Working of ims.py

The Inventory Management System (IMS) is a Python-based application designed to manage warehouse inventories across multiple regions. It integrates risk alerts for supply chain disruptions and warehouse capacity management using data insights. The code provides the following functionalities:

1. Monthly Incoming:

- Handles restocking of materials.

- Checks warehouse capacity to prevent overstocking.

- Updates inventory details for a specific region.

2. Monthly Outgoing:

- Manages outgoing supplies to customers.

- Adjusts inventory and warehouse space after materials are dispatched.

3. Display Inventory:

- Displays real-time inventory details for a selected region, including warehouse capacity, available space, materials, and their associated costs.

4. Risk Alerts:

- Uses a dataset with sentiment scores and comments to assess supply chain risks.

- Generates alerts for high-risk supply chain disruptions based on sentiment analysis.

- Identifies warehouse capacity issues (e.g., low space, overstocking, or empty warehouses) and provides appropriate warnings.

5.Save Inventory to CSV:

-Exports the current inventory status to a CSV file for record-keeping and further analysis.

How It Works:

- Data Integration: The system reads regional data, including supply chain sentiment scores and comments, from a dataset.

- Interactive User Input: Users interact with the system via a menu-driven interface to manage inventory operations.

- Risk Analysis: Combines warehouse capacity data and sentiment-based risk analysis to generate actionable insights for decision-making.

- Real-Time Monitoring: Keeps inventory records updated and alerts users about potential risks, ensuring smooth supply chain operations.