

■ SQL EDA Project — Classic Models Database

Your task is to explore the `classicmodels` database using SQL. Answer the following questions using joins, aggregate functions, subqueries, stored procedures, and advanced clauses.

Part 1: Basic Exploration

- 1 List all customers from USA.
- 2 Show all products where stock is less than 500 units.
- 3 Find employees working in the Paris office.
- 4 Get orders with status = 'Cancelled'.
- 5 List all customers whose credit limit > 100000.
- 6 Find customers who have no assigned sales representative.
- 7 Show all orders placed in 2004.

Part 2: Joins Practice

- 1 Show all orders along with the customer name.
- 2 Show each customer with their sales representative's name.
- 3 Find all employees and the office city they work in.
- 4 Show each order with its ordered products and quantities.
- 5 List all payments with customer name and country.
- 6 Show all customers who have never placed an order.
- 7 Find employees who don't manage anyone.

Part 3: Aggregates & Grouping

- 1 Count how many customers each country has.
- 2 Find the total sales amount for each customer.
- 3 Show the average credit limit per country.
- 4 Find the maximum payment amount per customer.
- 5 Count the number of products in each product line.
- 6 Find which employee manages the most customers.
- 7 Get the monthly sales totals for 2004.
- 8 Find the top 5 customers by total payments.

Part 4: Subqueries & Insights

- 1 Find customers who made payments greater than the average payment.
- 2 List products that have never been ordered.
- 3 Find the employee with the highest number of direct reports.
- 4 Show orders that contain the most expensive product.
- 5 List the top 3 offices with the highest total sales.

Part 5: Stored Procedures

- 1 Create a procedure to get all orders by a given customer.
- 2 Create a procedure to find total sales between two dates.

- 3 Build a procedure that shows the best-selling product line.
- 4 Create a procedure to display all customers handled by an employee.
- 5 Write a procedure to calculate yearly revenue given an input year.

Part 6: Advanced Clauses

- 1 Find customers who placed more than 5 orders.
- 2 List product lines where the average MSRP > 100.
- 3 Show employees with more than 3 customers assigned.
- 4 Display orders where the shippedDate is NULL.
- 5 Categorize customers by credit limit: High, Medium, Low.
- 6 Find the top 10 most ordered products.
- 7 Show the revenue contribution % of each product line.

Part 7: Business Insights

- 1 Which country generates the most revenue?
- 2 Who are the top 5 sales representatives by payments?
- 3 Which month has the highest number of orders?
- 4 What is the average order size (quantity of products per order)?
- 5 Which product has the highest profit margin (MSRP - buyPrice)?
- 6 Which office manages the largest number of customers?
- 7 Who are the most valuable customers (based on payments)?
- 8 Find the trend of sales over years.
- 9 Which product line has highest stock but lowest sales?
- 10 Detect customers with zero payments.
- 11 Find the slowest-moving products (very few orders).