

To Do List Program

Introduction

During my 5th assignment, I was able to modify a starting template that was given to us by Professor Root. This template contains a menu of options for the user. However, it is pretty much a chassis for us to build it up with our codes. The objective for this assignment is to fix it up with our own coding for this template to allow users to generate their “To-Do” lists. This list contains two columns of data which are representatives of a “task” and “priority”. I will go through each option from the menu step by step.

Step 1 - Processing

Following the header update and declaring my variables, the first step is to install “Error Handling”, which is the try and except construct that can check to see if a file is found. I used the open function to create and load data into a text file. I used a split function in order to separate each dictionary row of tasks and priorities. My dictionary contains the keys and value pairs that represent the rows in the list table. Each dictionary row will then be added into a list table.

Figure 1:

```
try:      # if file exists
    strFile = open(objFile, "r")
    for row in strFile:
        task, priority = row.split(",") # Returns a list!
        dictRow = {"Task": task.strip(), "Priority": priority.strip()}
        lstTable.append(dictRow)
        print(dictRow["Task"] + ', ' + dictRow["Priority"])
    strFile.close()
except:   # if file not found
    print("File not found. You can create a new file when you save.")
```

Step 2 - Menu of Options

Professor Root provided us with a menu of five different options such as showing the current data, adding a new item of task and priority, removing an existing item, saving data to a text file, and exiting the program. He implemented the While Loop that can allow the user to go through many different options.

Figure 2:

```
while (True):  
    print("""  
    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  
    """)  
    strChoice = str(input("Which option would you like to perform? [1 to 5] - "))  
    print() # adding a new line for looks
```

Step 3 - Current Items

The first option on the menu is displaying items that are currently in the list table. Existing rows of data of Tasks and Priorities are printed out to the User. As you can see The lstTable variable is used in an If For loop to print out each row sitting in the list table.

Figure 3:

```
if (strChoice.strip() == '1'):  
    # TODO: Add Code Here  
    print("Task" + " | " + "Priority")  
    for row in lstTable:  
        print(row["Task"] + '|' + row["Priority"])  
    continue
```

Step 4 - Adding Items

The second option on the menu is adding a new item of task and its priority to the list table. The user is asked for two inputs for a task and its priority. Once these inputs are provided, they become stored as a dictionary row then appended into a list table.

Figure 4:

```
elif (strChoice.strip() == '2'):
    # TODO: Add Code Here
    print("Type in another 'Task' and its 'Priority'")
    strTask = input("Enter a new task:")
    strPriority = input("Enter priority (High, Medium, or Low): ")
    dictRow = {"Task": strTask, "Priority": strPriority}
    lstTable.append(dictRow)
    print("Your task was added to the list.")
    print("Task" + '|' + "Priority")
    for row in lstTable:
        print(row["Task"] + '|' + row["Priority"])
    continue
```

Step 5 - Remove Items

The third option on the menu is removing one of the existing items from the list table. Once the User enters “3”, it will ask which task do you wish to remove? The If Else condition is used to check multiple items in the list table that matches with the User’s input. If that’s the case then it will be removed. If it’s unable to match in the list table then it will print back “Task not found”.

Figure 5:

```
elif (strChoice.strip() == '3'):
    # TODO: Add Code Here
    strTaskRemove = input("Which task do you wish to remove? ")
    for row in lstTable:
        if row["Task"].lower() == strTaskRemove.lower():
            lstTable.remove(row)
            print("Task removed")
            print(lstTable)
        else:
            print("Task not found")
    continue
```

Step 5 - Save Tasks

The fourth option on the menu is saving data to a text file “ToDoList.txt”. The write () function is used to write each row of data into the table list then to a text file. I inserted newline characters (\n) at the end of the task list denoting the start of a new line. I used write only access mode to write over an existing file.

Figure 6:

```
elif (strChoice.strip() == '4'):
    # TODO: Add Code Here
    strFile = open(objFile, "w")
    for row in lstTable:
        strFile.write(row["Task"] + ',' + row["Priority"] + '\n')
    strFile.close()
    print("Successfully saved!")
    continue
```

Step 5 - Exit Program

Finally, the fifth and final option on the menu is exiting the program. I used the strip function to remove both the leading and trailing characters. As you can see, the break functionality is there to end the program.

