**📄 Day 35 – SQL Advanced E-commerce & Employee Analytics Challenge**

**Customers**

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | Name | Country | JoinDate |
| 1 | Alice | USA | 2020-01-15 |
| 2 | Bob | Canada | 2019-07-23 |
| 3 | Charlie | USA | 2021-03-12 |
| 4 | Diana | UK | 2020-11-05 |

**Products**

|  |  |  |  |
| --- | --- | --- | --- |
| ProductID | ProductName | Category | Price |
| 101 | Laptop | Electronics | 1200.00 |
| 102 | Headphones | Electronics | 150.00 |
| 103 | Office Chair | Furniture | 300.00 |
| 104 | Desk | Furniture | 450.00 |

**Orders**

|  |  |  |  |
| --- | --- | --- | --- |
| OrderID | CustomerID | OrderDate | Status |
| 1001 | 1 | 2021-01-10 | Completed |
| 1002 | 2 | 2021-02-15 | Completed |
| 1003 | 1 | 2021-03-05 | Cancelled |
| 1004 | 3 | 2021-04-12 | Completed |
| 1005 | 4 | 2021-05-20 | Completed |

**OrderDetails**

|  |  |  |  |
| --- | --- | --- | --- |
| OrderDetailID | OrderID | ProductID | Quantity |
| 1 | 1001 | 101 | 1 |
| 2 | 1001 | 102 | 2 |
| 3 | 1002 | 103 | 1 |
| 4 | 1004 | 104 | 1 |
| 5 | 1005 | 101 | 1 |

**Employees**

|  |  |  |
| --- | --- | --- |
| EmployeeID | Name | ManagerID |
| 1 | Emma | Null |
| 2 | John | 1 |
| 3 | Sophia | 1 |
| 4 | Liam | 2 |
| 5 | Olivia | 2 |

**Questions**

1. List customers with their **total revenue** from completed orders.
2. Find the **top 2 products** by revenue in each category.
3. Show customers who bought **both Electronics and Furniture**.
4. Using LAG, find the **days between consecutive orders** for each customer.
5. Write a query to **pivot order counts per status (Completed, Cancelled) by Customer**.
6. Using a **recursive CTE**, display the employee hierarchy under Manager *Emma*.
7. Find the product contributing the **highest percentage of revenue** in each category.
8. Identify customers who made **no purchases in 2021**.
9. For each customer, calculate their **first purchase date and most recent purchase date**.
10. Find customers who generated **above-average revenue** compared to all customers.

**Bonus Challenge**

Using DENSE\_RANK, find the **top 3 employees by number of subordinates** in the hierarchy.