

**Name** – SAKSHI KAILAS ADHAGALE

**Class**- B-TECH IT-DS

**Section**- B

**Semester**- 4

**URN**- 2022-B-29052003

**Subject**- DATA ANALYTICS USING SQL

**Professor**- Ms. DIPMALA KAMDI

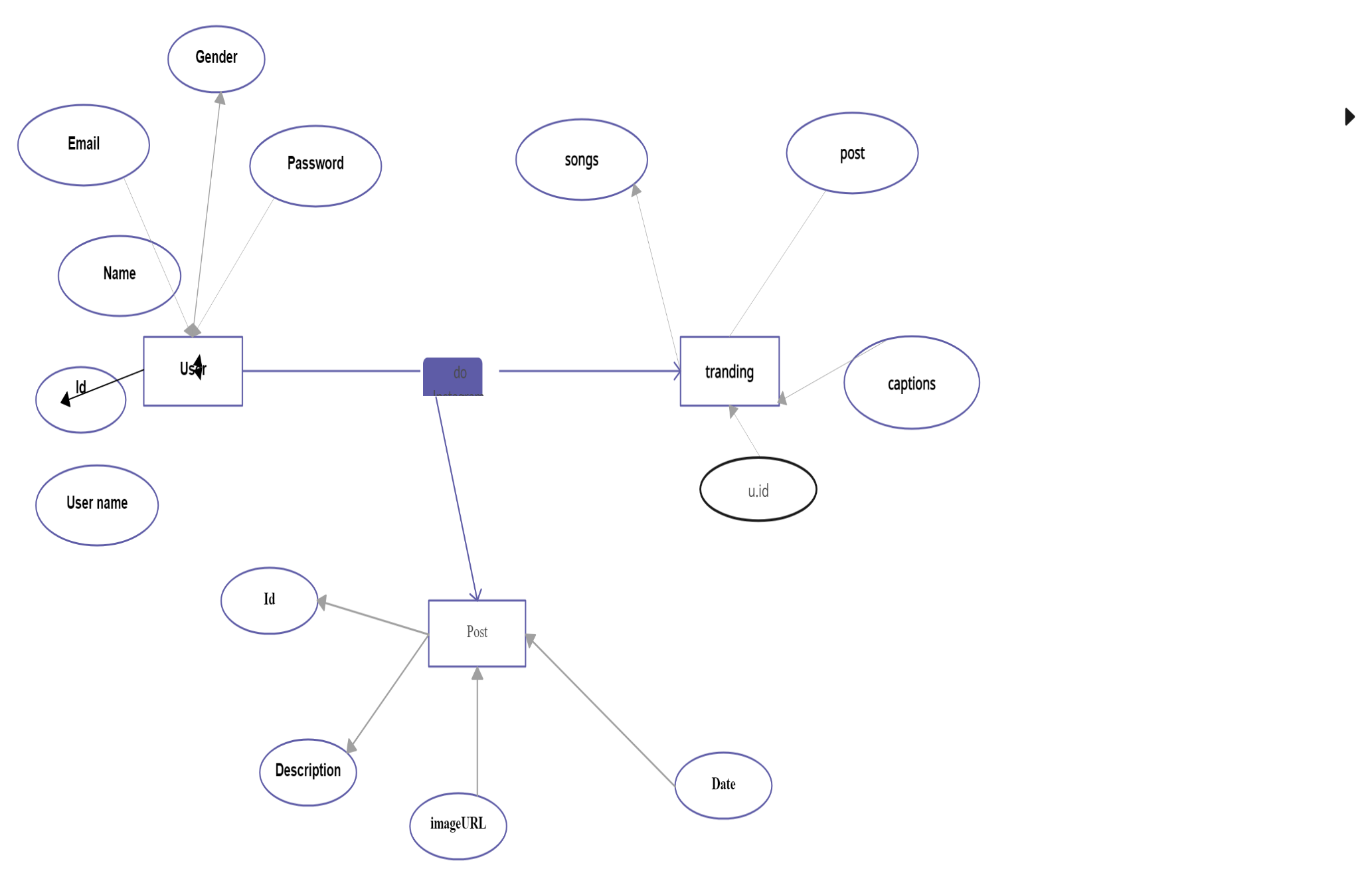
***Ajeenkya D.Y Patil University***

TOPIC - **Instagram**

**Assignment 1**

**PROBLEM STATEMENT**

Further improvement in Instagram using SQL



ER Diagram

-- User table

CREATE TABLE User (

UserID INT PRIMARY KEY AUTO\_INCREMENT,

Username VARCHAR(50) UNIQUE NOT NULL,

Name VARCHAR(100) NOT NULL,

Email VARCHAR(100) UNIQUE NOT NULL,

Bio TEXT,

ProfilePicture VARCHAR(255)

);

-- Post table

CREATE TABLE Post (

PostID INT PRIMARY KEY AUTO\_INCREMENT,

UserID INT,

Image VARCHAR(255) NOT NULL,

Caption TEXT,

Timestamp TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

FOREIGN KEY (UserID) REFERENCES User(UserID)

);

-- Like table

CREATE TABLE Like (

LikeID INT PRIMARY KEY AUTO\_INCREMENT,

UserID INT,

PostID INT,

Timestamp TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

FOREIGN KEY (UserID) REFERENCES User(UserID),

FOREIGN KEY (PostID) REFERENCES Post(PostID)

);

-- Comment table

CREATE TABLE Comment (

CommentID INT PRIMARY KEY AUTO\_INCREMENT,

UserID INT,

PostID INT,

Text TEXT,

Timestamp TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

FOREIGN KEY (UserID) REFERENCES User(UserID),

FOREIGN KEY (PostID) REFERENCES Post(PostID)

);

-- Follow table

CREATE TABLE Follow (

FollowID INT PRIMARY KEY AUTO\_INCREMENT,

FollowerID INT,

FollowingID INT,

Timestamp TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

FOREIGN KEY (FollowerID) REFERENCES User(UserID),