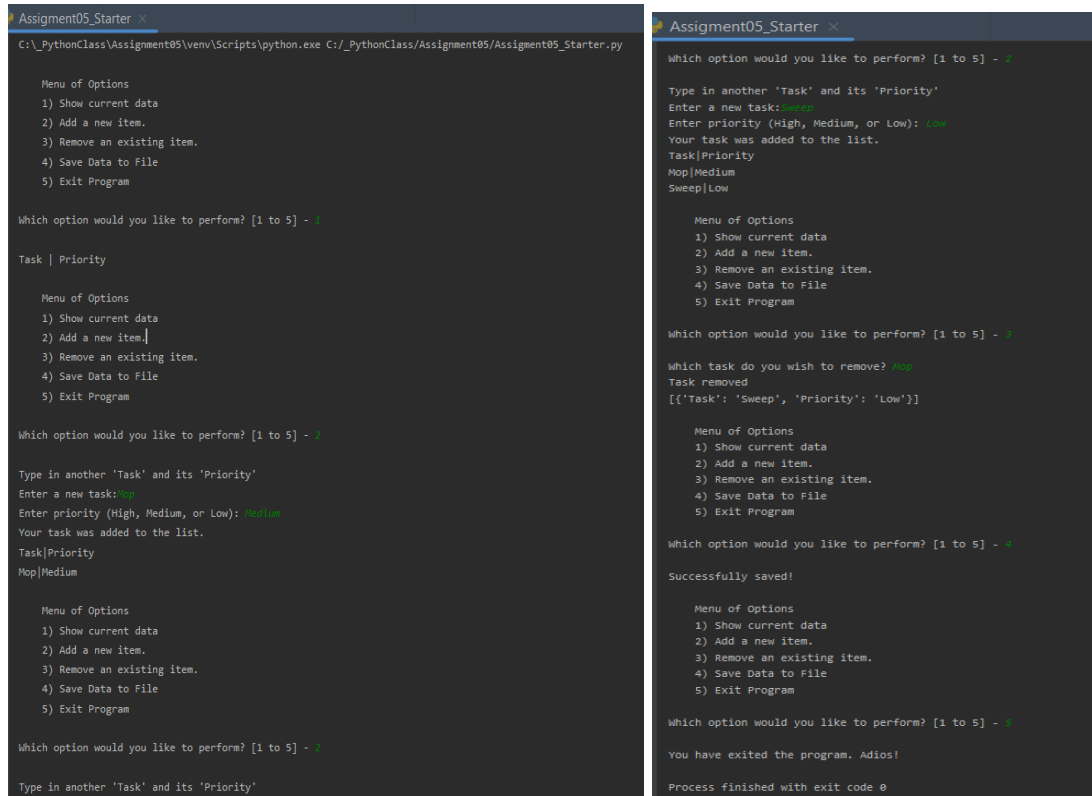
Figure 7:

```
elif (strChoice.strip() == '5'):
    # TODO: Add Code Here
    print("You have exited the program. Adios!")
    break # and Exit the program

else:
    print("Input is not recognized. Please pick a number from 1 to 5.")
```

Pycharm - (Next Page)

