


## Day 23 – SQL Practice Reflection

 Date: August 05, 2025

 Focus Area: Banking Transactions & Fraud Analysis

### Daily Summary

Today's SQL challenge simulated a banking environment — accounts, customers, and transactions. The questions were more logic-heavy than previous days and tested not just SQL knowledge, but also problem-solving and pattern recognition.

### Key Learnings

1. Learned to use `CASE` statements effectively in aggregation (Question 2).
2. Refined logic for filtering customers using `NOT IN` and subqueries (Question 5).
3. Understood tricky logic behind comparing savings balance to average of another group (Question 9).
4. Built advanced queries using date functions like `DATEPART` to detect week-based patterns (Question 10).
5. Implemented multi-layered CTEs and window functions for ranking customers by country (Bonus).

### Additional Insights

- Question 2 introduced me to a cleaner way of breaking down credits and debits using `CASE` — very useful.
- My initial approach to Question 5 was close, but I discovered a more efficient method during review.
- Question 9 was logic-intensive, requiring comparison of subsets — a good mental stretch.
- Question 10 was a completely new concept. I had to learn week-based aggregation and conditional joins from scratch.
- The Bonus Challenge was the most difficult. Ranking by group while maintaining performance was a great learning experience.

### Difficulty & Progress

Difficulty Level: High

Time Taken: Above Average

Progress: Strong growth in multi-layer query handling.