

## Day 32 – SQL Practice Reflection

### Overall Experience

Today's set of questions continued the trend of mixing **real-world business cases** with advanced SQL techniques. Compared to the early days of this challenge, even the complex queries now feel more approachable and structured. I can clearly see the improvement in my query-building confidence, logical breakdown, and familiarity with advanced SQL concepts.

### Key Learnings

#### 1. Steady Comfort with Complex Queries

Day by day, even multi-step queries and heavy use of window functions are feeling more natural to implement. When I started, these would take much longer, but now I can approach them with a clear plan.

#### 2. Challenging Problems Tackled

- **8th Question** – Required calculating product revenue share within each category. This needed a combination of aggregation and window functions (SUM OVER (PARTITION BY ...)). It was one of the most challenging problems today.
- **9th Question** – Calculating a **running total revenue** by month was the toughest, as it needed precise ordering and use of SUM OVER for cumulative totals.

#### 3. Refined Analytical Thinking

Instead of jumping into coding, I now take time to break down the logic, identify the right functions (window, aggregation, subqueries), and only then start implementation. This reduces trial-and-error.

### Advanced Concepts Practiced

- **Window Functions:** LAG, SUM OVER (ORDER BY ...), PARTITION BY
- **Conditional Aggregation:** Using HAVING to filter aggregated results.
- **Multi-CTE Chains:** Breaking problems into smaller steps with CTEs for readability.
- **Revenue Share Analysis:** Combining category-level and product-level aggregates.
- **Running Totals:** Month-over-month cumulative revenue.

### Self-Assessment

- **Strengths:** Improved structuring of queries, reduced debugging time, and better use of analytical functions.
- **Areas to Practice:**
  - More work on **percentage share calculations** across groups.
  - Further strengthen **date-related manipulations** for business reporting.

### Takeaway Quote

“Complex queries are no longer intimidating—they’re now puzzles I enjoy solving.”