Project: Instagram User Analytics

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Description:

In this project, we are working with the product team of Instagram and the product manager. We are asked to provide insights on the questions asked by the management team. Then with help of these insights, teams in the business can launch a new marketing campaign, develop features for Instagram app, track the success of the Instagram by analyse user engagement and improve the user experience altogether while helping the business to grow.

Approach:

To execute the project, we used SQL. So, the first approach was to run SQL queries to create a database using the raw data provided. Once the database was created, we run various sorting and data extracting queries to get the required insights.

Tech-Stack: PostgreSQL 6.19

Used:

PostgreSQL 6.19 was used in this project execution. The ease of access and set up with convenient user interface made it a good tool for the project.

Insights:

In this project, we learned about fundamentals of SQL. And how to analyse the problem statement and the functions we can use in SQL to solve the problem statement and write the queries to get required output. Following are the questions that has been answered with the help of SQL.

Result:

In this project, I have achieved and gain knowledge how to deal with data

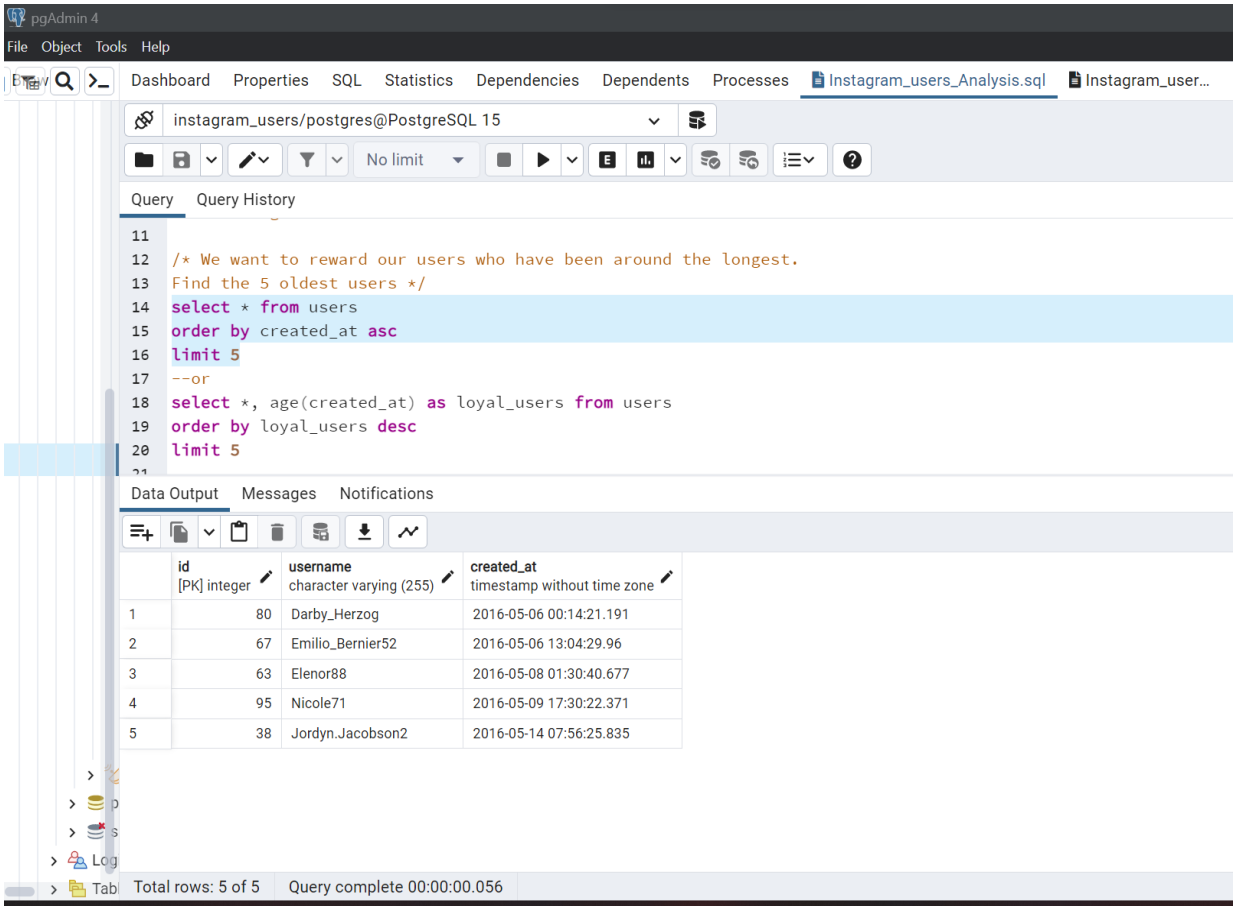
with help of SQL. And how to interact and run queries to get desired output from database.

