

## Day 40 – SQL Challenge Reflection

### Key Learnings & Experiences:

1. Today's dataset involved **Customers and Orders**, which gave a very practical, business-oriented context to work on.
2. Queries required a mix of **aggregations, joins, constraints, indexes, and window functions**. This brought together concepts from both intermediate and advanced SQL levels.
3. I got more comfortable with **ranking functions (DENSE\_RANK)** while working on customer revenue ranking.
4. The **CTE approach with ROW\_NUMBER()** for first and last order amounts (Question 8) was very insightful and strengthened my understanding of window functions.
5. Learned how to calculate **running totals** using window functions in the Bonus Challenge. This was very useful since it closely resembles real-world reporting requirements.

### Challenges Faced:

- **10th question** was the toughest, as it required combining multiple concepts (aggregation, ranking, and filtering). Took considerable time to get the correct logic.
- Understanding and implementing the difference between **first and last orders** (Q8) required careful use of row ranking, but it improved confidence in applying **ROW\_NUMBER()** correctly.

### Overall Reflection:

- Day 40 was a **balanced mix of advanced and intermediate-level SQL**.
- The practice helped strengthen **business query logic, analytical SQL, and reporting-style queries**, which are crucial for real-world analytics and interview preparation.
- I feel more confident with **ranking, running totals, and order history analysis** now.