization!")
```

To add a new item, I had to create a nested while loop to troubleshoot for users inputting wrong information. Here, I had to use `{}` and write out the keys because I was using a dictionary.

II. Removing an item

```
print("This is the current to-do list:")
print("-----")
i = 0
while (i < len(lstTable)):
    TempRow = lstTable[i]
    print(TempRow["Task"] + " - " + TempRow["Priority"])
    i += 1
print()
PrvData = input("What task would you like to remove?: ")
j = 0
while (j < len(lstTable)):
```

```

TempDicRow = lstTable[j]
if(TempDicRow["Task"].lower() == PrvData.lower()):
    lstTable.remove(TempDicRow)
    print("Successfully deleted!")
else:
    if (j == len(lstTable)-1):
        print()
        print("'" + PrvData + "'" + " not found!")
    j += 1

```

To find task name in the dictionary, I asked the program to look for the user input using another nested while loop. When the index reached the last row of the list and could not find the user inputted task, I added an error message notifying the user. Also, to help users input the task name accurately, I showed the current to-do list using the print function. (Next time, if I were to create a similar program, I might give all tasks numerical IDs for simpler user input.)

III. Saving to a txt file

```

intFile = open(objFile, "w")
i = 0
while (i < len(lstTable)):
    TempRow = lstTable[i]
    intFile.write(TempRow["Task"] + " - " + TempRow["Priority"] + "\n")
    i += 1
intFile.close()
print()
print("The changes you made were saved!")

```

Just as I used TempRow variable to show current data, it was used again to save each task and priority in the lstTable in dictionary form. Also, I used the key subscripts instead of numeric indexes.

IV. Exiting the program

```

strMenu = input("Are you sure you want to exit?[y/n]: ")
if(strMenu.lower() == "yes" or strMenu.lower() == "y"):
    break
else:
    continue

```

By asking one more time, I prevented users from exiting the program unintentionally.

Conclusion

This assignment was an interesting way to learn about dictionaries and how they work. The whole dictionary row was recognized as a single element while running the program, and breaking down into each key and value was a challenge.

Running option 1 in PyCharm and Command Shell:

```
C:\Python\python.exe C:\_PythonClass\Assignment05\Assignment05.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

Current To Do List:
-----
Dishes-3
email-1
```

```
C:\Users\pjoy10>Python.exe "C:\_PythonClass\Assignment05\Assignment05.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

Current To Do List:
-----
Dishes - 3
Car Wash - 4
```

Running option 2 in PyCharm and Command Shell:

```
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

Add a task: Laundry

Select priority level for this task:
1-Urgent | 2-High | 3-Medium | 4-Low
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] - 2

Add a task: Carwash

Select priority level for this task:
1-Urgent | 2-High | 3-Medium | 4-Low
string

Please select 1, 2, 3, or 4 for task prioritization!

Add a task:
```

```
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

Add a task: Water the plants

Select priority level for this task:
1-Urgent | 2-High | 3-Medium | 4-Low
1
```

Running option 3 in PyCharm and Command Shell:

```
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

This is the current to-do list:
-----
Dishes - 3
email - 1

What task would you like to remove?: Dishes
Successfully deleted!

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

This is the current to-do list:
-----
email - 1

What task would you like to remove?: carwash
'carwash' not found!
```

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

This is the current to-do list:
-----
Dishes - 3
Car Wash - 4
Water the plants - 1

What task would you like to remove?: Car Wash
Successfully deleted!
```

Running options 4 and 5 in PyCharm and Command Shell:

```
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

The changes you made were saved!

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

Are you sure you want to exit?[y/n]: y

Process finished with exit code 0
```

```
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

The changes you made were saved!

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

Are you sure you want to exit?[y/n]: n

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] -
```