**Inventory Management System for a Local Store**

## **Project Overview:**

Build a **Local Store Inventory Management System** using **Python and MySQL** that helps store owners track products, manage stock levels, and keep the business running efficiently. In this project, you will work with **core programming concepts** such as **data structures, algorithms, control flow, functions, OOP, and database integration** to develop a solution.

The solution will be **terminal-based**, with a focus on **code efficiency and logical workflows**.

## **Scenario:**

Hired to build a simple inventory management system for a local store. The store sells various products, and the owner wants a system to:

* **Add products to the inventory.**
* **Track stock levels.**
* **Update product details and stock quantities.**
* **Generate low-stock alerts** to prevent running out of essential products.
* **Search and sort products** by name, category, or stock quantity.

## **Project Requirements:**

### **Features:**

1. **Add a New Product:**
   * Store the product name, category (e.g., electronics, groceries), stock quantity, and price.
2. **View All Products:**
   * Display a table of all products with their details.
3. **Update Product Details:**
   * Update the product's name, category, or price.
   * Restock products by updating the quantity.
4. **Delete a Product:**
   * Remove a product from the inventory.
5. **Low-Stock Alert:**
   * Generate alerts for products with stock below a specified threshold (e.g., stock < 5).
6. **Search and Sort Products:**
   * Search products by name or category.
   * Sort products by price or stock quantity.

## **Deliverables:**

1. **Python Code**:
   * A complete Python script implementing all the features.
   * Proper **docstrings and comments** for readability.
2. **Database Schema**:
   * **MySQL database setup** with a **products table**.
3. **~~README File~~**~~:~~
   * A **guide on how to set up and run the project**, including:
     + Steps to connect to MySQL.
     + How to create the database and table.
     + Example commands to test the system.