**Case Study Scenario:**

You are tasked with developing a Python-based [healthcare patient management / airway flight management / bank account management / cabs vehicle management / library book management]

automated system for monitoring and maintaining a large-scale network infrastructure

spread across multiple locations.

The system should handle communication with network devices over various protocols,

automate file transfers, send email alerts, process and store data in an efficient manner, and

scrape data from network-related web interfaces.

The solution must be scalable, able to handle multiple tasks concurrently, and support robust error handling.

**Case Study Scenario:**

A large-scale manufacturing company requires a Python-based automated inventory management system to streamline the tracking, procurement, and usage of raw materials and finished goods.

The system needs to integrate with various production units, warehouse systems, and

supplier networks to ensure optimal stock levels, minimize production delays, and

avoid overstocking or stockouts.

The system should monitor the real-time availability of materials, automate reordering when inventory falls below a predefined threshold, and manage the transfer of raw materials between warehouses.

It should also generate reports on inventory turnover, forecast future demand based on historical data, and send alerts for any discrepancies or delays in shipments.

The system must support concurrent processes to handle inventory updates from multiple production units simultaneously and ensure data security across all departments.