Computer Programming 1

Sales and inventory management system user guide

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USER GUIDE OVERVIEW

The Sales & Inventory System is a Python-based application designed to help small businesses and students manage product records, monitor inventory levels, and track sales transactions efficiently. The system uses Excel files as its database, allowing users to store and access product, sales, and inventory movement data in a simple and familiar format.

This system enables users to add new products, view existing inventory, record sales, and restock items. Each time a sale or restock is recorded, the program automatically updates the product's stock quantity and logs the transaction in separate Excel files for sales and inventory movements. This ensures that inventory levels remain accurate and up to date at all times.

The system also includes a built-in low-stock alert feature that identifies products whose stock quantity has reached or fallen below their reorder level. This helps users avoid running out of items and supports better purchasing and inventory planning. By automating stock updates and maintaining organized records, the system improves accuracy, reduces manual errors, and makes day-to-day inventory management more efficient and reliable.

The system allows users to:

- View available products
- Add new products
- Record sales transactions
- Restock existing products
- Automatically update stock levels

Low-stock alerts are displayed to help users know when products are running out.

System Requirements

- To run this program, you need:
- A computer with Windows
- Python installed
- Required Excel Files in the same folder
- Python libraries

How to run the program

To begin using the Sales & Inventory System, you must first open and run the program file in Python's IDLE environment. Follow the steps below carefully:

1. Save the file `main.py` and all required Excel files in one folder on your computer. This will serve as the system's working directory.
2. Open **IDLE (Python 3.x)** from the Start Menu or by searching for "IDLE" in the Windows search bar.
3. Once IDLE is open, go to the top menu and click **File → Open…**.
4. Browse to the folder where `main.py` is located, then select the file and click **Open**.
5. When the program code appears in the editor window, go to the menu and click **Run → Run Module**.
6. You may also press **F5** on your keyboard as a shortcut to run the program.

After completing these steps, the system will launch in the IDLE Shell window. The main menu will appear, and you can begin selecting options to manage products, record sales, and update inventory.

Main Features Overview

1. Product Management
Users can view all registered products and add new items to the system. Each product record includes important details such as the product ID, name, category, price, stock quantity, and reorder level.

2. Inventory Monitoring
The system continuously tracks stock quantities. When a product's stock reaches or falls below its reorder level, the system displays a low-stock alert to notify the user that the item needs restocking.

3. Sales Recording

Users can record sales transactions by entering the product ID and quantity sold. The system automatically checks if there is enough stock and updates inventory levels after every sale.

```
--- SALES & INVENTORY SYSTEM ---
1. View products
2. Add product
3. Record sale
4. Restock product
5. Exit
Choose: 3
Product ID: GT001
Quantity to sell: 20
Sale is succesfully recorded!
```
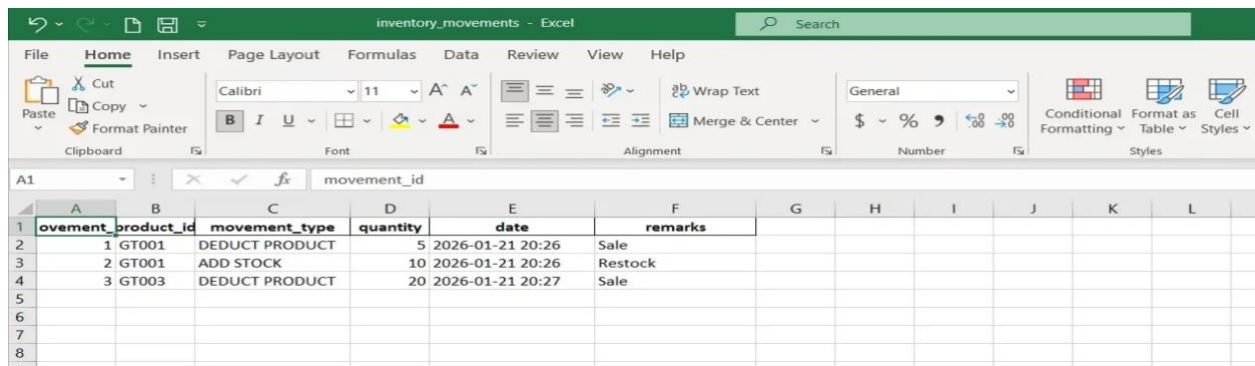
4. Restocking System

Users can restock products by adding new quantities to existing items. Every restock action is logged in the inventory movement records.

```
--- SALES & INVENTORY SYSTEM ---
1. View products
2. Add product
3. Record sale
4. Restock product
5. Exit
Choose: 4
Product ID to restock: GT003
Quantity to add: 2
Stock restocked successfully.
```

5. Automatic Data Logging

All actions—such as sales and restocking—are saved into Excel files. This ensures that all data is stored properly and can be reviewed, printed, or edited manually if needed.

6. Low-Stock Alerts

The system highlights products that are running low, helping users avoid shortages and maintain proper inventory levels.

```
3. Record sale
4. Restock product
5. Exit
Choose: 1

--- PRODUCT LIST ---
  product_id product_name      category  price  stock_quantity  reorder_level
0      GT001       Ballpen  School Supplies    11             100             10
1      GT002      Notebook  School Supplies    49              70             10
2      GT003         Mouse     Electronics   599               0              5

--- LOW STOCK ALERTS ---
WARNING ! Product ID GT003 (Mouse) is LOW on stock [Stock: 0, Reorder Level: 5]
```