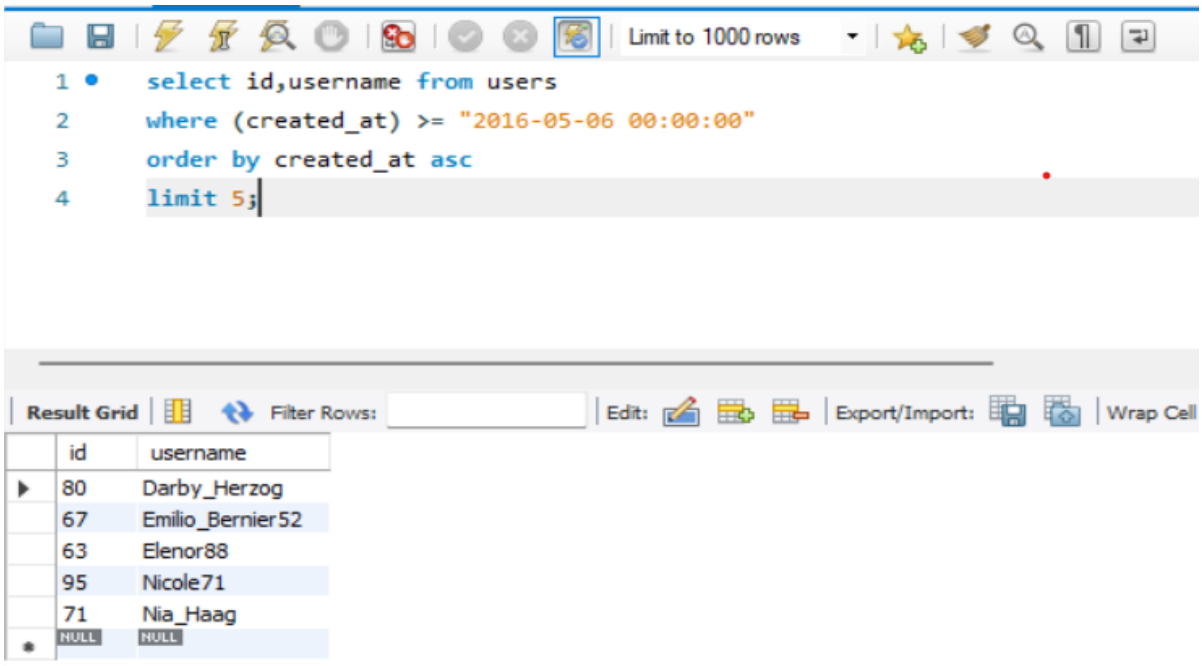
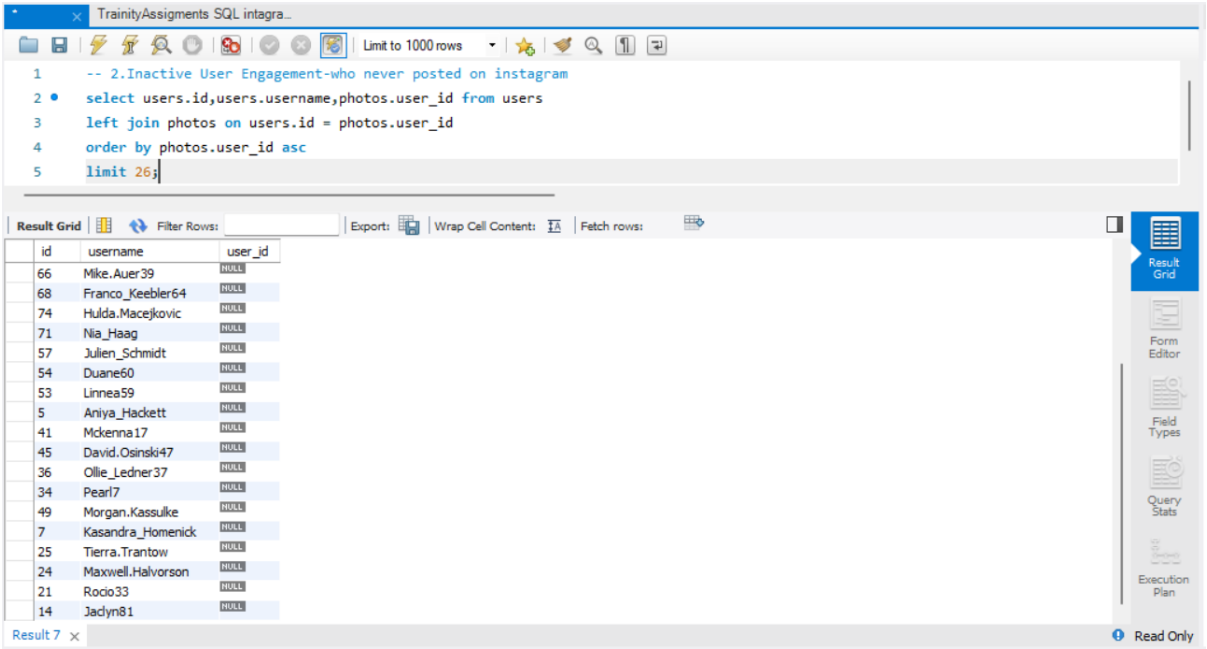
Explaination: As a analyst, I have to do the analysis the data of the Instagram users to get the grow in their business.

