

## Day 31 – SQL Challenge Reflection

### Key Learnings & Observations

#### 1. Order Status Consideration in Revenue Calculation

- While working on Q1, I researched the importance of filtering revenue only for Delivered orders.
- This is essential for realistic business reporting, as cancelled orders should not inflate sales metrics.

#### 2. Advanced Window Functions (LAG) for MoM Growth

- In Q5, I successfully implemented LAG() to calculate month-over-month revenue growth for each restaurant.
- Although my initial attempts had syntax errors, I was able to debug and fix them on my own.

#### 3. Logical Challenges in Complex Aggregations

- Q10 was logically tricky because it required filtering restaurants based on **all menu items** being priced above 100.
- Learning to combine NOT EXISTS with conditional filtering was a valuable takeaway.

#### 4. Other Notable Challenges

- Q8 was **logically challenging** while implementing customer first & most recent order retrieval using aggregation.
- Q9 involved a **running total calculation**, and although I worked on something similar yesterday, I had to think carefully to get the ordering and partitioning correct.

### Performance & Progress

- I'm now able to write advanced analytical queries with **window functions** and **nested subqueries** much more confidently.
- My debugging skills for SQL syntax and logic are improving — even when queries are challenging, I can correct them without external help.
- Each day's practice is now feeling more like **real-world SQL problem solving** rather than just textbook queries.

### Takeaway Quote

*"The more I face complex SQL logic, the more I realize—problem-solving is a skill you build one tough query at a time."*