UNIT SAINS KOMPUTER
KOLEJ MATRIKULASI LABUAN

WRITTEN ASSIGNMENT
PROGRAMMING CP125

Learning Objectives:

(i) add new elements to a list using append() method.
(j) remove elements from a list using remove() method.
(k) sort list in ascending or descending order using sort() method.
(l) search element from a list using index( ) method.

COOPMART Inventory Management

Situation

COOPMART is a small grocery store that currently tracks its inventory manually on paper. The store manager wants a simple console program to help staff add new items, remove discontinued products, check stock levels, and view all inventory. Your task is to build this program.

Requirements

- Display menu that repeats until the user selects **Exit**.
- **Add item** – prompt for an item name and a quantity. If the item already exists, add the new quantity to the existing one
- **Delete item** – prompt for an item name to remove.
- **Search item** – prompt for an item name and display its quantity.
- **Show inventory** – list all stored items with their quantities.
- **Exit** – terminate the program with a goodbye message.
- **Assume the user always enters a numeric value for the menu choice** (no need to handle non-numeric input).
- Validate input:
    - Menu choice must be a number 1-5.
    - Quantity must be a non-negative integer.
    - If an operation cannot be performed, display the exact error messages listed below.

Exact Error Messages

- **Invalid menu choice**: Error: Invalid choice. Please enter a number between 1 and 5.
- **Negative quantity**: Error: Quantity cannot be negative.
- **Item not found (delete/search)**: Error: Item '<item_name>' not found.
- **Duplicate add** (item already exists): Item '<item_name>' already exists. Quantity updated to <new_quantity>.
- **Empty inventory**: Inventory is empty.

Sample Interactions

Sample 1: Basic Workflow

```
None
=== COOPMART INVENTORY SYSTEM ===
1. Add item
2. Delete item
3. Search item
4. Show inventory
5. Exit
Enter choice (1-5): 4
Inventory is empty.

Enter choice (1-5): 1
Enter item name: Apple
Enter quantity: 50
Item 'Apple' added.

Enter choice (1-5): 1
Enter item name: Banana
Enter quantity: 20
Item 'Banana' added.

Enter choice (1-5): 3
Enter item name: Apple
```

```
Quantity of 'Apple': 50

Enter choice (1-5): 4
Inventory:
Apple   50
Banana  20

Enter choice (1-5): 1
Enter item name: Cherry
Enter quantity: 15
Item 'Cherry' added.

Enter choice (1-5): 4
Inventory:
Apple   50
Banana  20
Cherry  15

Enter choice (1-5): 2
Enter item name: Banana
Item 'Banana' removed.

Enter choice (1-5): 4
Inventory:
Apple   50
```

```
Cherry  15

Enter choice (1-5): 5
Goodbye!
```

Sample 2: Updates and Error Handling

```
None
Enter choice (1-5): 1
Enter item name: Apple
Enter quantity: 20
Item 'Apple' added.

Enter choice (1-5): 1
Enter item name: Apple
Enter quantity: 10
Item 'Apple' already exists. Quantity updated to 30.

Enter choice (1-5): 1
Enter item name: Orange
Enter quantity: -5
Error: Quantity cannot be negative.

Enter choice (1-5): 3
```

```
Enter item name: Mango
Error: Item 'Mango' not found.

Enter choice (1-5): 2
Enter item name: Banana
Error: Item 'Banana' not found.

Enter choice (1-5): 7
Error: Invalid choice. Please enter a number between 1 and 5.

Enter choice (1-5): 5
Goodbye!
```

RUBRIC

Criteria	Missing Item	Low	Average	Excellent	Weight	Mark		Total
	0	1	2	3		Examiner	Moderator	
Implementation ● Python Program	No program is provided.	The program is developed but with syntax error.	The program is developed and runs successfully but does not fully solve the given problem.	The program is successfully developed based on presented algorithm and run successfully.	4			
	No program.	Contain syntax error.	Contain runtime/ logic error.	Program runs successfully and solve the given problem.				
Testing and Verification	Did not provide any sample output.	Provide only one sample output.	Provide at least two sample output.	Provide all possibilities of test data with complete sample output.	2			
	No sample of output.	The sample covers one possibility only.	The sample covers two possibilities only.	Covers all possibilities.				
Originality	There is evidence that shows the task is totally copy of other people's work (from any source).	Only a few parts of the task show the original work.	Most of the task shows original work.	The task shows substantial originality.	1			

Criteria	Missing Item	Low	Average	Excellent	Weight	Mark		Total
	0	1	2	3		Examiner	Moderator	
	Totally copy of other people's work.	Perform a task with limited trust, honesty, sincerity, and transparency.	Most of the task shows original work.	Always perform a task with trust, honesty, sincerity and transparent in any situation.				
Documentation - Comments - Descriptions	No comments or description provided.	Only a part of comments/description provided.	Comments/ descriptions completely provided but unclear.	The comments/ descriptions are complete, with clear explanation reflecting well understanding of task.	1			
	No comments/ descriptions are provided at all.	Very minimum comments/ descriptions provided.	Comments/ descriptions provided but not sufficient to describe the program.	Comments/ descriptions are sufficiently describing the program.	**Total**			

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