A) Marketing Metrics

Q1. We want to reward our users who have been around the longest. Find the 5 oldest users?

Query:

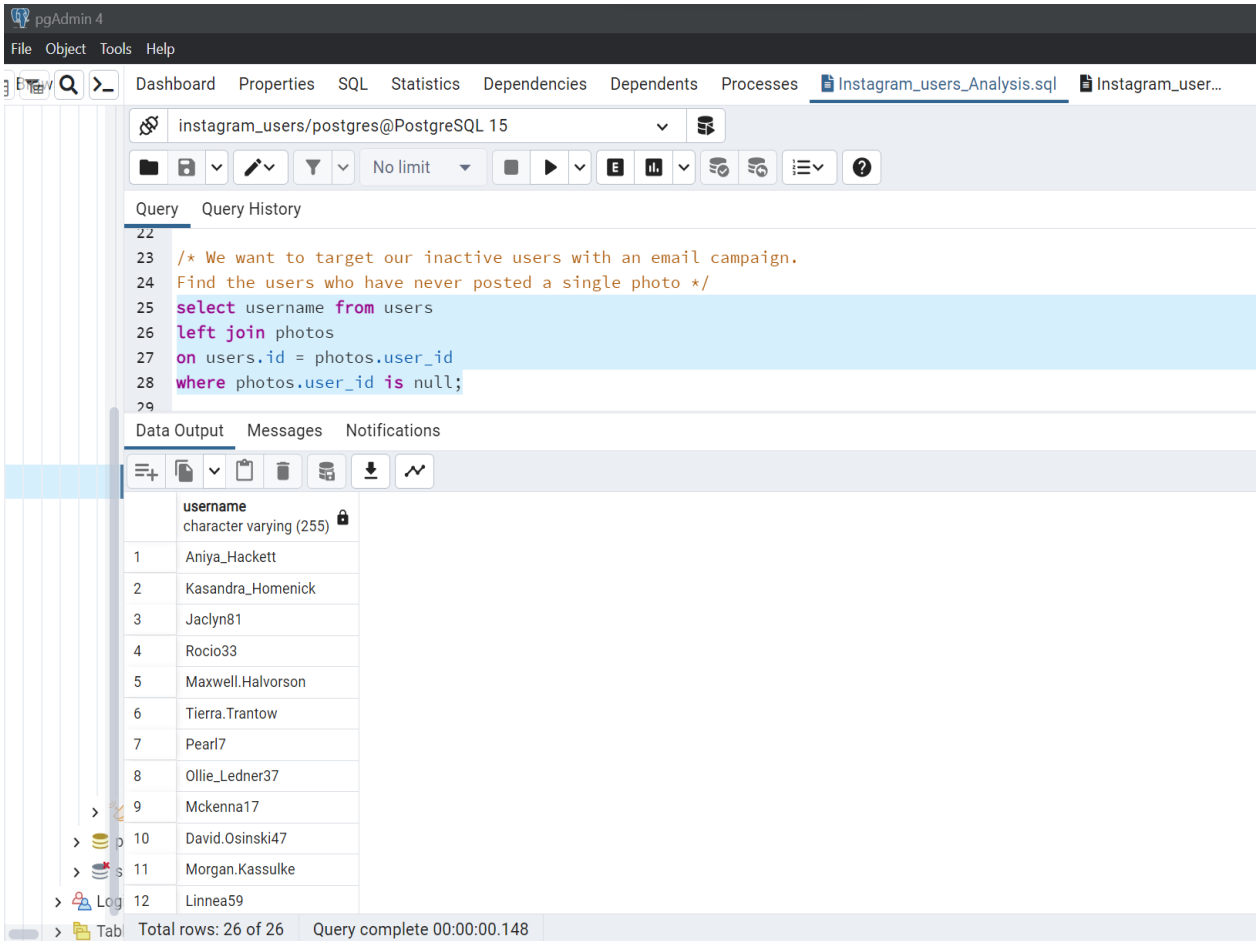
```
select * from users
order by created_at asc
limit 5
--or
select *, age(created_at) as loyal_users from users
order by loyal_users desc
limit 5;
```



Q2. We want to target our inactive users with an email campaign. Find the users who have never posted a single photo.

