📘 SQL Learning Challenge – Day 39 Reflection

Today's practice set revolved around **Customers, Orders, and OrderDetails** with a focus on joins, aggregations, ranking, and window functions.

🔑 Key Reflections:

1. **Progress on Window Functions** – Applied running totals and RANK() confidently, showing improvement from earlier days when these functions were new.
2. **Subquery Practice** – Used subqueries effectively (e.g., identifying customers above average spending). This reinforced filtering logic with HAVING and subqueries.
3. **Constraint Awareness** – The dataset design included length checks, unique constraints, default values, and cascades. This highlighted how data integrity is ensured in real-world systems.
4. **10th Question (Toughest)** – Identifying customers with spending above average required combining aggregation with a nested query. This was the most challenging for the day.
5. **Practice Level** – Most queries leaned towards **intermediate-level SQL** (joins, aggregations, basic window functions). However, today's set lacked **deeper complexity** (like recursive CTEs, advanced ranking, or multi-layer subqueries).
6. **Bonus Challenge** – Working with LAG() and monthly comparisons was useful for learning **time-series patterns** in SQL. This gave a real-world flavor similar to customer purchase trend analysis.

✅ Learnings:

- Handling **aggregates inside subqueries** is becoming more natural.
- Gained confidence with **RANK()** and running totals.
- Learnt how to model **consecutive month analysis** using window functions.

📊 Overall Takeaway:

Day 39 was a good revision of intermediate SQL concepts. The **toughest challenge** was the 10th query, while the bonus problem gave a taste of real-world **purchase trend detection**. Still, more **advanced-level interview-ready** problems are required in the upcoming sets to push learning further.