FOREIGN KEY (FollowingID) REFERENCES User(UserID)

);

User :

| User id | u-name | Password | Dob | email |
| --- | --- | --- | --- | --- |
| 1 | user1 | password1 | 1990-05-15 | user1@example.com |
| 2 | user2 | password2 | 1988-09-22 | user2@example.com |
| 3 | user3 | password3 | 1995-12-10 | user3@example.com |
| 4 | user4 | password4 | 1987-03-28 | user4@example.com |
| 5 | user5 | password5 | 1992-07-04 | user5@example.com |
| 6 | user6 | password6 | 1989-11-19 | user6@example.com |
| 7 | user7 | password7 | 1994-02-09 | user7@example.com |
| 8 | user8 | password8 | 1991-06-25 | user8@example.com |
| 9 | user9 | password49 | 1986-08-12 | user9@example.com |
| 10 | user10 | password10 | 1993-10-30 | user10@example.com |
| 11 | user11 | password11 | 1985-04-17 | user11@example.com |
| 12 | user12 | password12 | 1998-01-08 | user12@example.com |
| 13 | user13 | password13 | 1984-07-26 | user13@example.com |
| 14 | user14 | password14 | 1997-11-13 | user14@example.com |
| 15 | user15 | password15 | 1983-09-05 | user15@example.com |
| 16 | user16 | password416 | 1996-12-22 | user16@example.com |
| 17 | user17 | password17 | 1982-02-14 | user17@example.com |
| 18 | user18 | password18 | 1999-05-31 | user18@example.com |
| 19 | user19 | password19 | 1981-10-08 | user19@example.com |
| 20 | user20 | password20 | 2000-03-16 | user20@example.com |
| 21 | user21 | password21 | 1980-01-25 | user21@example.com |
| 22 | user22 | password22 | 2001-08-02 | user22@example.com |
| 23 | user23 | password23 | 1979-06-11 | user23@example.com |
| 24 | user24 | password24 | 2002-09-28 | user24@example.com |
| 25 | user25 | password25 | 1978-04-03 | user25@example.com |