Query:

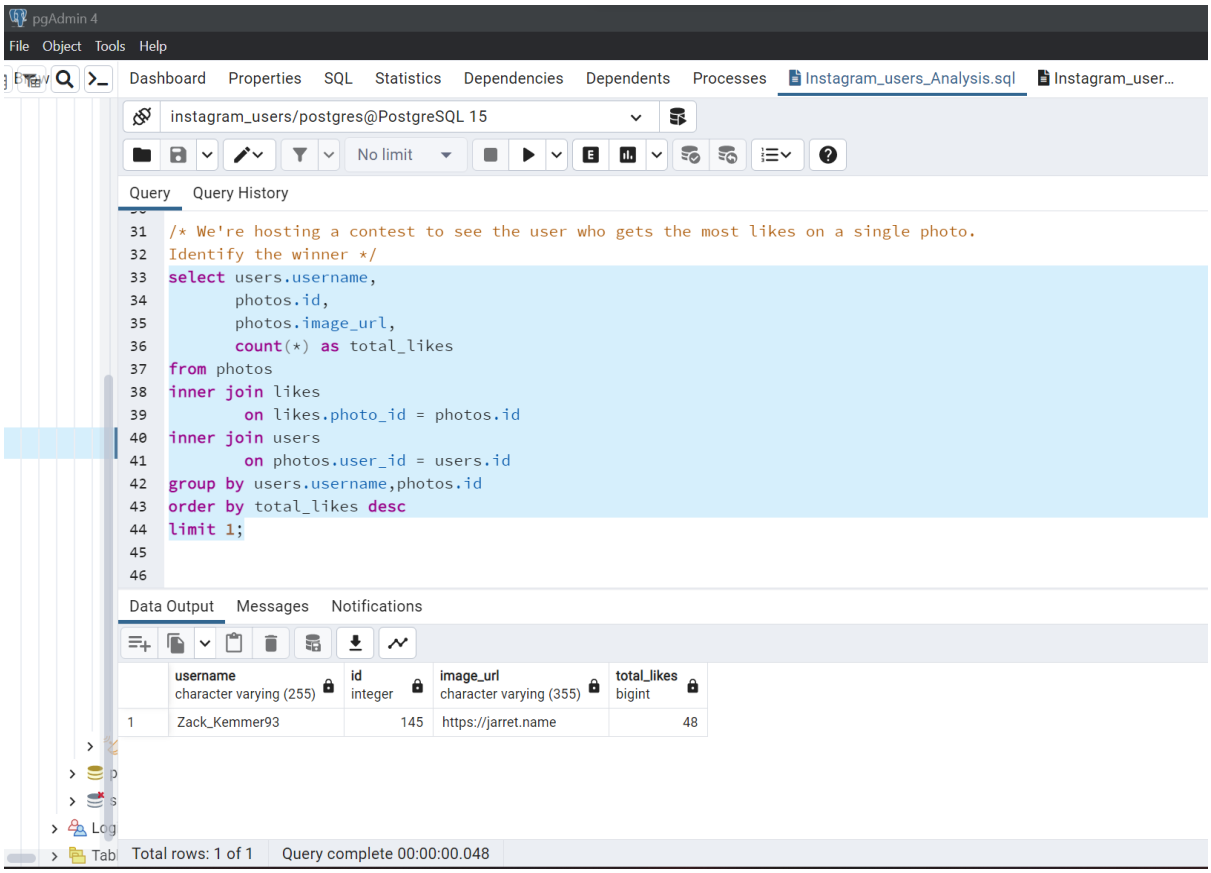
```
select username from users
left join photos
on users.id = photos.user_id
where photos.user_id is null;
```



Q3. We're hosting a contest to see the user who gets the most likes on a single photo. Identify the winner?

