Instagram User Analytics

Project 2

Project Description: This Project is about analyzing the user interaction and activity in Instagram app. It aims to extract the useful information from data through SQL commands which will help in enhancing the business performance and user interest.

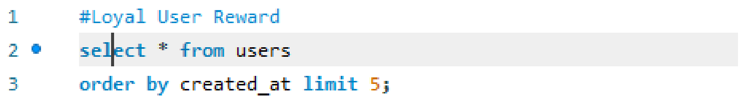
Project Approach: This project is executed using SQL, where queries used for creating the database from provided raw data. the various data functions, queries and joins implemented to provide the data insight according to requirement.

Tech-Stack Used: Tech-stack used in this project is Mysql workbench 8. 0CE.It is the best tool for executing the sql queries.it is very user-friendly with simple set-up and accessibility.

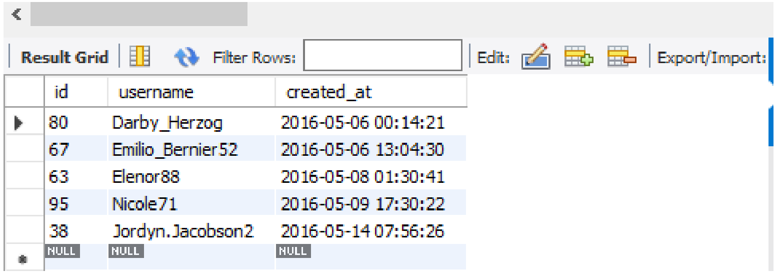
Project Insight:A) Marketing Analysis:

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.
   Result- the five oldest users on Instagram from the provided database, these are the most loyal users.

80	Darby_Herzog	2016-05-06 00:14:21
67	Emilio_Bernier52	2016-05-06 13:04:30
63	Elenor88	2016-05-08 01:30:41
95	Nicole71	2016-05-09 17:30:22
38	Jordyn.Jacobson2	2016-05-14 07:56:26



```
#Loyal User Reward
select * from users
order by created_at limit 5;
```



id	username	created_at
80	Darby_Herzog	2016-05-06 00:14:21
67	Emilio_Bernier52	2016-05-06 13:04:30
63	Elenor88	2016-05-08 01:30:41
95	Nicole71	2016-05-09 17:30:22
38	Jordyn.Jacobson2	2016-05-14 07:56:26
NULL	NULL	NULL

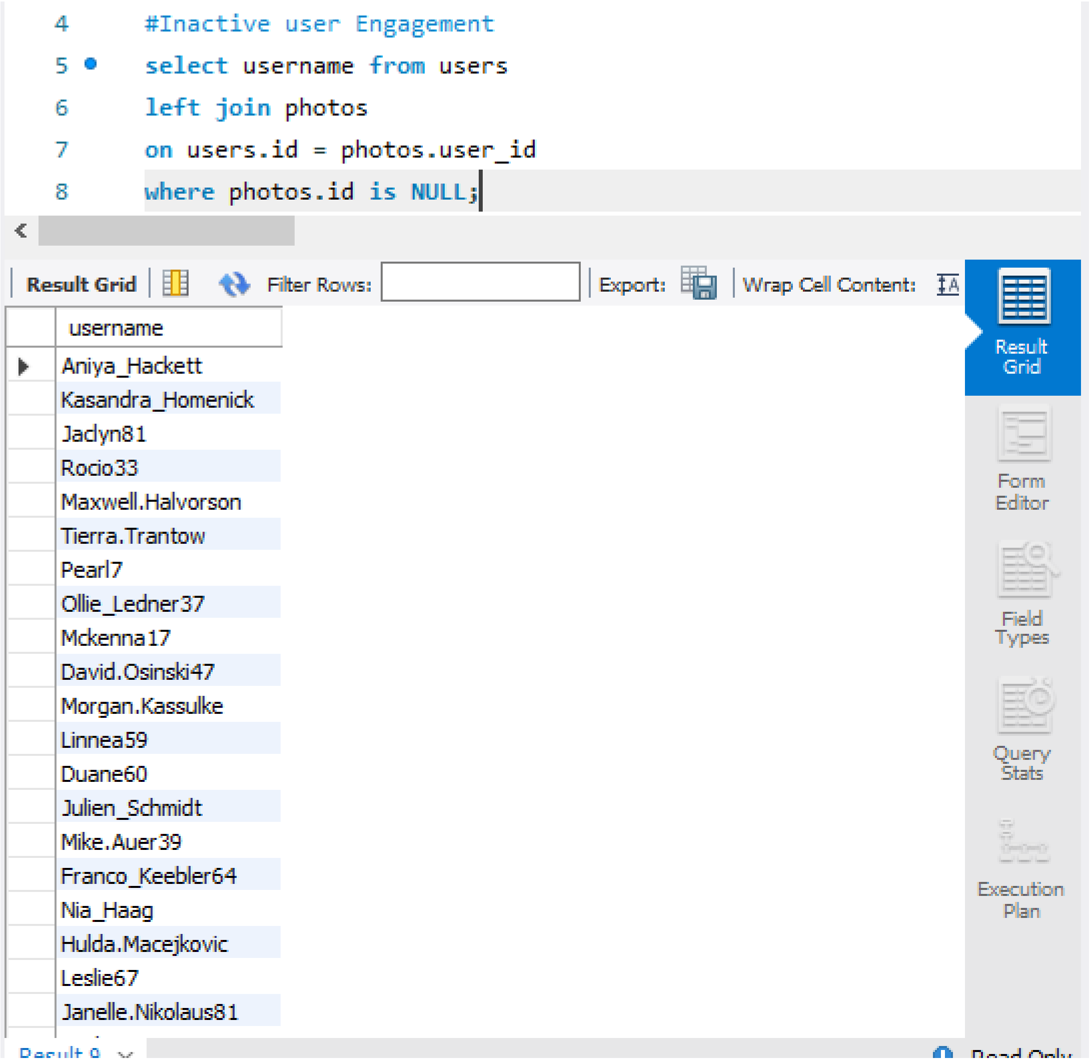
CODE- Loyal User Reward

```
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.
Result: List of users who have never posted a single photo on Instagram.

Aniya_Hackett
Kasandra_Homenick
Jaclyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike.Auer39
Franco_Keebler64
Nia_Haag
Hulda.Macejkovic
Leslie67
Janelle.Nikolaus81
Darby_Herzog
Esther.Zulauf61
Bartholome.Bernhard
Jessyca_West
Esmeralda.Mraz57
Bethany20