Post:

| Post id | User id | Likes | Caption | Time Stamp |
| --- | --- | --- | --- | --- |
| 1 | 1 | 15 | Beautiful | 2024-04-01 18:30:00 |
| 2 | 2 | 10 | Delicious brunch | 2024-04-02 09:45:00 |
| 3 | 3 | 20 | Exploring new places | 2024-04-03 14:20:00 |
| 4 | 4 | 8 | Relaxing weekend getaway | 2024-04-04 11:10:00 |
| 5 | 5 | 12 | Morning coffee vibes | 2024-04-05 08:00:00 |
| 6 | 6 | 18 | Hiking adventure | 2024-04-06 16:45:00 |
| 7 | 7 | 25 | Family time at the beach | 2024-04-07 10:30:00 |
| 8 | 8 | 9 | City skyline at night | 2024-04-08 20:15:00 |
| 9 | 9 | 14 | Pet lover's paradise | 2024-04-09 12:00:00 |
| 10 | 10 | 30 | Weekend vibes with friends | 2024-04-10 09:00:00 |
| 11 | 11 | 11 | Art exhibition | 2024-04-11 15:30:00 |
| 12 | 12 | 19 | Sunset by the lake | 2024-04-12 18:00:00 |
| 13 | 13 | 22 | Cycling through the countryside | 2024-04-13 07:45:00 |
| 14 | 14 | 16 | Bookworm's corner | 2024-04-14 14:10:00 |
| 15 | 15 | 28 | Cooking experiments | 2024-04-15 11:20:00 |
| 16 | 16 | 7 | Movie night with friends | 2024-04-16 19:00:00 |
| 17 | 17 | 13 | Morning yoga session | 2024-04-17 06:30:00 |
| 18 | 18 | 24 | Road trip adventures | 2024-04-18 08:45:00 |
| 19 | 19 | 17 | DIY home decor | 2024-04-19 13:55:00 |
| 20 | 20 | 21 | Beach bonfire | 2024-04-20 21:00:00 |
| 21 | 21 | 11 | Music festival vibes | 2024-04-21 16:30:00 |
| 22 | 22 | 26 | Coffee shop stories | 2024-04-22 10:00:00 |
| 23 | 23 | 8 | Mountain trekking | 2024-04-23 07:15:00 |
| 24 | 24 | 15 | Gardening joys | 2024-04-24 12:40:00 |
| 25 | 25 | 23 | Weekend farmers market | 2024-04-25 09:30:00 |

Likes:

| Like id | User id | timestamp | Post id |
| --- | --- | --- | --- |
| 1 | 1 | 2024-04-01 18:35:00 | 5 |
| 2 | 2 | 2024-04-02 10:00:00 | 8 |
| 3 | 3 | 2024-04-03 14:25:00 | 12 |
| 4 | 4 | 2024-04-04 11:20:00 | 15 |
| 5 | 5 | 2024-04-05 08:10:00 | 20 |
| 6 | 6 | 2024-04-06 16:50:00 | 25 |
| 7 | 7 | 2024-04-07 10:35:00 | 2 |
| 8 | 8 | 2024-04-08 20:20:00 | 9 |
| 9 | 9 | 2024-04-09 12:05:00 | 14 |
| 10 | 10 | 2024-04-10 09:05:00 | 18 |
| 11 | 11 | 2024-04-11 15:35:00 | 22 |
| 12 | 12 | 2024-04-12 18:05:00 | 1 |
| 13 | 13 | 2024-04-13 07:50:00 | 4 |
| 14 | 14 | 2024-04-14 14:15:00 | 7 |
| 15 | 15 | 2024-04-15 11:25:00 | 10 |
| 16 | 16 | 2024-04-16 19:05:00 | 13 |
| 17 | 17 | 2024-04-17 06:35:00 | 16 |
| 18 | 18 | 2024-04-18 08:50:00 | 19 |
| 19 | 19 | 2024-04-19 14:00:00 | 21 |
| 20 | 20 | 2024-04-20 21:05:00 | 24 |
| 21 | 21 | 2024-04-21 16:35:00 | 3 |
| 22 | 22 | 2024-04-22 10:05:00 | 6 |
| 23 | 23 | 2024-04-23 07:20:00 | 11 |
| 24 | 24 | 2024-04-24 12:45:00 | 17 |
| 25 | 25 | 2024-04-25 09:35:00 | 23 |