Query:

```
select users.username,
      photos.id,
            photos.image_url,
      count(*) as total_likes
from photos
inner join likes
       on likes.photo_id = photos.id
inner join users
       on photos.user_id = users.id
group by users.username,photos.id
order by total_likes desc
limit 1;
```

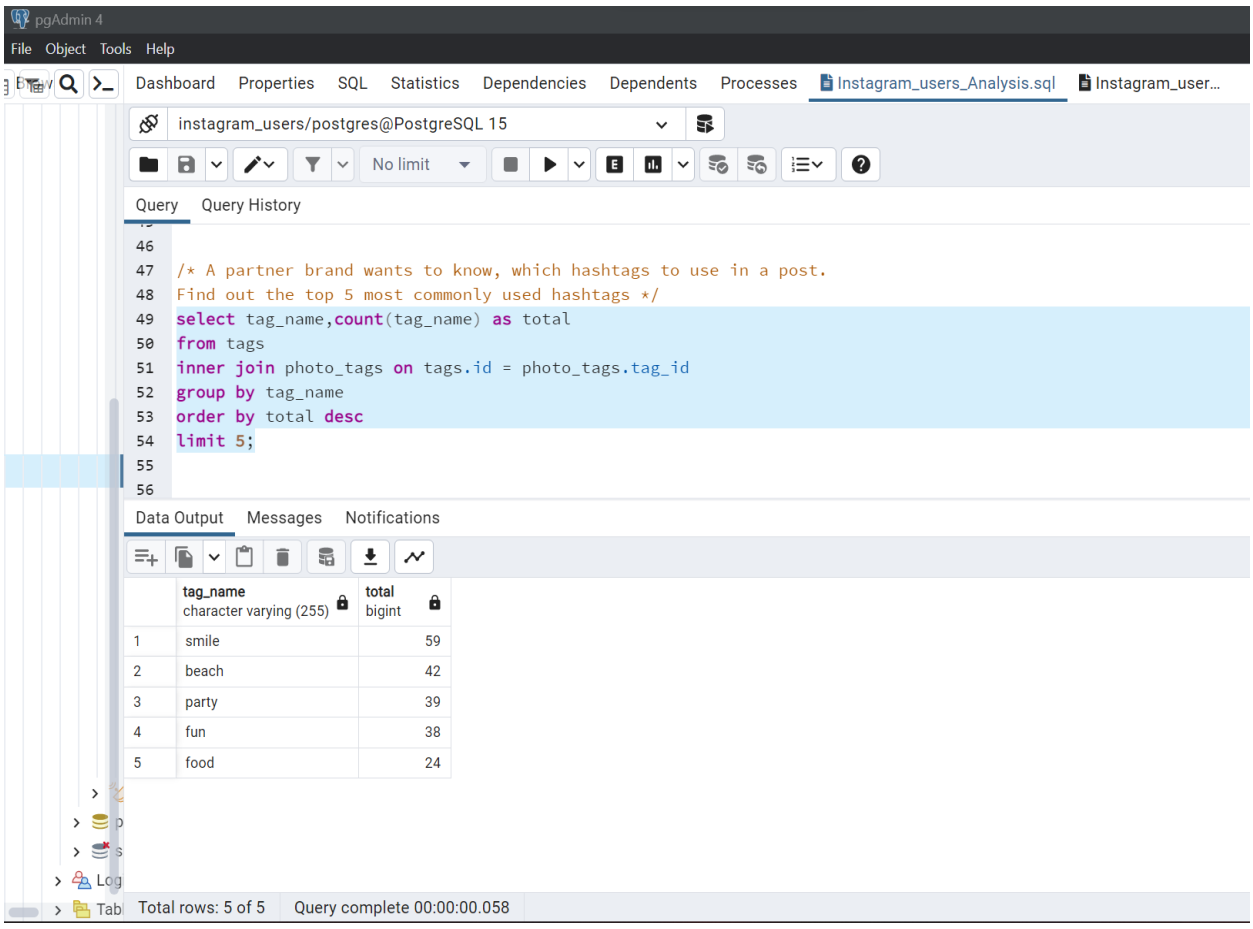


Q4. A partner brand wants to know, which hashtags to use in a post.

