SQL 100 Days Challenge – Day 51 Reflection

Topic: Movie Streaming Analytics – Users, Movies & Watch History

Dataset: Users, Movies, WatchHistory

Practice Experience:

- Questions **1–10** were smooth and relatively easy, covering genre popularity, top-rated movies, user engagement, monthly active users (MAU), subscription analysis, churn detection, and country-wise viewing habits.
- I was able to apply **date functions, percentages, and window functions** with confidence, which earlier felt tough.
- The **Bonus Challenge (Binge-Watching Detection)** was much harder, requiring CTEs, self-joins, and sliding time windows. Implementing binge intensity classification (Light, Moderate, Heavy) took more time but was rewarding.

Key Learnings:

1. **Genre Popularity:** Ranking genres by unique viewers and total watch time.
2. **Movie Ratings:** Detecting top-rated titles using HAVING with AVG().
3. **User Engagement:** Counting active users by month (MAU metric).
4. **Subscription Insights:** Comparing watch durations across subscription types.
5. **Repeat Watchers:** Identifying users who rewatched the same movie.
6. **Churn Analysis:** Using DATEDIFF() to mark users as Active vs Churned.
7. **Country-Wise Trends:** Aggregated total viewing hours and ratings per country.
8. **Window Functions:** Applied LAG() to create user watch timelines.
9. **Bonus Challenge:** Built a **binge-watching detection query** using a 7-day rolling window and categorized binge intensity.

Insights:

- **Education and Sci-Fi genres** had strong engagement among users.
- Premium subscribers recorded longer average watch durations.
- Churn detection flagged inactive users who haven’t watched anything in the last 90+ days.
- Monthly Active Users (MAU) metric highlighted platform activity growth.
- Binge analysis showed clear differences between light vs heavy watchers — useful for personalized recommendations.

Skills Reinforced:

- Joins and Aggregations (GROUP BY, HAVING)
- Window Functions (LAG, RANK)
- Date Functions (DATEDIFF, FORMAT, DATENAME)
- CTEs for complex logic
- Business KPIs: MAU, churn, binge-watching detection

Personal Note:
Today's questions (1–10) felt easy and boosted my confidence, as I could solve them on my own. The **bonus binge-watching challenge** was tough but pushed me to think like a data engineer handling streaming analytics. I'm glad I didn't give up — the solution felt like building a **real-world Netflix-style metric**.

Next Steps:

- Extend binge detection to variable time windows (e.g., 14 or 30 days).
- Build recommendation rules using viewing and rating patterns.
- Analyze churn vs binge behavior to predict retention.