**📄 Day 34 – SQL Advanced Sales & Customer Analytics Challenge**

**Schema & Sample Data**

Customers

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | Name | JoinDate | Country |
| 1 | Alice | 2020-01-15 | USA |
| 2 | Bob | 2019-07-23 | Canada |
| 3 | Charlie | 2021-03-12 | USA |
| 4 | Diana | 2020-11-05 | UK |
| 5 | Ethan | 2019-09-20 | USA |

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 |
| 105 | Coffee Machine | Appliances | 200.00 |

Sales

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SaleID | CustomerID | ProductID | SaleDate | Quantity |
| 1001 | 1 | 101 | 2021-01-10 | 1 |
| 1002 | 2 | 103 | 2021-02-15 | 2 |
| 1003 | 1 | 102 | 2021-03-05 | 1 |
| 1004 | 3 | 105 | 2021-04-12 | 1 |
| 1005 | 4 | 104 | 2021-05-20 | 1 |
| 1006 | 5 | 101 | 2021-06-25 | 1 |
| 1007 | 1 | 105 | 2021-07-14 | 1 |
| 1008 | 2 | 102 | 2021-08-19 | 2 |
| 1009 | 3 | 101 | 2021-09-22 | 1 |
| 1010 | 4 | 103 | 2021-10-30 | 1 |

**Questions**

1. List all customers with their total spending.
2. Find the top 3 highest revenue-generating products.
3. Show monthly sales totals for 2021.
4. Find customers who purchased products from more than one category.
5. Using LAG, show each customer's purchase date and the gap from their previous purchase.
6. Calculate the percentage contribution of each product to total revenue.
7. Identify customers who have not purchased anything in the last 6 months of 2021.
8. Use NTILE(4) to divide products into 4 price quartiles.
9. Find the product category with the highest average order quantity.
10. For each country, calculate the churn rate: percentage of customers who joined before 2021 but made no purchases in 2021.

**Bonus Challenge**

Find the top 2 customers in each country ranked by total spending, using window functions.