**1 How many times does the average user post?**

select avg (c) as average\_posts\_per\_user

from (

select u.username, count(p.image\_url) as c from users u

left join photos p on u.id=p.user\_id

group by u.username

) as user\_post\_counts;

**2 Find the top 5 most used hashtags**

SELECT T.tag\_name, COUNT(PT.tag\_id) AS tag\_count

FROM tags T

JOIN photo\_tags PT ON T.id = PT.tag\_id

GROUP BY T.tag\_name

ORDER BY tag\_count DESC

LIMIT 5;

**3 Find users who have liked every single photo on the site.**

SELECT u.id, u.username

FROM users u

WHERE NOT EXISTS (

SELECT p.id

FROM photos p

WHERE NOT EXISTS (

SELECT l.user\_id

FROM likes l

WHERE l.user\_id = u.id

AND l.photo\_id = p.id

) );

**4 Retrieve a list of users along with their usernames and the rank of their account creation, ordered by the creation date in ascending order**.

SELECT id,

username,

RANK() OVER (ORDER BY created\_at ASC) AS account\_creation\_rank

FROM USERS

ORDER BY created\_at ASC ;

**5 List the comments made on photos with their comment texts, photo URLs, and usernames of users who posted the comments. Include the comment count for each photo**

select c.comment\_text, p.image\_url,username,count(comment\_text)

from comments c join photos p on c.photo\_id=p.id

join users u on p.user\_id=u.id join

(

select count(c.comment\_text), image\_url

from comments c join photos p on c.photo\_id=p.id

group by image\_url

)u

group by c.comment\_text,p.image\_url,username;

**6 For each tag, show the tag name and the number of photos associated with that tag. Rank the tags by the number of photos in descending order**.

select tag\_name, count(photo\_id), rank() over(order by count(photo\_id) desc ) as ranks

from tags t left join photo\_tags pt on t.id=pt.tag\_id

group by tag\_name;

**7 List the usernames of users who have posted photos along with the count of photos they have posted.**

**Rank them by the number of photos in descending order.**

select username, count(image\_url), rank() over(order by count(image\_url) desc ) as ranks

from users u left join photos p on u.id=p.user\_id

group by username;

**8 Display the username of each user along with the creation date of their first posted photo and the creation date of their next posted photo**

select username, p.created\_at, lead(p.created\_at,1) over() as next\_posted\_photo

from users u join photos p on u.id=p.user\_id;

**9 For each comment, show the comment text, the username of the commenter, and the comment text of the previous comment made on the same photo.**

select comment\_text, username, photo\_id ,lag(comment\_text,1) over() previous\_comment

from comments c left join users u on c.user\_id=u.id

group by photo\_id,comment\_text,username;

**10 Show the username of each user along with the number of photos they have posted and the number of photos posted by the user before them and after them, based on the creation date.**

select username, p.created\_at ,count(image\_url), lag(count(image\_url),1) over(partition by created\_at),

lead(count(image\_url),1) over(partition by created\_at)

from users u join photos p on u.id=p.user\_id

group by username,p.created\_at;