# Day 29 – SQL Case Study Challenge

This set is designed as a real hiring assessment for a Data Analyst / SQL Developer role. It features a retail company case study with realistic data tables and multi-part questions covering joins, aggregations, window functions, date functions, and analytical problem-solving.

## Dataset 1: Products & Categories

Categories

|  |  |
| --- | --- |
| CategoryID | CategoryName |
| 1 | Electronics |
| 2 | Clothing |
| 3 | Home Appliances |

Products

|  |  |  |  |
| --- | --- | --- | --- |
| ProductID | ProductName | Category | Price |
| 101 | Laptop | 1 | 60000 |
| 102 | Smartphone | 1 | 25000 |
| 103 | T-Shirt | 2 | 1200 |
| 104 | Microwave | 3 | 38000 |
| 105 | Jeans | 2 | 2500 |

## Dataset 2: Customers & Orders

Customers

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | CustomerName | City | JoinDate |
| 1 | Ravi | Delhi | 2021-01-15 |
| 2 | Simran | Mumbai | 2020-03-20 |
| 3 | John | Bangalore | 2022-06-20 |
| 4 | Asha | Pune | 2021-07-25 |

Orders

|  |  |  |
| --- | --- | --- |
| OrderID | CustomerID | OrderDate |
| 1001 | 1 | 2023-01-15 |
| 1002 | 2 | 2023-02-17 |
| 1003 | 1 | 2023-03-20 |
| 1004 | 3 | 2023-03-22 |
| 1005 | 4 | 2023-04-10 |

## Dataset 3: Order Details

OrderDetails

|  |  |  |  |
| --- | --- | --- | --- |
| OrderDetailsID | OrderID | ProductID | Quantity |
| 1 | 1001 | 101 | 1 |
| 2 | 1001 | 103 | 2 |
| 3 | 1002 | 102 | 1 |
| 4 | 1003 | 105 | 3 |
| 5 | 1004 | 104 | 1 |
| 6 | 1005 | 103 | 4 |

## 🧠 Case Study Questions

1) Find the total sales amount for each category.

2) List customers who have placed more than 1 order.

3) Find the top 2 highest-selling products by total quantity sold.

4) Show the month-wise total sales for the year 2023.

5) Find customers who joined before 2022 and have never ordered Electronics products.

6) Retrieve the category with the highest average order value.

7) Show customers along with their first order date and last order date.

8) Calculate the running total of sales amount for each customer.

9) Find products that were never ordered.

10) Show the best-selling product in each category (handle ties).

🎯 Bonus: Find the percentage contribution of each category to total sales