Approach: Firstly, I write all the questions that I want a solution of. Then I perform SQL queries.

Firstly, to analyze whom users using their account for long time. In short I have to find the top 5 oldest users. For this I write the below sql query:

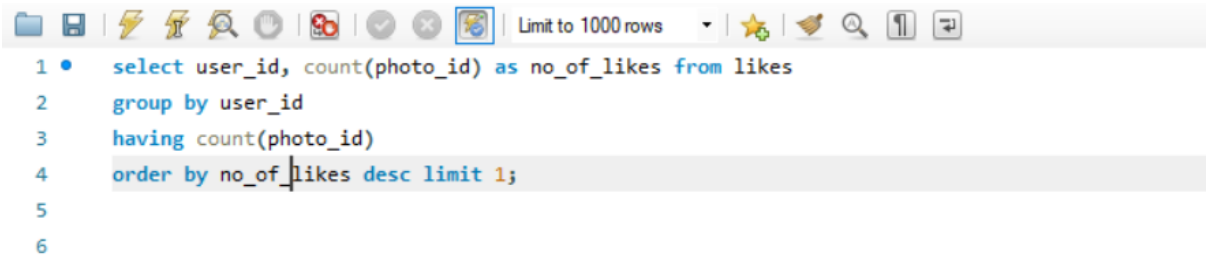


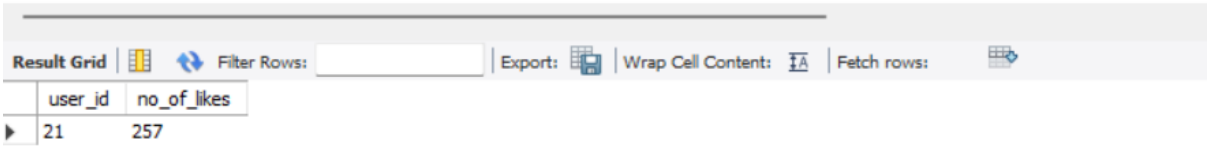
The second question is I have to find the users who never posted on Instagram and the sql query is:



The username who have null values never posted on Instagram.

The third question is Contest Winner Declaration-most likes on single photo and sql query for this question is:



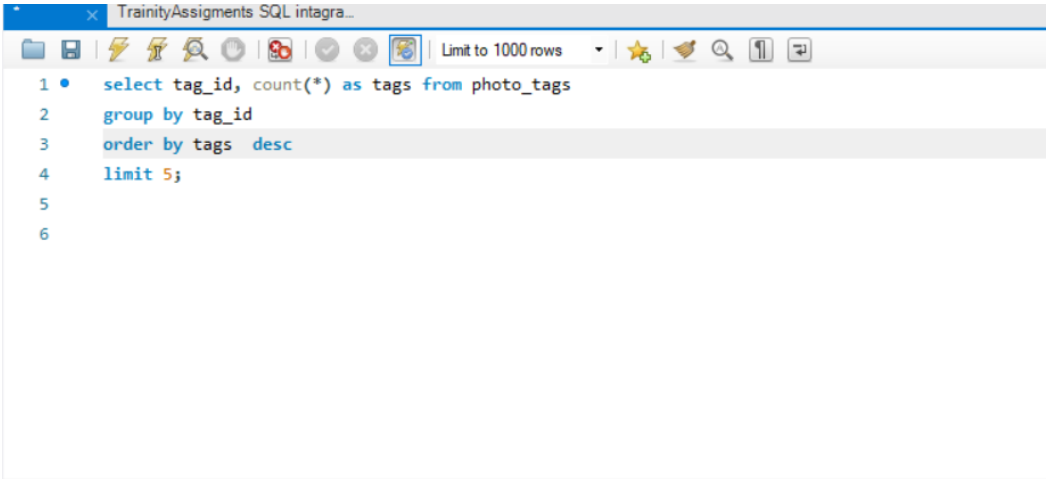


In the above screenshot we can see that user_id – 21 have the most likes on their photo.

I used group by to separate the data user-wise and I used order-by because I have to see the no of likes and “desc” means the no of likes are shown in descending order means we can see the most of likes first.

