**SQL-Based Social Media Analytics Project**

**Project Overview**

This project involves the design and analysis of a **social media analytics database** using SQL. The objective was to extract meaningful insights on **user growth, engagement, content performance, and geographic trends**. By simulating a real-world social media platform, the project demonstrates how SQL can serve as the backbone for **data-driven decision-making**.

**Database Schema**

1. **User Table (user\_table)**
   * Attributes: user\_id, username, join\_date, country
   * Captures demographic and registration details of platform users.
2. **Posts Table (posts)**
   * Attributes: post\_id, user\_id, post\_date, content, likes
   * Stores user-generated posts and tracks engagement via likes.
3. **Comments Table (comments)**
   * Attributes: comment\_id, post\_id, user\_id, comment\_date, comment\_text
   * Records user interactions on posts and connects both users and posts.

**Analytical Queries & Business Insights**

1. **User Growth Trends**
   * Query: Monthly new user registrations (last two years).
   * **Insight**: Highlights growth trajectory and seasonality in user acquisition.
2. **Top Content Analysis**
   * Query: Top 10 most-liked posts with usernames.
   * **Insight**: Identifies viral content and high-performing creators.
3. **Engagement Metrics**
   * Query: Average number of comments per post (engagement rate).
   * Additional Query: User with the highest number of comments.
   * **Insight**: Measures platform-wide engagement and pinpoints the most interactive users.
4. **Power User Identification**
   * Query: Users with at least 10 posts and 20 comments.
   * **Insight**: Detects core community members who significantly contribute to the platform.
5. **Geographic Performance**
   * Query: Top 5 countries ranked by average likes per post.
   * **Insight**: Provides regional engagement benchmarks for potential marketing or localization strategies.

**Key Outcomes**

* Developed SQL solutions for **user growth, engagement rate, virality, and regional analysis**.
* Applied **aggregation, subqueries, joins, and filtering** for advanced analytical queries.
* Demonstrated how structured data can be leveraged for **strategic business decisions** in a social media context.