Day 11 SQL Practice Reflection – Online Store Dataset

From Joins to Delivery Time Insights – My Analytical Thinking Evolves*

Day 11 took me deeper into realistic scenarios using an online store dataset with customers, orders, products, and shipping details. The tasks were not only about writing queries but understanding relationships across tables, handling NULLs, ensuring completeness of data, and getting meaningful business insights.

◇ Concepts Practiced

- Multi-table JOINs: INNER JOIN and LEFT JOIN across four related tables
- Aggregation with SUM(), COUNT(), and COALESCE()
- Identifying unmatched data (e.g., customers with no orders, products not sold)
- Nested subqueries (for category-wise max revenue)
- Use of TOP for ranking and slicing outputs
- Calculating time differences using DATEDIFF() for delivery insights
- Awareness of NULLs and proper filtering using WHERE
- Altering table constraints using ALTER TABLE when real data includes NULL values

☑ Queries Covered:

1. Basic SELECT on Customers table
2. Customer-wise total quantity ordered using LEFT JOIN and SUM()
3. Total revenue per customer via multiple joins and handling NULLs using COALESCE()
4. Products that were never ordered (LEFT JOIN + IS NULL) — understood and implemented logic independently
5. Customers who didn't order anything (similar logic as Q4)
6. Joining Orders with Shipping to show fulfillment status
7. Filtering shipping status to get all pending or not shipped orders — learned to apply effective WHERE clause
8. Using TOP 2 to rank customers by order value — new concept explored
9. Finding the most popular product (max total quantity ordered)
10. Complex logic to find product with highest revenue per category using a CTE — initial part was straightforward, but needed deeper effort to complete
11. Bonus: Calculated average delivery time for delivered orders using DATEDIFF() and AVG() — very challenging and highlighted the need for more date-time practice

✹ Highlights & Learnings:

- I handled multi-step logic more confidently today.
- Learned to alter table structure when encountering NULLs where I had earlier defined NOT NULL.
- Developed strong clarity on LEFT JOIN and COALESCE() function usage.

- Discovered and implemented the 'not ordered' logic in Q4 independently.
- Understood the usefulness of TOP clause in advanced filtering (Q8).
- Learned new strategies for filtering specific order conditions using WHERE (Q7).
- Bonus and Q10 pushed my ability to plan logic and work through complexity.

🔍 Realization:

SQL is not about memorizing commands, but visualizing table relationships and asking smart questions of your data.

On to Day 12! More curiosity, more clarity.

Slow, steady, and SQL-strong! 🚀