Fourth question is Identify and suggest the top five most commonly used hashtags on the platform.

So the sql query for this question is:

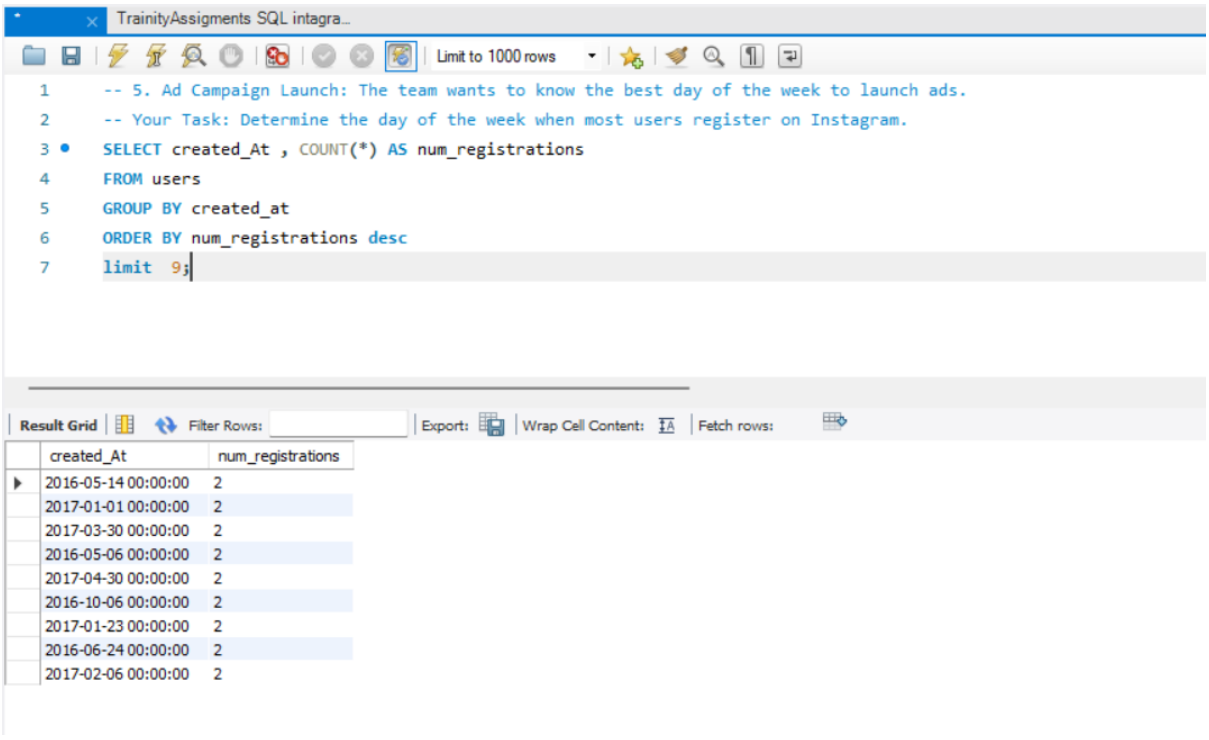


Here we can see that the host used hashtags are shown above with tag_id.

I used group by to separate the data tag wise and I used order by to put tags in descending order and used limit 5 because it shows me the top 5 tags used by most of the users.

The fifth question is determine the day of the week when most users register on Instagram.

And the sql query is:

