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C203

Midterm Lab Task 3
List Collections
Problem 1. Using the List Collection type. Create a program that will allow the user to perform the following functions: (add, update, search, delete, display, and sort) items in a list:
You are free to decide what data you will be storing in the list and name the list based on the type of data you wish to store.
[MENU OPTIONS]
1 – Add Items
2 – Search for an Item
3 – Remove an Item
4 – View all items (Sorted)
0 – Exit program

Pick one [0 to quit]: ___
Requirements:
The user can add items in the list until the user presses x to stop
The user should be able to perform search if an item exists – Display if found or not found and count the number of instance in the list.
The user should also be given the option to remove an item in the list – Display the Message "Item found and deleted" once deletion is performed – else display "item not found-deletion unsuccessful"
The user may also opt to view items in the list and display items sorted in Ascending order
The user may opt to exit the program by typing 0

Code:

```
List = []


def show_menu():
   print("[Menu Options]\n")
   print("1 - Add Items")
   print("2 - Search for an item")
   print("3 - Remove an item")
   print("4 - View all items (sorted)")
   print("0 - Exit Program")


def add_item():
   while True:
       item = input("Enter Item: ")
```

```
        if item.lower() == 'x':
            break
        List.append(item)


def search_item():
    item = input("Enter Item: ")
    if item in List:
        print("Found")
        count = List.count(item)
        print(f"{item} found {count}x in the list")

    else:
        print("Not found")


def remove_item():
    item = input("Enter Item: ")
    if item in List:
        print("Item found and removed")
        List.remove(item)
    else:
        print("Item not Found and deletion unsuccessful")


def view_items():
    List.sort()
    print(List)


choice = None
while choice != '0':
    show_menu()
    choice = input("Pick one [0 to quit]: ")

    if choice == '1':
        add_item()
    elif choice == '2':
        search_item()
    elif choice == '3':
        remove_item()
    elif choice == '4':
        view_items()
```

Output:
[Menu Options]

1 - Add Items

2 - Search for an item
3 - Remove an item
4 - View all items (sorted)
0 - Exit Program
Pick one [0 to quit]: 1
Enter Item: Mango
Enter Item: Banana
Enter Item: Apple
Enter Item: Peach
Enter Item: x
[Menu Options]

1 - Add Items
2 - Search for an item
3 - Remove an item
4 - View all items (sorted)
0 - Exit Program
Pick one [0 to quit]: 2
Enter Item: Apple
Found
Apple found 1x in the list
[Menu Options]

1 - Add Items
2 - Search for an item
3 - Remove an item
4 - View all items (sorted)
0 - Exit Program
Pick one [0 to quit]: 3
Enter Item: Peach
Item found and removed
[Menu Options]

1 - Add Items
2 - Search for an item
3 - Remove an item
4 - View all items (sorted)
0 - Exit Program
Pick one [0 to quit]: 4
['Apple', 'Banana', 'Mango']
[Menu Options]

1 - Add Items
2 - Search for an item

3 - Remove an item
4 - View all items (sorted)
0 - Exit Program
Pick one [0 to quit]: 0

=== Code Execution Successful ===