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C204

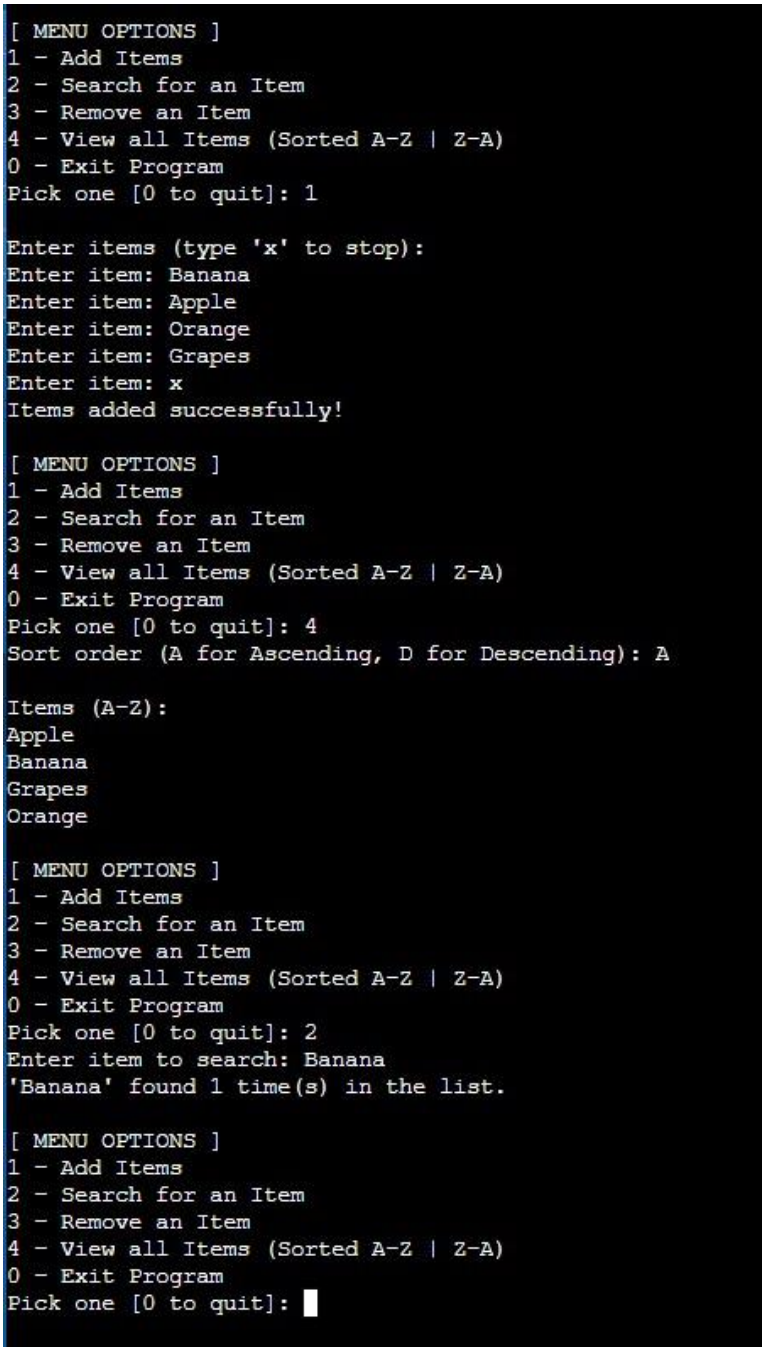
Problem 1. Using List Collection type. Create a program that will allow the user to perform the following functions: (add, update, search, delete, display, and sort) items in a list:

[MENU OPTIONS]
1 – Add Items
2 – Search for an Item
3 – Remove an Item
4 – View all items (Sorted either A-Z | Z -A)
0 – Exit program
Pick one [0 to quit]:

Code:

```
def main():
    # List to store items
    items = []

    while True:
        print("\n[ MENU OPTIONS ]")
        print("1 - Add Items")
        print("2 - Search for an Item")
        print("3 - Remove an Item")
        print("4 - View all Items (Sorted A-Z | Z-A)")
        print("0 - Exit Program")

        choice = input("Pick one [0 to quit]: ")

        # Exit program
        if choice == "0":
            print("Exiting program... Goodbye!")
            break

        # Add items
        elif choice == "1":
            print("\nEnter items (type 'x' to stop):")
            while True:
                item = input("Enter item: ")
                if item.lower() == "x":
                    break
                items.append(item)
            print("Items added successfully!")

        # Search for item
        elif choice == "2":
            search_item = input("Enter item to search: ")
            count = items.count(search_item)
            if count > 0:
                print(f"'{search_item}' found {count} time(s) in the list.")
            else:
                print(f"'{search_item}' not found in the list.")

        # Remove item
        elif choice == "3":
            remove_item = input("Enter item to remove: ")
            if remove_item in items:
                items.remove(remove_item)
                print("Item found and deleted.")
            else:
                print("Item not found - deletion unsuccessful.")

        # View items sorted
        elif choice == "4":
            if len(items) == 0:
                print("The list is empty.")
            else:
                sort_choice = input("Sort order (A for Ascending, D for Descending): ").lower()
                if sort_choice == "a":
                    print("\nItems (A-Z):")
                    for i in sorted(items):
                        print(i)
                elif sort_choice == "d":
                    print("\nItems (Z-A):")
                    for i in sorted(items, reverse=True):
                        print(i)
                else:
                    print("Invalid choice. Showing unsorted list:")
                    for i in items:
                        print(i)

        else:
            print("Invalid choice! Please try again.")

# Run the program
main()
```

Sample Output:



```
[ MENU OPTIONS ]
1 - Add Items
2 - Search for an Item
3 - Remove an Item
4 - View all Items (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 1

Enter items (type 'x' to stop):
Enter item: Banana
Enter item: Apple
Enter item: Orange
Enter item: Grapes
Enter item: x
Items added successfully!

[ MENU OPTIONS ]
1 - Add Items
2 - Search for an Item
3 - Remove an Item
4 - View all Items (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 4
Sort order (A for Ascending, D for Descending): A

Items (A-Z):
Apple
Banana
Grapes
Orange

[ MENU OPTIONS ]
1 - Add Items
2 - Search for an Item
3 - Remove an Item
4 - View all Items (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 2
Enter item to search: Banana
'Banana' found 1 time(s) in the list.

[ MENU OPTIONS ]
1 - Add Items
2 - Search for an Item
3 - Remove an Item
4 - View all Items (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]:
```