Find out the top 5 most commonly used hashtags?

Query:

```
select tag_name,count(tag_name) as total
from tags
inner join photo_tags on tags.id = photo_tags.tag_id
group by tag_name
order by total desc
limit 5;
```

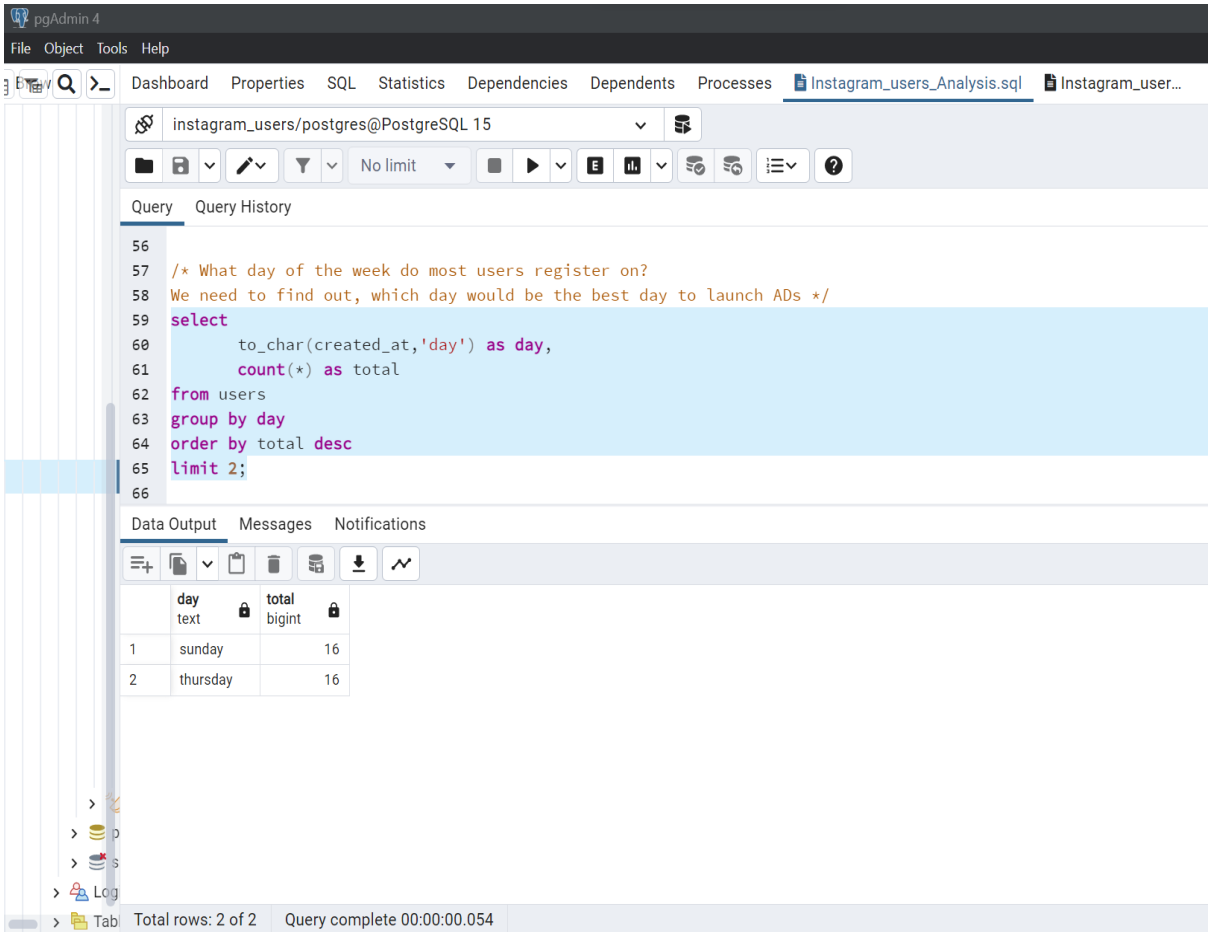


Q5. What day of the week do most users register on?

We need to find out, which day would be the best day to launch Ads?

