

Real World Scenario Based Questions

1. Automating Inventory Reduction After Product Sale

Scenario: Automating Inventory Management for Sales

Problem:

When a product is sold, the sold quantity must automatically be deducted from the inventory. The system should update the stock in the inventory table immediately after any sales record is added to ensure accurate inventory tracking.

Challenges:

- Develop a function that triggers automatically after a new sales record is inserted.
- Ensure the deduction is accurate for the respective product and quantity sold.
- Handle scenarios where the stock is insufficient to meet the order demand.

Outcome:

Real-time inventory updates to minimize errors and improve stock visibility.

2. Automating Inventory Adjustment Based on Returns

Scenario: Automating Return Handling in Inventory Management

Problem:

When customers return products, the inventory stock must automatically update by adding the returned quantity back to the stock. This ensures inventory levels remain accurate after returns are processed.

Challenges:

- Develop a return mechanism that triggers an automatic update to the inventory table.
- Prevent duplicate updates if returns are processed multiple times.
- Implement validations to ensure returned quantities align with the original sale records.

Outcome:

Improved inventory accuracy and operational efficiency through automated return handling.

3. Revenue Forecast for the Next Quarter

Scenario: Predicting Revenue Trends for Strategic Planning

Problem:

The company needs to project revenue for the upcoming quarter to plan strategies and allocate resources effectively. This projection should be based on the average monthly revenue of the last quarter.

Challenges:

- Calculate the average monthly revenue for the previous quarter.
- Account for seasonal fluctuations or promotional periods that may impact sales.
- Provide a detailed breakdown of the forecast for each product category and seller.

Outcome:

Accurate revenue forecasts to support strategic decision-making and budgeting.

4. Dynamic Pricing Adjustment Based on Sales Performance

Scenario: Automating Price Adjustments to Maximize Revenue

Problem:

At the end of each month, product prices should be automatically adjusted based on their sales performance:

- Increase the price by **10%** for products with more than **500 units sold**.
- Decrease the price by **5%** for products with less than **100 units sold**.
- Maintain current pricing for products that fall between these thresholds.

Challenges:

- Develop a scheduled process to analyze sales data and apply dynamic pricing adjustments.
- Ensure price adjustments are recorded for future reference.
- Avoid negative customer impact by applying caps on price increases or decreases.

Outcome:

Optimized pricing strategy to balance demand and maximize profitability.

5. Automating Monthly Profit Analysis

Scenario: Monthly Profit Tracking for Each Product

Problem:

Calculate the monthly profit for each product by subtracting the cost of goods sold (COGS) from the total sales revenue. Insert the results into a monthly_profit table for detailed tracking and analysis.

Challenges:

- Aggregate sales data by product and calculate total revenue.
- Subtract COGS accurately for each product to compute the profit.
- Automate the process at the end of each month and handle potential data inconsistencies.

Outcome:

A clear and detailed profit analysis for every product to aid in financial planning and performance evaluation.

6. Generate Quarterly Sales Report

Scenario: Comprehensive Sales Reporting for Sellers

Problem:

Generate a quarterly sales report for each seller, summarizing the following:

- Total revenue generated.
- Total number of orders processed.
- The top-selling product for the quarter.

Challenges:

- Aggregate data across multiple orders and products for each seller.
- Identify the top-selling product for each seller based on total sales value.
- Automate the report generation process to produce timely insights for sellers.

Outcome:

Comprehensive sales reports to help sellers evaluate performance and refine their strategies.