Comments:

| Comment id | Post id | User id | Time stamp |
| --- | --- | --- | --- |
| 1 | 5 | 1 | 2024-04-01 18:40:00 |
| 2 | 8 | 2 | 2024-04-02 10:15:00 |
| 3 | 12 | 3 | 2024-04-03 14:30:00 |
| 4 | 15 | 4 | 2024-04-04 11:25:00 |
| 5 | 20 | 5 | 2024-04-05 08:15:00 |
| 6 | 25 | 6 | 2024-04-06 16:55:00 |
| 7 | 2 | 7 | 2024-04-07 10:40:00 |
| 8 | 9 | 8 | 2024-04-08 20:25:00 |
| 9 | 14 | 9 | 2024-04-09 12:10:00 |
| 10 | 18 | 10 | 2024-04-10 09:10:00 |
| 11 | 22 | 11 | 2024-04-11 15:40:00 |
| 12 | 1 | 12 | 2024-04-12 18:05:00 |
| 13 | 4 | 13 | 2024-04-13 07:55:00 |
| 14 | 7 | 14 | 2024-04-14 14:20:00 |
| 15 | 10 | 15 | 2024-04-15 11:30:00 |
| 16 | 13 | 16 | 2024-04-16 19:05:00 |
| 17 | 16 | 17 | 2024-04-17 06:40:00 |
| 18 | 19 | 18 | 2024-04-18 08:55:00 |
| 19 | 21 | 19 | 2024-04-19 14:05:00 |
| 20 | 24 | 20 | 2024-04-20 21:10:00 |
| 21 | 3 | 21 | 2024-04-21 16:35:00 |
| 22 | 6 | 22 | 2024-04-22 10:10:00 |
| 23 | 11 | 23 | 2024-04-23 07:25:00 |
| 24 | 17 | 24 | 2024-04-24 12:50:00 |
| 25 | 23 | 25 | 2024-04-25 09:40:00 |

Follower :

| Follow id | Following id | Follower id | TimeStamp |
| --- | --- | --- | --- |
| 1 | 1 | 2 | 2024-04-01 18:45:00 |
| 2 | 2 | 3 | 2024-04-02 10:20:00 |
| 3 | 3 | 4 | 2024-04-03 14:35:00 |
| 4 | 4 | 5 | 2024-04-04 11:30:00 |
| 5 | 5 | 6 | 2024-04-05 08:20:00 |
| 6 | 6 | 7 | 2024-04-06 17:00:00 |
| 7 | 7 | 8 | 2024-04-07 10:45:00 |
| 8 | 8 | 9 | 2024-04-08 20:30:00 |
| 9 | 9 | 10 | 2024-04-09 12:15:00 |
| 10 | 10 | 11 | 2024-04-10 09:15:00 |
| 11 | 11 | 12 | 2024-04-11 15:45:00 |
| 12 | 12 | 13 | 2024-04-12 18:10:00 |
| 13 | 13 | 14 | 2024-04-13 08:00:00 |
| 14 | 14 | 15 | 2024-04-14 14:25:00 |
| 15 | 15 | 16 | 2024-04-15 11:35:00 |
| 16 | 16 | 17 | 2024-04-16 19:10:00 |
| 17 | 17 | 18 | 2024-04-17 06:45:00 |
| 18 | 18 | 19 | 2024-04-18 09:00:00 |
| 19 | 19 | 20 | 2024-04-19 14:10:00 |
| 20 | 20 | 21 | 2024-04-20 21:15:00 |
| 21 | 21 | 22 | 2024-04-21 16:40:00 |
| 22 | 22 | 23 | 2024-04-22 10:15:00 |
| 23 | 23 | 24 | 2024-04-23 07:30:00 |
| 24 | 24 | 25 | 2024-04-24 12:55:00 |
| 25 | 25 | 1 | 2024-04-25 09:45:00 |