Figure 8:



```
Assignment05_Starter x
C:\PythonClass\Assignment05\venv\Scripts\python.exe C:/PythonClass/Assignment05/Assignment05_Starter.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

Task | Priority

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

Type in another 'Task' and its 'Priority'
Enter a new task: mop
Enter priority (High, Medium, or Low): medium
Your task was added to the list.
Task|Priority
Mop|Medium

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

Type in another 'Task' and its 'Priority'

Assignment05_Starter x
Which option would you like to perform? [1 to 5] - 4

Type in another 'Task' and its 'Priority'
Enter a new task: sweep
Enter priority (High, Medium, or Low): low
Your task was added to the list.
Task|Priority
Mop|Medium
Sweep|Low

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

Which task do you wish to remove? mop
Task removed
[['Task': 'Sweep', 'Priority': 'Low']]

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] - 6

Successfully 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

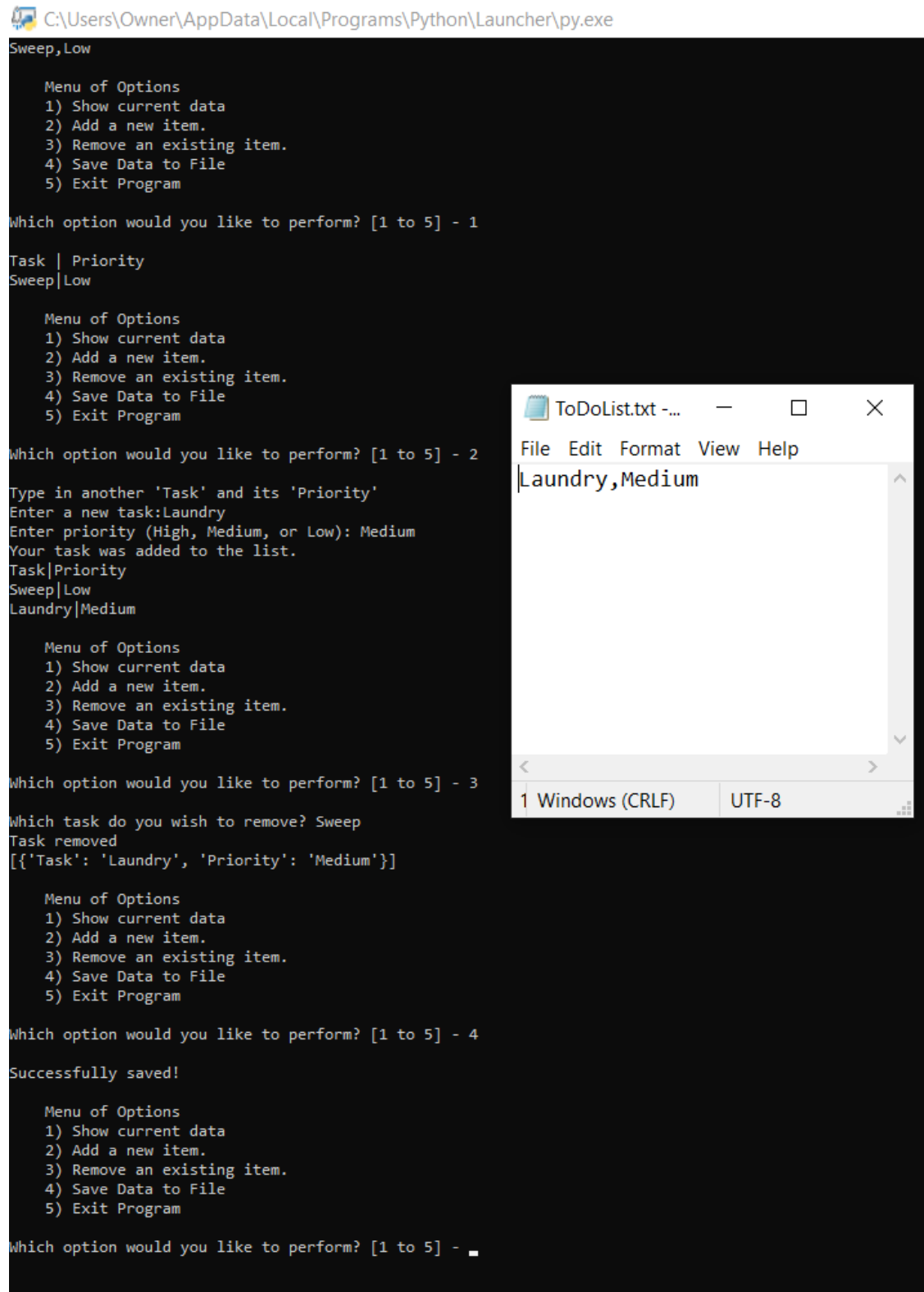
Which option would you like to perform? [1 to 5] - 7

You have exited the program. Adios!

Process finished with exit code 0
```

Command Shell - (Next Page)

Figure 9:



```
C:\Users\Owner\AppData\Local\Programs\Python\Launcher\py.exe
Sweep,Low

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

Task | Priority
Sweep|Low

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

Type in another 'Task' and its 'Priority'
Enter a new task:Laundry
Enter priority (High, Medium, or Low): Medium
Your task was added to the list.
Task|Priority
Sweep|Low
Laundry|Medium

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

Which task do you wish to remove? Sweep
Task removed
[{'Task': 'Laundry', 'Priority': 'Medium'}]

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

Successfully 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] -
```

ToDoList.txt -... File Edit Format View Help

Laundry,Medium

1 Windows (CRLF) UTF-8

Summary

After this assignment, I learned to modify a starter program that is a fusion from all the other assignments and by using dictionaries as a list. I also learned how to add and remove specific items from a list table. It's fascinating to see a program with multiple options work so well. I hope to learn more on custom functions and how to utilize them in a more efficient manner.