Query:

```
select
    to_char(created_at,'day') as day,
    count (*) as total
from users
group by day
order by total desc
limit 2;
```

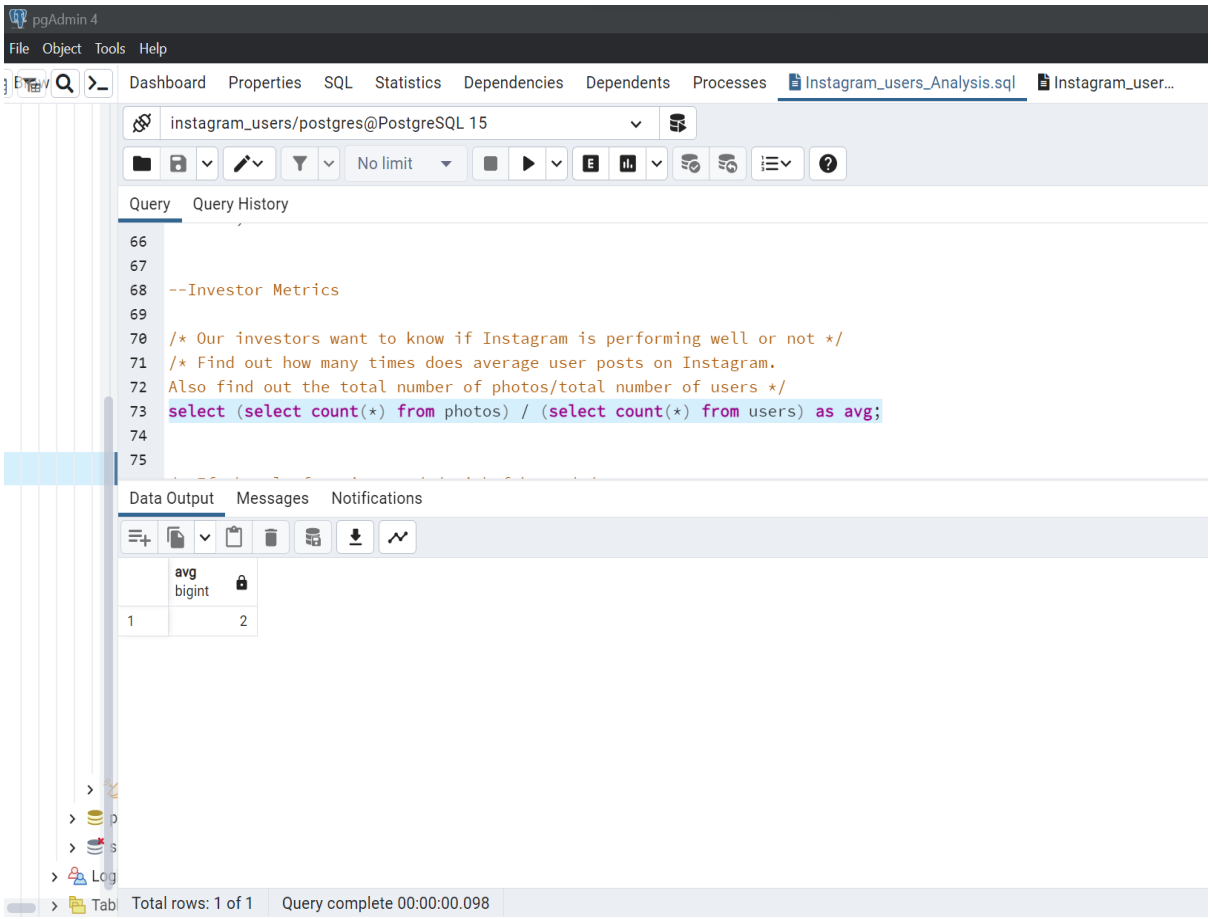


B) Investor Metrics

Q1: Our investors want to know if Instagram is performing well or not. Find out how many times does average user posts on Instagram. Also find out the total number of photos/total number of users.

Query:

select (select count (*) from photos) / (select count (*) from users) as avg;



Q2. If the platform is crowded with fake and dummy accounts.

Find users who have liked every single photo on the site?

