700P – MIDTERM LAB TASK #3

PROBLEM:

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:

Note: 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.

CODE:

```python
def display_menu():  # 1 usage
    print("\n" + "=" * 35)
    print(" " * 11 + "MENU OPTIONS")
    print("=" * 35)
    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")
    print("-" * 35)
    return input("Pick one [0 to quit]: ")

def add_items(item_list):  # 1 usage
    print("\nAdd items (type 'x' to stop):")
    while True:
        item = input("Enter item: ")
        if item.lower() == 'x':
            break
        item_list.append(item)
    print("Items added successfully.")

def search_item(item_list):  # 1 usage
    item = input("Enter item to search: ")
    count = item_list.count(item)
    if count > 0:
        print(f"Item found: '{item}' occurs {count} time(s).")
    else:
        print("Item not found.")

def remove_item(item_list):  # 1 usage
    item = input("Enter item to remove: ")
    if item in item_list:
        item_list.remove(item)
        print("Item found and deleted.")
    else:
        print("Item not found - deletion unsuccessful.")
```

```python
def view_items(item_list):  # 1 usage
    if not item_list:
        print("List is empty.")
        return
    order = input("Sort order (A-Z or Z-A): ").strip().upper()
    if order == "A-Z":
        sorted_list = sorted(item_list)
    elif order == "Z-A":
        sorted_list = sorted(item_list, reverse=True)
    else:
        print("Invalid sort order. Showing unsorted list.")
        sorted_list = item_list
    print("\nItems in list:")
    for item in sorted_list:
        print("-", item)

def main():  # 1 usage
    item_list = []
    while True:
        choice = display_menu()
        if choice == '1':
            add_items(item_list)
        elif choice == '2':
            search_item(item_list)
        elif choice == '3':
            remove_item(item_list)
        elif choice == '4':
            view_items(item_list)
        elif choice == '0':
            print("Exiting program.")
            break
        else:
            print("Invalid option. Try again.")

# 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

Add items (type 'x' to stop):
Enter item: Orange
Enter item: Pineapple
Enter item: Watermelon
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]: 2
Enter item to search: Grapes
Item found: 'Grapes' occurs 1 time(s).
```

```
==================================
            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: Pizza
Item not found.


==================================
            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]: 3
Enter item to remove: Pineapple
Item found and deleted.
```

```
==================================
            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-Z or Z-A): A-Z

Items in list:
- Grapes
- Orange
- Watermelon


==================================
            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-Z or Z-A): Z-A

Items in list:
- Watermelon
- Orange
- Grapes
```

```
==================================
            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]: 0
Exiting program.

Process finished with exit code 0
```