Q1. Create an ER diagram or draw a schema for the given database.

1

M

**Photos**

**Comments**

Likes

**Users**

**Photo\_Tags**

**Follows**

**Tags**

M

1

M

M

1

M

1

M

M

1

M

1

1

1

**-- Q2 We want to reward the user who has been around the longest, Find the 5 oldest users.**

select username from users

order by created\_at limit 5;

**-- Q3 To understand when to run the ad campaign, figure out the day of the week most users register on?**

select dayname(created\_at) as Day,count(created\_at) as Registered\_user from users

group by Day

order by Registered\_user desc;

-- comments:- Friday,Thursday and Sunday most user register on so we can run the ad on these days.

**-- Q4.To target inactive users in an email ad campaign, find the users who have never posted a photo.**

select u.id,u.username,p.image\_url from users u left join photos p

on u.id = p.user\_id

where p.id is null;

**-- Q5.Suppose you are running a contest to find out who got the most likes on a photo. Find out who won?**

SELECT photos.\*,users.username, count(photos.id) as likes\_count FROM likes

INNER JOIN photos ON likes.photo\_id = photos.id

INNER JOIN users ON photos.user\_id = users.id

GROUP BY likes.photo\_id

ORDER BY likes\_count desc;

**-- Q6.The investors want to know how many times does the average user post.**

with cte as(

select u.username,count(p.created\_at) as no\_of\_times\_posted from users u inner join photos p

on u.id= p.user\_id

group by u.username

)

select round(avg(no\_of\_times\_posted))as Avg\_times\_posted from cte;

**-- Q7. A brand wants to know which hashtag to use on a post, and find the top 5 most used hashtags.**

select t.tag\_name,count(\*) as hastags from tags t inner join photo\_tags pt on t.id=pt.tag\_id

group by tag\_name

order by hastags desc limit 5;

**-- Q8. To find out if there are bots, find users who have liked every single photo on the site.**

SELECT user\_id,username FROM likes

INNER JOIN users

ON likes.user\_id = users.id

GROUP BY user\_id

HAVING COUNT(\*) = (SELECT COUNT(\*) FROM photos);

**-- Q9. To know who the celebrities are, find users who have never commented on a photo.**

select id,username from users

where id not in

(select user\_id from comments);

**-- Q10. Now it's time to find both of them together,find the users who have never commented on any photo or have commented on every photo.**

select id,username from users

where id not in

(select user\_id from comments) or id in (select user\_id from comments);