User Engagement Analysis

Create Posts Table

CREATE TABLE Posts (post\_id INT PRIMARY KEY, post\_content TEXT, post\_date DATETIME);

-- Insert sample data into Posts Table

INSERT INTO Posts (post\_id, post\_content, post\_date)

VALUES

(1, 'Lorem ipsum dolor sit amet...', '2023-08-25 10:00:00'),

(2, 'Exploring the beauty of nature...', '2023-08-26 15:30:00'),

(3, 'Unveiling the latest tech trends...', '2023-08-27 12:00:00'),

(4, 'Journey into the world of literature...', '2023-08-28 09:45:00'),

(5, 'Capturing the essence of city life...', '2023-08-29 16:20:00');

CREATE TABLE UserReactions ( reaction\_id INT PRIMARY KEY, user\_id INT, post\_id INT, reaction\_type ENUM('like', 'comment', 'share'),reaction\_date DATETIME, FOREIGN KEY (post\_id) REFERENCES Posts(post\_id));

-- Insert sample data into User Reactions Table

INSERT INTO UserReactions (reaction\_id, user\_id, post\_id, reaction\_type, reaction\_date)

VALUES

(1, 101, 1, 'like', '2023-08-25 10:15:00'),

(2, 102, 1, 'comment', '2023-08-25 11:30:00'),

(3, 103, 1, 'share', '2023-08-26 12:45:00'),

(4, 101, 2, 'like', '2023-08-26 15:45:00'),

(5, 102, 2, 'comment', '2023-08-27 09:20:00'),

(6, 104, 2, 'like', '2023-08-27 10:00:00'),

(7, 105, 3, 'comment', '2023-08-27 14:30:00'),

(8, 101, 3, 'like', '2023-08-28 08:15:00'),

(9, 103, 4, 'like', '2023-08-28 10:30:00'),

(10, 105, 4, 'share', '2023-08-29 11:15:00'),

(11, 104, 5, 'like', '2023-08-29 16:30:00'),

(12, 101, 5, 'comment', '2023-08-30 09:45:00');

1,

SELECT

p.post\_id,

p.post\_content,

COUNT(CASE WHEN ur.reaction\_type = 'like' THEN 1 END) AS num\_likes,

COUNT(CASE WHEN ur.reaction\_type = 'comment' THEN 1 END) AS num\_comments,

COUNT(CASE WHEN ur.reaction\_type = 'share' THEN 1 END) AS num\_shares

FROM

Posts p

LEFT JOIN

UserReactions ur ON p.post\_id = ur.post\_id

WHERE

p.post\_id = 2 -- Replace with the desired post\_id

GROUP BY

p.post\_id, p.post\_content;

2,

SELECT

DATE(ur.reaction\_date) AS reaction\_day,

COUNT(DISTINCT ur.user\_id) AS distinct\_users,

COUNT(\*) AS total\_reactions,

AVG(COUNT(\*)) OVER (PARTITION BY DATE(ur.reaction\_date)) AS avg\_reactions\_per\_user

FROM

UserReactions ur

WHERE

ur.reaction\_date BETWEEN '2023-08-25' AND '2023-08-31' -- Replace with desired time period

GROUP BY

reaction\_day;

3,

SELECT

p.post\_id,

p.post\_content,

SUM(CASE WHEN ur.reaction\_type = 'like' THEN 1 ELSE 0 END +

CASE WHEN ur.reaction\_type = 'comment' THEN 1 ELSE 0 END +

CASE WHEN ur.reaction\_type = 'share' THEN 1 ELSE 0 END) AS total\_reactions

FROM

Posts p

LEFT JOIN

UserReactions ur ON p.post\_id = ur.post\_id

WHERE

ur.reaction\_date BETWEEN DATE\_SUB(NOW(), INTERVAL 1 WEEK) AND NOW()

GROUP BY

p.post\_id, p.post\_content

ORDER BY

total\_reactions DESC

LIMIT 3; -- Retrieve the top 3 most engaging posts