SQL 100 Days Challenge – Day 44 Reflection

Topic: Customer Orders & Revenue Insights

Dataset: Customers, Orders, OrderDetails

Practice Experience:

- Questions **1 to 5** felt straightforward and helped warm up with basics like spend analysis, monthly revenue, AOV, country-wise rankings, and identifying returned products.
- From **question 6 onwards**, complexity increased with window functions (LAG), advanced aggregations, CTEs, and customer behavior analysis (repeat purchases, high-value orders, inactivity).
- The **Bonus Challenge (Customer Lifetime Value)** pushed me to combine multiple concepts — tenure calculation, revenue aggregation, and safe division with NULLIF.

Key Learnings:

1. **Revenue Analysis:** Ranking customers, countries, and monthly trends.
2. **Behavior Patterns:** Repeat purchases, consecutive orders, and inactive customers.
3. **Advanced SQL:** CTEs with LAG(), percentage comparisons, and nested aggregations.
4. **Business KPIs:** Calculating Customer Lifetime Value (CLV) directly in SQL.

Insights:

- USA and UK customers contributed significantly to completed order revenue.
- Consecutive and repeat order detection showed **customer loyalty signals**.
- Cancelled vs completed order % gave a clearer picture of operational efficiency.
- CLV metric proved powerful in identifying **long-term high-value customers**.

Skills Reinforced:

- Window functions (RANK, LAG)
- Recursive and layered CTEs
- Percentage and ratio calculations
- Lifetime value and customer behavior analytics in SQL

Personal Note:
The first few queries boosted confidence, while the later ones really stretched my problem-solving. Today felt like a **mix of revision and challenge**, and completing CLV gave a sense of mastering applied analytics through SQL.

Next Steps:

- Extend CLV analysis to segment customers (e.g., Gold, Silver, Bronze tiers).
- Add churn prediction logic based on inactive customers.
- Explore order seasonality using MONTH and YEAR partitions.