🧩 SQL 100 Days Challenge – Day 65 Reflection

📘 Dataset Theme

Retail Orders, Customers & Products Dataset

This dataset focused on understanding relationships between **customers, orders, and products**, helping analyse customer behaviour, sales performance, and category-based trends.

⚙️ Concepts Practiced

- Joins (INNER, LEFT)
- Aggregate functions (SUM, COUNT, AVG)
- Date & String functions (DATENAME, YEAR, MONTH)
- CASE statements for conditional classification
- Subqueries for filtering results
- Window functions (RANK, NTILE, LAG)
- CTEs for organized multi-step analysis
- Advanced filtering with HAVING clause

💡 Key Learnings

1. Improved understanding of **NTILE()** for grouping customers into spending tiers.
2. Confidently used **LAG()** to calculate time gaps between consecutive orders.
3. Realized the importance of combining **aggregation + window functions** effectively.
4. Learned to differentiate between **customer-level and order-level granularity** while writing queries.
5. Bonus question gave clarity on **country-level percentage contribution** — a real-world analytical insight.

⚔️ Challenges Faced

- **10th question** was the toughest due to combining multiple logical conditions (HAVING + Aggregates).
- Needed deeper focus on **linking Orders and OrderItems** properly for advanced analysis.

🌱 Progress Reflection

“Today’s questions felt simpler overall, except the final one which required advanced logical thinking. I can now handle joins, ranking, and analytical queries with more confidence.”

🧭 Next Steps

- Explore optimization and indexing in larger datasets.
- Practice designing queries that simulate **real-world business reporting use cases**.
- Strengthen skills on **nested CTEs and advanced window analytics**.