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Foundations of Python
Assignment 06
Github URL: https://github.com/lexissmith/IntroToProg-Python-Mod06

Introduction:

In assignment 6, we were introduced to using functions and classes. For this lesson, we modified a starting program in order to add more functions and organize the code. We were then instructed to post our finished code and document to Github for peer review.

Creating the program

To modify the existing program, I added a series of functions that would enable the program to perform the tasks described in the pseudo code. This was similar to the last assignment where I had to declare a series of variables and then modified the code using similar methods like “append” in order to add data to a list, remove data from a list, and write data to a file. This assignment was different though, as the tasks in the program were split into classes.

The first class, as shown below, was reading data from the file:

```
def read_data_from_file(file_name, list_of_rows):
    """ Reads data from a file into a list of dictionary rows

    :param file_name: (string) with name of file:
    :param list_of_rows: (list) you want filled with file data:
    :return: (list) of dictionary rows
    """
    list_of_rows.clear()  # clear current data
    file = open(file_name, "r")
    for line in file:
        task, priority = line.split(",")
        row = {"Task": task.strip(), "Priority": priority.strip()}
        list_of_rows.append(row)
    file.close()
    return list_of_rows
```

Figure 1

This opened the file, reading the columns of the file with a comma separating them, as well as stripping any of the spaces.

For this assignment, we had to modify the functions in the Processing section of our code. This allowed the code to process the necessary steps in order to add, remove or write the data to a file. The steps that we were tasked to modify were to add data to a list, remove data from a list, or write data to a file. Reading data from a file is shown in figure 1 above, but removing and writing data to a list are shown below in Figure 2 and Figure 3:

```
def remove_data_from_list(task, list_of_rows):
    """ Removes data from a list of dictionary rows

    :param task: (string) with name of task:
    :param list_of_rows: (list) you want filled with file data:
    :return: (list) of dictionary rows
    """
    for idx, row in enumerate(list_of_rows):
        if list(row.keys())[0] == task:
            list_of_rows.pop(idx)

    return list_of_rows
```

Figure 2

```
def write_data_to_file(file_name, list_of_rows):
    """ Writes data from a list of dictionary rows to a File

    :param file_name: (string) with name of file:
    :param list_of_rows: (list) you want filled with file data:
    :return: (list) of dictionary rows
    """
    objFile = open(file_name, "w")
    for dictRow in list_of_rows:
        objFile.write(list(dictRow.keys())[0] + "," + list(dictRow.values())[0])
    objFile.close()
    return list_of_rows
```

Figure 3

Here is my program running in pycharm:

```
******* The current tasks ToDo are: *******
Task (codeTask)
*****************************************


        Menu of Options
        1) Add a new Task
        2) Remove an existing Task
        3) Save Data to File
        4) Exit Program


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

Which task and priority would you like to add to the list?
```

Figure 5

Here is my program running in terminal:

```
******* The current tasks ToDo are: *******
Task (codeTask)
*****************************************


        Menu of Options
        1) Add a new Task
        2) Remove an existing Task
        3) Save Data to File
        4) Exit Program


Which option would you like to perform? [1 to 4] - 2

Which task and priority would you like to remove from the list?
```

Figure 6

Conclusion:

This module instructed me on how to use functions, organize my program into classes, and post my work to my Github account. To conclude this lesson, I was able to modify an existing program to run that would modify a file based on input from a user. The results of the task

selected by the user would either add or remove data from a text file, and then save the data accordingly. I then posted my script and this assignment to my Github account, which can be found here: https://github.com/lexissmith/IntroToProg-Python-Mod06