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Course: Foundation of Programming: Python
Assignment: Assignment for Module #5

Creating the Python Script

Introduction

This document drafts the steps that were used by me to learn and write a script that input “task” and “priority” to the dictionary, write the data to the file called “ToDoList.text”, add new task and priority to the list, remove an item from the list, add the item from the list to “ToDoToDo.txt” and exit the program when typed exit.

Step by Step to write the script

Below you will find the steps I used to write the script.

I created a project in Pycharm under the Pythonclass -> Assignment#5 folder.

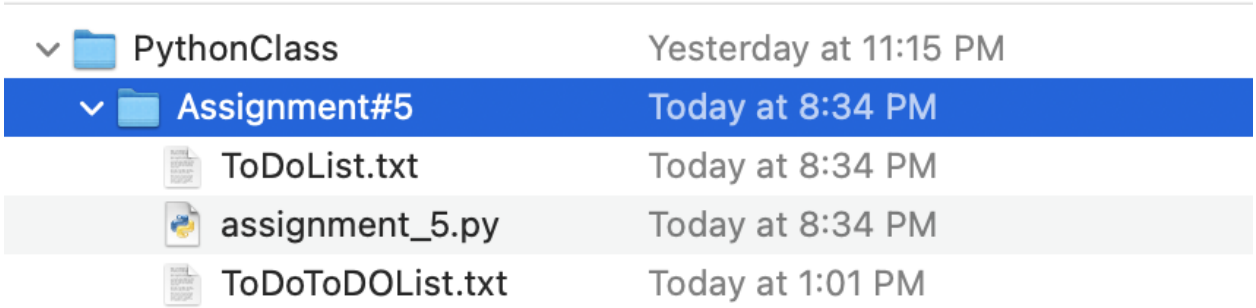


Image : 1

The file assignment..py is the script that use dictionary to input the data in text file, then ask the user to enter the new data, present the data as list table, input the list data in another file called “ToDoToDo.txt”.

```python
# -- Data -- #
# declare variables and constants
objFileName = "ToDoList.txt"   # An object that represents a file
strData = ""  # A row of text data from the file
dicRow = {}    # A row of data separated into elements of a dictionary {Task,Priority}
lstTable = []  # A list that acts as a 'table' of rows
strMenu = ""   # A menu of user options
strChoice = "" # A Capture the user option selection
strFile = "ToDoToDOList.txt"

# -- Processing -- #
# Step 1 - When the program starts, load the any data you have

objFile = open(objFileName, "w")
dicRow = {"Task": "Work", "Priority": "P1"}
objFile.write(dicRow["Task"] + ',' + dicRow["Priority"] + '\n')
dicRow = {"Task": "Clean", "Priority": "P2"}
objFile.write(dicRow["Task"] + ',' + dicRow["Priority"] + '\n')
objFile.close()
# -- Input/Output -- #
# Step 2 - Display a menu of choices to the user
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 - Show the current items in the table
    if (strChoice.strip() == '1'):
        # File to List
        objFile = open(objFileName, "r")
        for row in objFile:
            line = row.split(",")
            lstTable.append(line) # Returns a list!
            print(line)
        objFile.close()
        continue
```

```
    # Step 4 - Add a new item to the list/Table
    elif (strChoice.strip() == '2'):
        print("enter the new task")
        task = input()
        print("enter the priority")
        priority = input()
        new_list = [task, priority]
        lstTable.append(new_list)
        print(lstTable)
        for row in lstTable:
            print(row[0] + ',' + row[1])
    # Step 5 - Remove a new item from the list/Table
    elif (strChoice.strip() == '3'):
        print("here is the current list")
        print(lstTable)
        print("which item do you want to remove?")
        item = input()
        lstTable.remove("item")
        print(lstTable)
        continue
    # Step 6 - Save tasks to the ToDoToDoList.txt file
    elif (strChoice.strip() == '4'):
        print(lstTable)
        print(len(lstTable))
        objFile = open(strFile, "w")
        objFile.write(lstTable[0][0]+ ',' + lstTable[0][1] + '\n')
        objFile = open(strFile, "w")
        objFile.write(lstTable[1][0] + ',' + lstTable[1][1] + '\n')
        objFile = open(strFile, "w")
        objFile.write(lstTable[2][0] + ',' + lstTable[2][1] + '\n')
        objFile.close()
        continue
    # Step 7 - Exit program
    elif (strChoice.strip() == '5'):
        print("You want to exit the program")
        break  # and Exit the program
```

Image: 2

I started the program with the comment block that has the description of the program. It is always a best practice to start the program with the description, name, and title of the script