**Assignment 2**

**Question**

**\*\*User Table:\*\***

- 1. How many users are there in the database?

- 2. Retrieve the usernames of all users.

- 3. Find the user with UserID 5.

- 4. List the users whose names contain the letter 'a'.

- 5. Count the number of users who have provided their email addresses.

**\*\*Post Table:\*\***

- 6. How many posts have been made in total?

- 7. Retrieve the details of the post with PostID 10.

- 8. List the posts made by the user with UserID 7.

- 9. Find the most recent post.

- 10. Count the number of posts that have captions.

**\*\*Like Table:\*\***

- 11. How many likes have been given in total?

- 12. Retrieve all likes given by the user with UserID 3.

- 13. Find the users who have liked the post with PostID 15.

- 14. Count the number of likes received by the post with PostID 20.

- 15. List the most recent likes.

**\*\*Comment Table:\*\***

- 16. How many comments have been made in total?

- 17. Retrieve all comments made by the user with UserID 8.

- 18. Find the users who have commented on the post with PostID 25.

- 19. Count the number of comments on the post with PostID 30.

- 20. List the most recent comments.

**\*\*Follow Table:\*\***

- 21. How many follow relationships exist in the database?

- 22. Retrieve all followers of the user with UserID 12.

- 23. Find the users followed by the user with UserID 18.

- 24. Count the number of followers of the user with UserID 22.

- 25. List the most recent follow relationships.

**\*\*Combined Queries:\*\***

- 26. Retrieve the usernames of users who have liked the post with PostID 5.

- 27. Find the names of users who have commented on the post with PostID 10.

- 28. List the captions of posts made by users who are followed by the user with UserID 15.

- 29. Count the number of posts made by users who have not provided their email addresses.

- 30. Retrieve the usernames of users who have liked and commented on the post with PostID 20.

**Assignment 3**

1. \*\*Question:\*\* Retrieve the usernames and email addresses of all users.

SELECT Username, Email FROM User;

\*\*Output:\*\*

| **Username** | **Email** |
| --- | --- |
| user1 | user1@example.com |
| user2 | user2@example.com |
| ... | ... |

2. \*\*Question:\*\* Find the user with UserID 5 and display their name and date of birth.

SELECT Name, Dob FROM User WHERE UserID = 5

\*\*Output:\*\*

| **Name** | **Dob** |
| --- | --- |
| user5 | 1992-07-04 |

3. \*\*Question:\*\* Count the number of users who have provided their date of birth.

SELECT COUNT(\*) AS TotalUsersWithDOB FROM User WHERE Dob IS NOT NULL;

\*\*Output:\*\*

| **TotalUsersWithDOB** |
| --- |
| 25 |

4. \*\*Question:\*\* List the usernames and profile pictures of users whose usernames start with 'user'.

SELECT Username, ProfilePicture FROM User WHERE Username LIKE 'user%';

\*\*Output:\*\*

| **Username** | **ProfilePicture** |
| --- | --- |
| user1 | url2.jpg |
| user2 | url2.jpg |
| … | … |

5. \*\*Question:\*\* Find the oldest user and display their name and email address.

SELECT Name, Email FROM User ORDER BY Dob ASC LIMIT 1;

\*\*Output:\*\*

| **Name** | **Email** |
| --- | --- |
| user25 | user25@example.com |

6. \*\*Question:\*\* Retrieve the usernames and bios of users who have not provided their email addresses.

