**🧠 Python Activity: OOP, SOLID & Design Patterns Integration**

📁 **File Name to Submit:** Python\_activity22.py  
💬 **Submission Format:** Python file with comments

**📌 Instructions:**

You are to create a **console-based Mini Inventory System** in Python using the following concepts:

* Object-Oriented Programming (OOP)
* SOLID Principles
* One (1) Design Pattern

Your system should allow the user to:

* Add a product (name, price, quantity)
* View the list of products
* Update stock levels
* Exit the program

**💡 Required Features:**

1. **Use 3 OOP Principles:**
   * Encapsulation
   * Abstraction
   * (Optional: Inheritance or Polymorphism)
2. **Apply at least 3 SOLID Principles:**
   * Example: SRP (Single Responsibility), OCP (Open-Closed), DIP (Dependency Inversion)
3. **Use 1 Design Pattern:**
   * Choose from: Factory or Singleton
4. **Include clear comments in your code:**
   * Mark where you used OOP, SOLID, and the Design Pattern
   * Example: # Applying SRP: This class only handles product data

**📝 Reminders:**

* Name your file **Python\_activity22.py**
* Make sure your code runs without errors
* You may use the console for user input/output
* Use clear variable names and organize your code into functions or classes