Query:

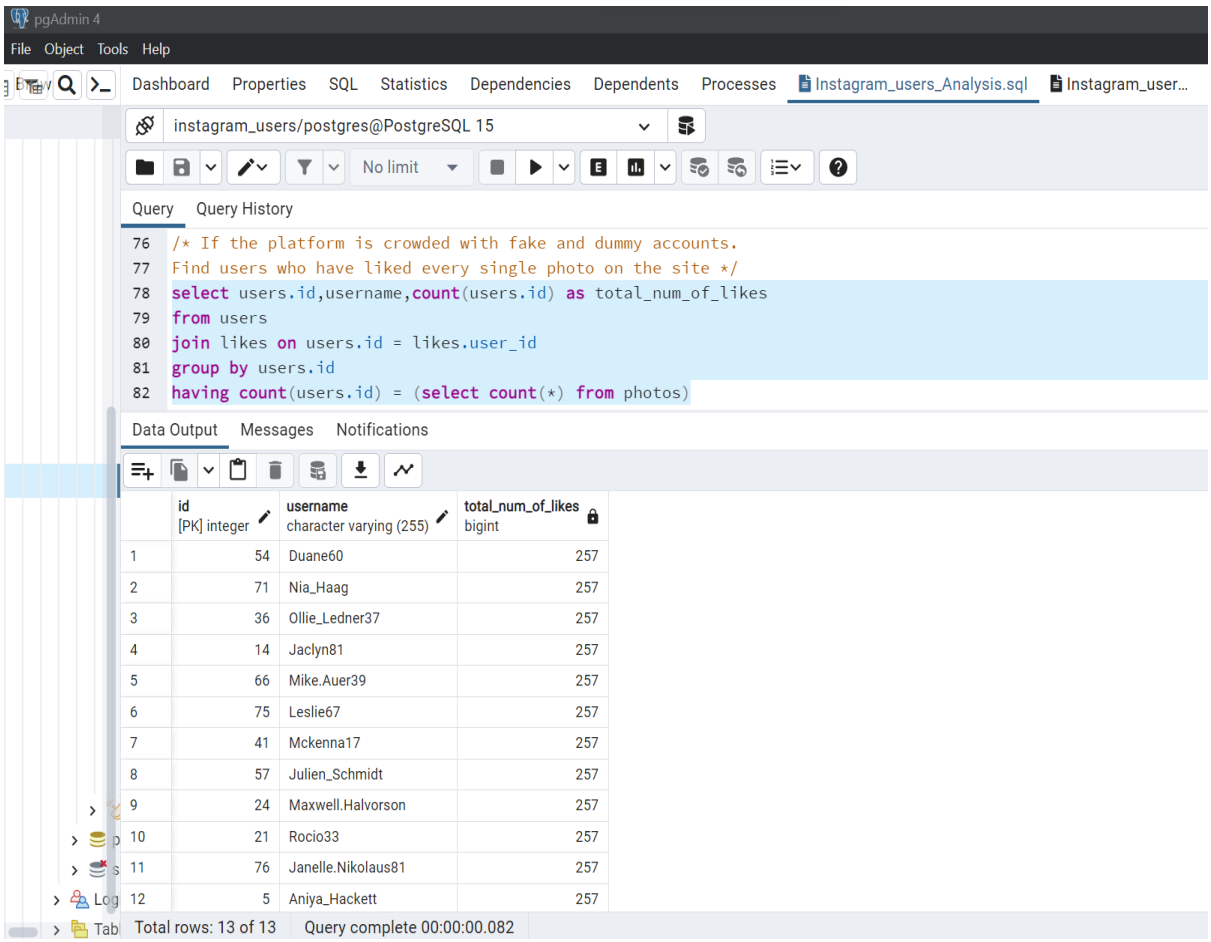
select users.id,username,count(users.id) as total_num_of_likes

from users

join likes on users.id = likes.user_id

group by users.id

having count(users.id) = (select count (*) from photos)



	id [PK] integer	username character varying (255)	total_num_of_likes bigint
1	54	Duane60	257
2	71	Nia_Haag	257
3	36	Ollie_Ledner37	257
4	14	Jaclyn81	257
5	66	Mike.Auer39	257
6	75	Leslie67	257
7	41	Mckenna17	257
8	57	Julien_Schmidt	257
9	24	Maxwell.Halvorson	257
10	21	Rocio33	257
11	76	Janelle.Nikolaus81	257
12	5	Aniya_Hackett	257