**Inventory and Warehouse Management System**

This project simulates a real-time inventory and warehouse management system using SQL. It covers tracking of products, stock levels, supplier purchases, customer sales, returns, and warehouse logistics.

The main objective of this project is to design and build a robust SQL backend that enables businesses to efficiently manage their inventory flow from purchasing goods to tracking stock, processing sales, and handling returns.

**Tools Used:** MySQL, MySQL Workbench, GitHub, ChatGPT, W3School

**Steps Involved:** 1. Database Creation: `Inventory DB`

2. Table Schema Design: Products, Suppliers, Stock, Sales, Returns, Warehouses, etc.

3. Sample Data Insertion (~100+ realistic records)

4. Views: Low stock alert, category-wise products, return history

5. Stored Procedures: Total revenue, top suppliers, low stock products, etc.

6. Triggers: Auto-update stock after purchase, log product return

7. UDF: `GetCurrentStock(ProductID)` to get live stock info

8. Analytical Queries: Top 5 products sold, monthly sales trend, category revenue, warehouse stock summary

**Key Features: -** Tracks end-to-end flow: purchase stock sale return

- Auto alerts for low stock- Business-ready analytics (revenue, trends)

- Clean and normalized SQL structure

**Conclusion:** This InventoryDB project was built from scratch to demonstrate practical SQL skills. It combines real-world business logic, optimization techniques, and complete backend design to reflect how actual inventory systems work.