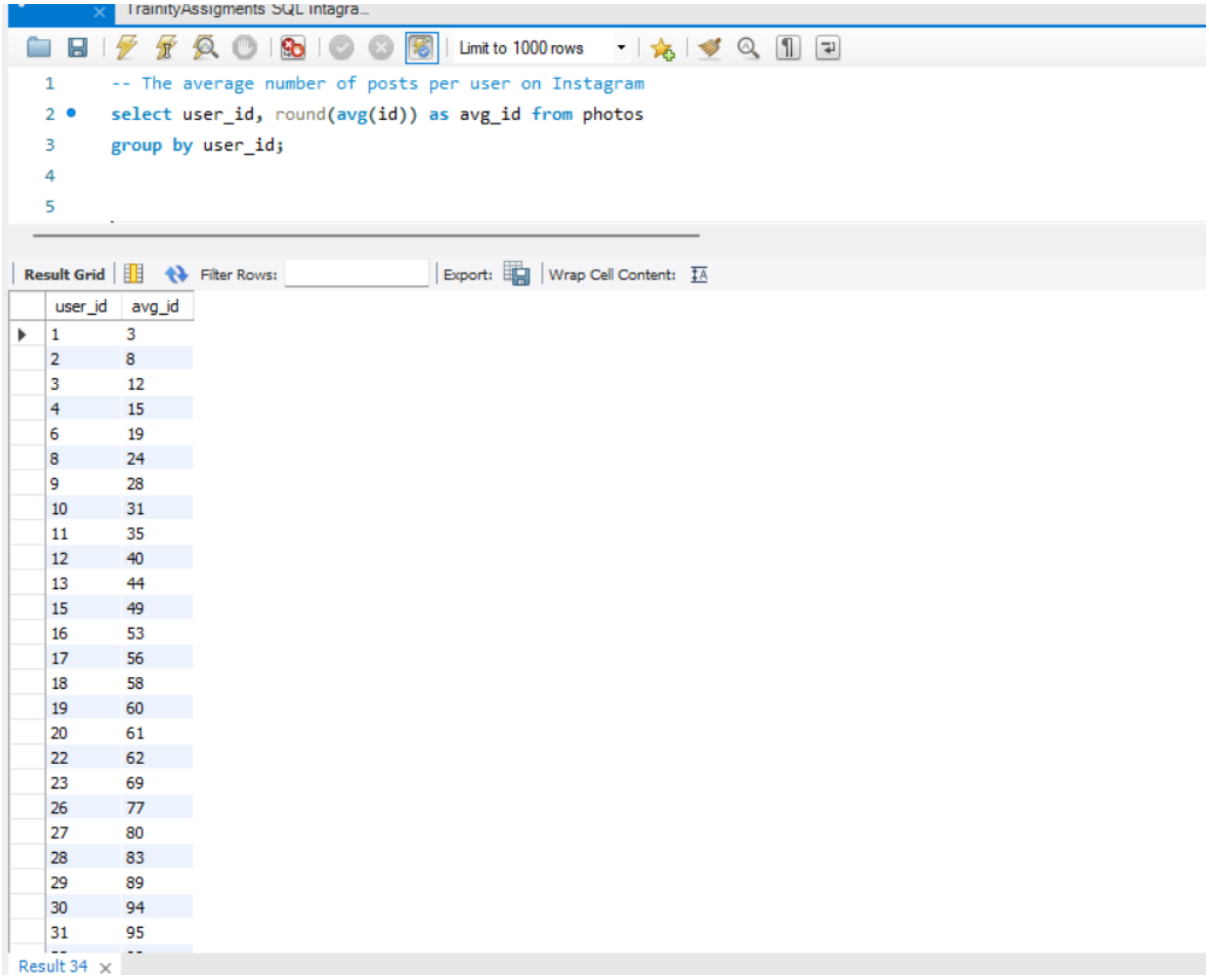


In the SQL query we can see that these are the top 9 date when most of the users created their account.

I used group by to group the data by dates and order by desc to show the maximum no. of registrations by the date and I limit it by 9 to show only first 9 records.

The sixth question is to 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.

The first image we can see the average no of posts per user on Instagram.



In the below image we can see the total no of photos on Instagram divided by the no of users.

```sql
-- The total number of photos on Instagram divided by the total number of users.
SELECT total_photos / total_users AS photos_per_user_ratio
FROM (
    SELECT COUNT(*) AS total_photos
    FROM photos
) AS photo_count,
(
    SELECT COUNT(*) AS total_users
    FROM users
) AS user_count;
```

Result Grid

photos_per_user_ratio
2.5700

The seventh question is to find the user who liked every photo on Instagram and those users can be considered as fake users.

```sql
-- 7. Bots and fake accounts - identify users (potential bots) who have liked every single photo on the site, as this is not typically p
select distinct(users.id),users.username from likes
left join users
on likes.user_id = users.id;
```

Result Grid

id	username
2	Andre_Purdy85
5	Aniya_Hackett
9	Gus93
10	Presley_McClure
11	Justina.Gaylord27
14	Jaclyn81
19	Hailee26
21	Rocio33
24	Maxwell.Halvorson
35	Lennie_Hartmann40
36	Ollie_Ledner37
41	Mckenna17

I used left join because I want to find the users who liked every photo.

3.Tech stack: I used sql language and MYSQL workbench 8.0 to run my sql queries. I used workbench 8.0 because it's the latest version. I used mysql because I used to write sql queries in workbench as a beginner.

4. Insights: By answering all the questions we get our most loyal users and at the ad campaign

They are going to get rewards on that day when most of the users registered. We can get new ideas from those users who are inactive and the owners want to know that what the users want them to be an active user.

By evaluating the user with most likes on single photo can get a reward and it will encourage those inactive users to be an active user.

5.Result: By this analysis, the rate of active users increased along with the posts per user increased by 10 %. And by branding through Instagram by the active or users with more followers they reached to their target audiences which profits the Instagram as well as user and the brand.