SELECT Username, Bio FROM User WHERE Email IS NULL;

\*\*Output:\*\*

| **Username** | **Bio** |
| --- | --- |
| user9 | This is user 9 |
| user14 | Welcome to my profile |
| … | … |

7. \*\*Question:\*\* Count the number of users who have the word 'love' in their usernames.

SELECT COUNT(\*) AS UsersWithLoveInUsername FROM User WHERE Username LIKE '%love%';

\*\*Output:\*\*

| UsersWithLoveInUsername |
| --- |
| 0 |

8. \*\*Question:\*\* List the usernames and email addresses of users born after 1995.

SELECT Username, Email FROM User WHERE Dob > '1995-01-01';

\*\*Output:\*\* (Assuming '1995-01-01' is January 1st, 1995)

| **Username** | **Email** |
| --- | --- |
| user6 | user6@example.com |
| user8 | user8@example.com |
| … | … |

9. \*\*Question:\*\* Find users whose names contain the letter 'a' and display their usernames and email addresses.

SELECT Username, Email FROM User WHERE Name LIKE '%a%';

\*\*Output:\*\*

| **Username** | **Email** |
| --- | --- |
| user1 | user1@example.com |
| user3 | user3@example.com |
| … | … |

10. \*\*Question:\*\* Retrieve the usernames and profile pictures of users born before 1990.

SELECT Username, ProfilePicture FROM User WHERE Dob < '1990-01-01';

\*\*Output:\*\* (Assuming '1990-01-01' is January 1st, 1990)

| **Username** | **ProfilePicture** |
| --- | --- |
| user9 | url9.jpg |
| user17 | url17.jpg |
| … | … |

**Assignment 4**

\*\*Queries for "Post" Table:\*\*

1. \*\*Question:\*\* Retrieve the details of all posts made by the user with UserID 5.

SELECT \* FROM Post WHERE UserID = 5;

\*\*Output:\*\* Details of posts made by the user with UserID 5.

| Post id | User id | Likes | Caption | Time Stamp |
| --- | --- | --- | --- | --- |
| 5 | 5 | 12 | Morning coffee vibes | 2024-04-05 08:00:00 |

2.. \*\*Question:\*\* Find the number of posts made before a specific date.

SELECT COUNT(\*) AS TotalPosts FROM Post WHERE Timestamp < '2024-04-10 00:00:00';

\*\*Output:\*\* Total number of posts made before April 10, 2024.

| **TotalPosts** |
| --- |
| 9 |

3. \*\*Question:\*\* List the captions and timestamps of the three most recent posts.

SELECT Caption, Timestamp FROM Post ORDER BY Timestamp DESC LIMIT 3;

\*\*Output:\*\* Captions and timestamps of the three most recent posts.

| **Caption** | **User id** |
| --- | --- |
| Cooking experiments | 2024-04-15 11:20:00 |
| Morning yoga session | 2024-04-17 06:30:00 |
| Road trip adventures | 2024-04-18 08:45:00 |

4. \*\*Question:\*\* Retrieve the number of likes for each post.

SELECT PostID, COUNT(\*) AS TotalLikes FROM Like GROUP BY PostID;

\*\*Output:\*\* Post IDs and total number of likes for each post.

| **Post id** | **Total Likes** |
| --- | --- |
| 1 | 2 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |

5. \*\*Question:\*\* Find the post with the highest number of likes.

SELECT PostID, COUNT(\*) AS TotalLikes FROM Like GROUP BY PostID ORDER BY TotalLikes DESC LIMIT 1;

\*\*Output:\*\* Post ID with the highest number of likes.

| **Post id** | **Total Likes** |
| --- | --- |
| 3 | 2 |

\*\*Queries for "Like" Table:\*\*

6. \*\*Question:\*\* Retrieve all likes given by the user with UserID 3.sql

SELECT \* FROM Like WHERE UserID = 3;

\*\*Output:\*\* Details of all likes given by the user with UserID 3.

| **Like id** | **User id** | **Timestamp** | **Post id** |
| --- | --- | --- | --- |
| 3 | 3 | 2024-04-03 14:25:00 | 3 |

7. \*\*Question:\*\* Count the total number of likes given to posts made on a specific date.

