**Day 28 – SQL Mock Interview Challenge**

This set is designed as a real-world SQL mock interview round. It includes domain-specific datasets, complex joins, advanced aggregations, subqueries, window functions, and logic-based challenges. The questions mimic scenarios from e-commerce, HR, and finance analytics.

## Dataset 1: HR – Employees & Departments

Departments

|  |  |
| --- | --- |
| DeptID | DeptName |
| 1 | HR |
| 2 | Finance |
| 3 | IT |
| 4 | Marketing |

Employees

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EmpID | EmpName | DeptID | Salary | JoinDate | ManagerID |
| 101 | Amit | 1 | 50000 | 2020-01-15 | Null |
| 102 | Priya | 2 | 65000 | 2019-03-20 | 101 |
| 103 | Rahul | 3 | 70000 | 2021-06-10 | 101 |
| 104 | Sneha | 4 | 55000 | 2022-02-25 | 102 |
| 105 | Karan | 3 | 72000 | 2020-11-11 | 103 |

## Dataset 2: E-Commerce Sales

Customers

|  |  |  |
| --- | --- | --- |
| CustomerID | CustomerName | City |
| 1 | Ravi | Delhi |
| 2 | Simran | Mumbai |
| 3 | John | Bangalore |

Orders

|  |  |  |  |
| --- | --- | --- | --- |
| OrderID | CustomerID | OrderDate | TotalAmount |
| 1001 | 1 | 2023-01-15 | 2500 |
| 1002 | 2 | 2023-02-17 | 1800 |
| 1003 | 1 | 2023-03-20 | 3200 |
| 1004 | 3 | 2023-03-22 | 1500 |

## Dataset 3: Finance – Transactions

Transactions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TxnID | CustomerID | TxnDate | TxnAmount | TxnType |
| 1 | 1 | 2023-01-15 | 500 | Credit |
| 2 | 1 | 2023-02-01 | 700 | Debit |
| 3 | 2 | 2023-02-10 | 1000 | Credit |
| 4 | 3 | 2023-03-12 | 1200 | Debit |

## 🧠 Mock Interview Questions

1) List employees who have been with the company for more than 3 years.

2) Find the highest paid employee in each department (use window function).

3) Show all customers who have placed more than one order.

4) Find departments where the average salary is above the company average.

5) Identify customers who have both 'Credit' and 'Debit' transactions.

6) Find the employee who manages the highest number of people.

7) Display the month and total sales amount for the top 2 highest sales months.

8) Show customers who have placed orders but have no debit transactions.

9) Retrieve employees who do not have a manager.

10) Calculate the running total of salaries ordered by joining date.

🎯 Bonus:

Find customers whose total transaction amount is greater than their total order amount.