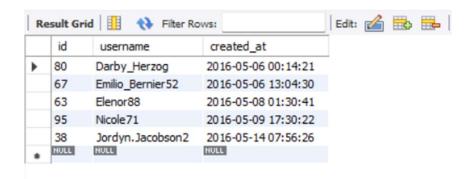
## **SQL Tasks**

## A) Marketing Analysis:

1. Loyal User Reward: The marketing team wants to reward the most loyal users, i.e., those who have been using the platform for the longest time. Your Task: Identify the five oldest users on Instagram from the provided database.

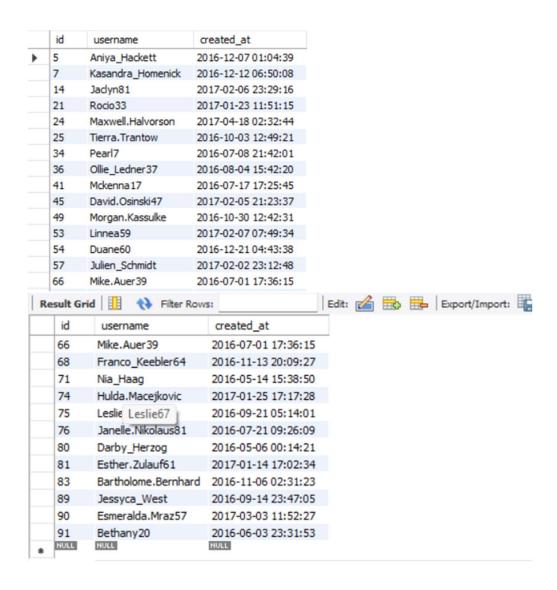
```
select * from users
order by created_at
limit 5;
```



2. Inactive User Engagement: The team wants to encourage inactive users to start posting by sending them promotional emails.

Your Task: Identify users who have never posted a single photo on Instagram.

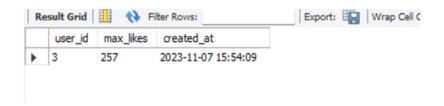
```
FROM users
where id not in (select distinct user_id from photos )
order by id;
```



3. Contest Winner Declaration: The team has organized a contest where the user with the most likes on a single photo wins.

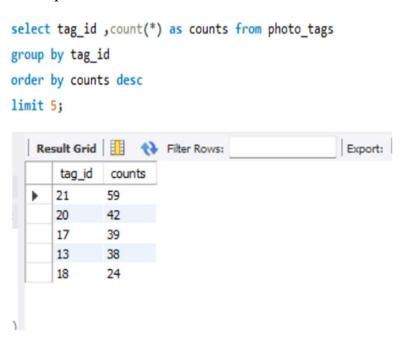
Your Task: Determine the winner of the contest and provide their details to the team.

```
select distinct(user_id),max(photo_id)as max_likes,created_at from likes
group by user_id,created_at
order by max_likes desc
limit 1;
```



4. Hashtag Research: A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

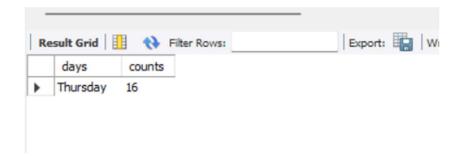
Your Task: Identify and suggest the top five most commonly used hashtags on the platform.



5. Ad Campaign Launch: The team wants to know the best day of the week to launch ads.

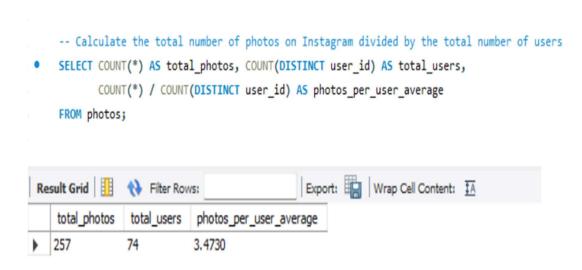
Your Task: Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

```
select dayname(created_at) as days, count(*) as counts from users
group by days
order by counts desc
limit 1;
```



## B) Investor Metrics:

User Engagement: Investors want to know if users are still active and posting on Instagram or if they are making fewer posts.
 Your Task: Calculate the average number of posts per user on Instagram.
 Also, provide the total number of photos on Instagram divided by the total number of users.



2. Bots & Fake Accounts: Investors want to know if the platform is crowded with fake and dummy accounts.

Your Task: Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.

```
SELECT user_id

FROM (
    SELECT l.user_id, COUNT(*) AS total_likes
    FROM likes l
    JOIN photos p ON l.photo_id = p.id
    GROUP BY l.user_id
) AS user_likes
WHERE total_likes = (SELECT COUNT(*) FROM photos);
```