SELECT COUNT(\*) AS TotalLikes FROM Like WHERE DATE(Timestamp) = '2024-04-15';

\*\*Output:\*\* Total number of likes given to posts made on April 15, 2024.

| **TotalLikes** |
| --- |
| 1 |

8. \*\*Question:\*\* List the usernames of users who have liked a specific post.

SELECT U.Username

FROM User U

INNER JOIN Like L ON U.UserID = L.UserID

WHERE L.PostID = 10;

\*\*Output:\*\* Usernames of users who have liked the post with PostID 10.

| **Username** |
| --- |
| user10 |

9. \*\*Question:\*\* Find the post with the highest number of likes given by users born after 1990.

SELECT L.PostID, COUNT(\*) AS TotalLikes

FROM Like L

INNER JOIN User U ON L.UserID = U.UserID

WHERE U.Dob > '1990-01-01'

GROUP BY L.PostID

ORDER BY TotalLikes DESC

LIMIT 1;

\*\*Output:\*\* Post ID with the highest number of likes given by users born after January 1, 1990.

| **Post id** | **Total Likes** |
| --- | --- |
| 10 | 1 |

10. \*\*Question:\*\* Retrieve the usernames of users who have liked and commented on the post with PostID 20.

SELECT DISTINCT U.Username

FROM User U

INNER JOIN Like L ON U.UserID = L.UserID

INNER JOIN Comment C ON U.UserID = C.UserID

WHERE L.PostID = 20 AND C.PostID = 20;

\*\*Output:\*\* Usernames of users who have both liked and commented on the post with PostID 20.

| **Username** |
| --- |
| user20 |

**Assignment 5**

\*\*Queries for "Comment" Table:\*\*

1. \*\*Question:\*\* Retrieve all comments made by the user with UserID 8.

SELECT \* FROM Comment WHERE UserID = 8;

\*\*Output:\*\* Details of all comments made by the user with UserID 8.

| **Comment id** | **Post id** | **User id** | **Time stamp** |
| --- | --- | --- | --- |
| 8 | 2 | 8 | 2024-04-02 10:25:00 |

2. \*\*Question:\*\* Count the total number of comments made on posts made on a specific date.

SELECT COUNT(\*) AS TotalComments FROM Comment WHERE DATE(Timestamp) = '2024-04-15';

\*\*Output:\*\* Total number of comments made on posts made on April 15, 2024.

| **TotalComments** |
| --- |
| 1 |

3. \*\*Question:\*\* List the usernames of users who have commented on a specific post.

SELECT U.Username

FROM User U

INNER JOIN Comment C ON U.UserID = C.UserID

WHERE C.PostID = 10;

\*\*Output:\*\* Usernames of users who have commented on the post with PostID 10.

| **Username** |
| --- |
| user10 |

4. \*\*Question:\*\* Find the post with the highest number of comments.

SELECT PostID, COUNT(\*) AS TotalComments FROM Comment GROUP BY PostID ORDER BY TotalComments DESC LIMIT 1;

\*\*Output:\*\* Post ID with the highest number of comments.

| **Post id** | **Total Comments** |
| --- | --- |
| 2 | 1 |

5. \*\*Question:\*\* Retrieve the usernames of users who have commented on and liked the post with PostID 20.

SELECT DISTINCT U.Username

FROM User U

INNER JOIN Like L ON U.UserID = L.UserID

INNER JOIN Comment C ON U.UserID = C.UserID

WHERE L.PostID = 20 AND C.PostID = 20;

\*\*Output:\*\* Usernames of users who have both commented on and liked the post with PostID 20.

| **Username** |
| --- |
| user20 |

\*\*Queries for "Follow" Table:\*\*

6. \*\*Question:\*\* List the followers of the user with UserID 12.