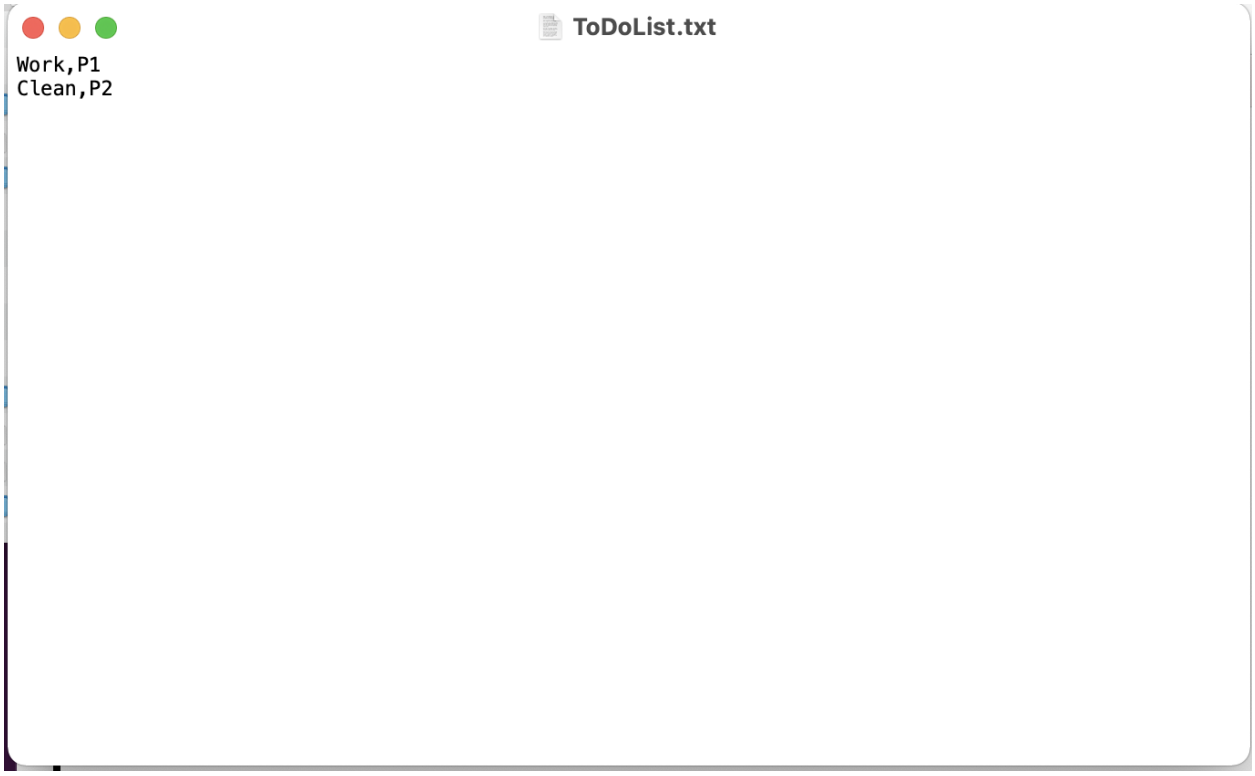
I started the program with creating an empty list, empty dictionary, and created a variable with the name of text file.

```
# -- Data -- #
# declare variables and constants
objFileName = "ToDoList.txt"   # An object that represents a file
strData = ""  # A row of text data from the file
dicRow = {}    # A row of data separated into elements of a dictionary {Task,Priority}
lstTable = []  # A list that acts as a 'table' of rows
strMenu = ""   # A menu of user options
strChoice = "" # A Capture the user option selection
strFile = "ToDoToDOList.txt"
```

As the program starts, I used the empty dictionary dicRow for task and priority, which will add the data for the objFile, which is “ToDoList.txt”, and then close the file.

```
objFile = open(objFileName, "w")
dicRow = {"Task": "Work", "Priority": "P1"}
objFile.write(dicRow["Task"] + ',' + dicRow["Priority"] + '\n')
dicRow = {"Task": "Clean", "Priority": "P2"}
objFile.write(dicRow["Task"] + ',' + dicRow["Priority"] + '\n')
objFile.close()
```

The output will print all the data in to the “ToDoList.txt” file



I used a while function so that the user can input the menu.

```
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
```

If the user enters option 1, it will display the the values from the list. I am reading the file “ToDoList.txt”, and used a for loop to get through every single row in the ObjFile, and split the data using a comma. It would print the list.

```
if (strChoice.strip() == '1'):
    # File to List
    objFile = open(objFileName, "r")
    for row in objFile:
        line = row.split(",")
        lstTable.append(line) # Returns a list!
        print(line)
    objFile.close()
    continue
```

This is generate the following result, when the user enters “1”

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

['Work', 'P1\n']
['Clean', 'P2\n']
```

When the user enters 2, I ask the user to input the new task and priority. The newly added data would be appended to the list.

```
    # Step 4 - Add a new item to the list/Table
    elif (strChoice.strip() == '2'):
        print("enter the new task")
        task = input()
        print("enter the priority")
        priority = input()
        new_list = [task, priority]
        lstTable.append(new_list)
        print(lstTable)
        for row in lstTable:
            print(row[0] + ',' + row[1])
```

This will generate the following output:

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

enter the new task
Laundry
enter the priority
P0
[['Work', 'P1\n'], ['Clean', 'P2\n'], ['Laundry', 'P0']]
Work,P1

Clean,P2

Laundry,P0
```

When the user enters 3 and 4, it asks the user to enter the item that needs to be removed, and puts the list into a new file called “ToDoToDoList.txt”.

```
    elif (strChoice.strip() == '3'):
        print("here is the current list")
        print(lstTable)
        print("which item do you want to remove?")
        item = input()
        lstTable.remove("item")
        print(lstTable)
        continue
    # Step 6 - Save tasks to the ToDoToDoList.txt file
    elif (strChoice.strip() == '4'):
        print(lstTable)
        print(len(lstTable))
        objFile = open(strFile, "w")
        objFile.write(lstTable[0][0]+ ',' + lstTable[0][1] + '\n')
        objFile = open(strFile, "w")
        objFile.write(lstTable[1][0] + ',' + lstTable[1][1] + '\n')
        objFile = open(strFile, "w")
        objFile.write(lstTable[2][0] + ',' + lstTable[2][1] + '\n')
        objFile.close()
        continue
```

This will output the results in “ToDoToDoList.txt”

When the user enters 5, the program exists

```
    elif (strChoice.strip() == '5'):
        print("You want to exit the program")
        break  # and Exit the program
```

This will produce the following output.

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

You want to exit the program

Process finished with exit code 0
```