**📘 Day 57 – SQL Challenge**

**Dataset Theme:** E-Commerce Logistics (Orders, Shipments, Deliveries, Delays, and Customer Feedback)

**Tables & Sample Data**

**Customers**

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | Name | Country | JoinDate |
| 1 | Alice | USA | 2020-01-15 |
| 2 | Bob | India | 2019-05-10 |
| 3 | Charlie | UK | 2021-03-25 |
| 4 | David | Canada | 2022-07-18 |
| 5 | Eva | Germany | 2020-12-01 |

**Orders**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| OrderID | CustomerID | OrderDate | TotalAmount | Status |
| 101 | 1 | 2022-01-10 | 200 | Completed |
| 102 | 2 | 2022-02-15 | 150 | Completed |
| 103 | 3 | 2022-03-05 | 400 | Cancelled |
| 104 | 4 | 2022-04-20 | 120 | Completed |
| 105 | 5 | 2022-05-25 | 300 | Completed |
| 106 | 1 | 2022-06-15 | 250 | Completed |

**Shipments**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ShipmentID | OrderID | ShippedDate | ExpectedDelivery | ActualDelivery |
| 201 | 101 | 2022-01-12 | 2022-01-17 | 2022-01-16 |
| 202 | 102 | 2022-02-17 | 2022-02-22 | 2022-02-25 |
| 203 | 103 | 2022-03-07 | 2022-03-12 | NULL |
| 204 | 104 | 2022-04-22 | 2022-04-27 | 2022-04-26 |
| 205 | 105 | 2022-05-27 | 2022-06-01 | 2022-06-03 |
| 206 | 106 | 2022-06-17 | 2022-06-22 | 2022-06-20 |

**Feedback**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FeedbackID | CustomerID | OrderID | Rating | Comment |
| 301 | 1 | 101 | 5 | Fast delivery, very satisfied |
| 302 | 2 | 102 | 3 | Late delivery |
| 303 | 4 | 104 | 4 | Good service |
| 304 | 5 | 105 | 2 | Very late delivery |
| 305 | 1 | 106 | 5 | Excellent experience |

**Questions**

1. Find the **average delivery delay** (days difference between ActualDelivery and ExpectedDelivery).
2. Identify the **top 3 customers by total spending**.
3. Calculate the **percentage of late deliveries** per country.
4. List orders where the **shipment was never delivered** (ActualDelivery IS NULL).
5. Find customers who have given **more than 1 feedback**.
6. Using a **window function**, calculate the **running total of spend per customer**.
7. Identify the **most frequent delivery delay (mode in days)** across all shipments.
8. Find the correlation between **rating and delivery delays** (average delay by rating).
9. Show customers who **placed consecutive orders within 30 days**.
10. Find the **order with the maximum delay** and show customer details.

**Bonus (Advanced):**  
11. Detect **at-risk customers**: Customers who had

* ≥ 2 late deliveries, AND
* Average rating ≤ 3.