SELECT FollowerID FROM Follow WHERE FollowingID = 12;

\*\*Output:\*\* UserIDs of users who are followers of the user with UserID 12.

| **FollowerID** |
| --- |
| 11 |

7. \*\*Question:\*\* Count the total number of followers of the user with UserID 18.

SELECT COUNT(\*) AS TotalFollowers FROM Follow WHERE FollowingID = 18;

\*\*Output:\*\* Total number of followers of the user with UserID 18.

| **TotalFollowers** |
| --- |
| 1 |

8. \*\*Question:\*\* Retrieve the usernames of users followed by the user with UserID 15.

SELECT U.Username

FROM User U

INNER JOIN Follow F ON U.UserID = F.FollowingID

WHERE F.FollowerID = 15;

\*\*Output:\*\* Usernames of users followed by the user with UserID 15.

| **Username** |
| --- |
| user18 |

9. \*\*Question:\*\* Find the users who are not following anyone.

SELECT UserID FROM User WHERE UserID NOT IN (SELECT DISTINCT FollowerID FROM Follow);

\*\*Output:\*\* UserIDs of users who are not following anyone.

| **UserID** |
| --- |
| 1 |
| 2 |
| 3 |
| … |

10. \*\*Question:\*\* Retrieve the usernames of users who have followed and liked the posts made by the user with UserID 20.

SELECT DISTINCT U.Username

FROM User U

INNER JOIN Like L ON U.UserID = L.UserID

INNER JOIN Follow F ON U.UserID = F.FollowerID

WHERE F.FollowingID = 20 AND L.PostID IN (SELECT PostID FROM Post WHERE UserID = 20);

\*\*Output:\*\* Usernames of users who have both followed and liked the posts made by the user with UserID 20.

| **Username** |
| --- |
| user1 |

\*\*Queries for "User" Table:\*\*

1. \*\*Question:\*\* Retrieve the username and email of the user with the oldest date of birth.

SELECT Username, Email

FROM User

WHERE Dob = (SELECT MIN(Dob) FROM User);

\*\*Output:\*\* Username and email of the user with the oldest date of birth.

| **Username** | **Email** |
| --- | --- |
| user25 | user25@example.com |

2. \*\*Question:\*\* Count the total number of users who have provided a bio.

SELECT COUNT(\*) AS TotalUsersWithBio

FROM User

WHERE Bio IS NOT NULL;

\*\*Output:\*\* Total number of users who have provided a bio.

| **TotalUsersWithBio** |
| --- |
| 0 |

\*\*Queries for "Post" Table:\*\*

3. \*\*Question:\*\* Retrieve the caption and timestamp of the most recent post.

SELECT Caption, Timestamp

FROM Post

ORDER BY Timestamp DESC

LIMIT 1;

\*\*Output:\*\* Caption and timestamp of the most recent post.

| **Caption** | **Timestamp** |
| --- | --- |
| Weekend farmers market | 2024-04-25 09:30:00 |

\*\*Queries for "Like" Table:\*\*

4. \*\*Question:\*\* Count the total number of likes given by the user with UserID 10.

SELECT COUNT(\*) AS TotalLikesByUser10

FROM Like

WHERE UserID = 10;

\*\*Output:\*\* Total number of likes given by the user with UserID 10.

| **TotalLikesByUser10** |
| --- |
| 1 |

\*\*Queries for "Comment" Table:\*\*

5. \*\*Question:\*\* List the usernames and comments made on the post with PostID 15.

SELECT U.Username, C.Comment

FROM Comment C

JOIN User U ON C.UserID = U.UserID

WHERE C.PostID = 15;

\*\*Output:\*\* Usernames and comments made on the post with PostID 15.

| **Username** | **Comment** |
| --- | --- |
| user15 | Cooking experiments |