```sql
#Inactive user Engagement
select username from users
left join photos
on users.id = photos.user_id
where photos.id is NULL;
```

```
username
Aniya_Hackett
Kasandra_Homenick
Jaclyn81
Rocio33
Maxwell.Halvorson
Tierra.Trantow
Pearl7
Ollie_Ledner37
Mckenna17
David.Osinski47
Morgan.Kassulke
Linnea59
Duane60
Julien_Schmidt
Mike.Auer39
Franco_Keebler64
Nia_Haag
Hulda.Macejkovic
Leslie67
Janelle.Nikolaus81
```

CODE - Inactive user Engagement

select username from users

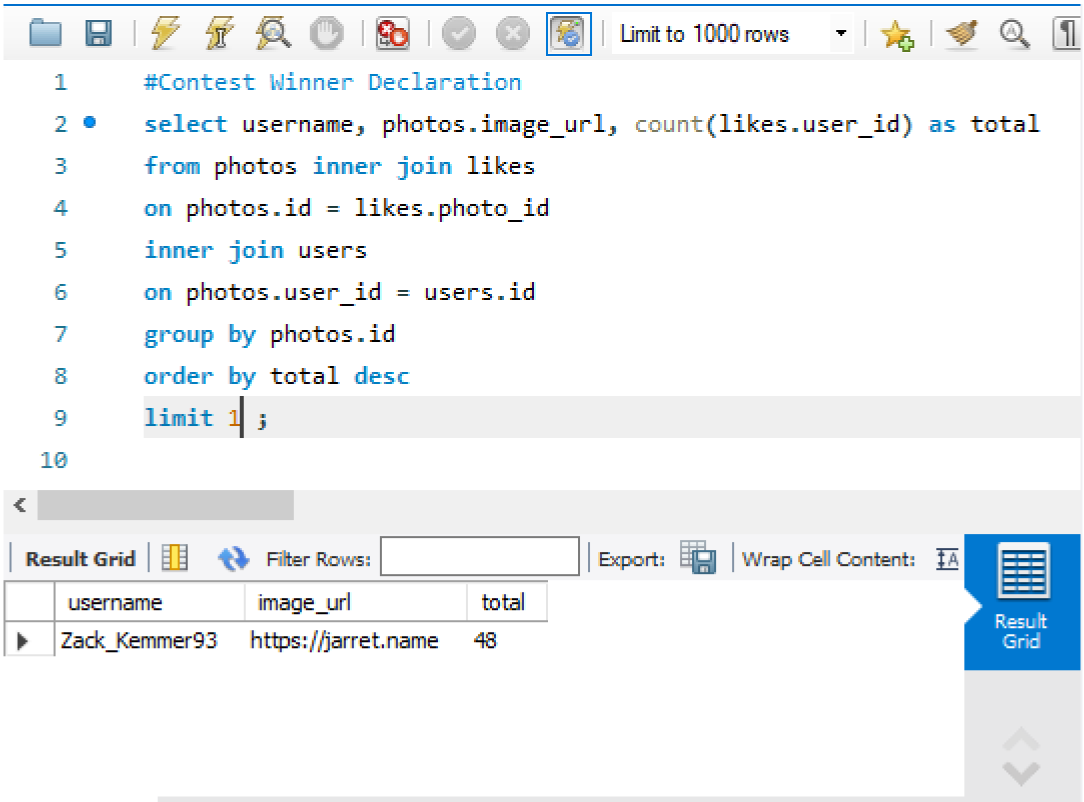
left join photos

on users.id = photos.user_id

where photos.id is NULL;

3.Contest Winner Declaration: The team has organized a contest where the user with the most likes on a single photo wins.
Result: winner of the contest and their details .

Zack_Kemmer93 https://jarret.name	48



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

username	image_url	total
Zack_Kemmer93	https://jarret.name	48

Code - Contest Winner Declaration

select username, photos.image_url, count(likes.user_id) as total

from photos inner join likes

on photos.id = likes.photo_id

inner join users

on photos.user_id = users.id

group by photos.id

order by total desc

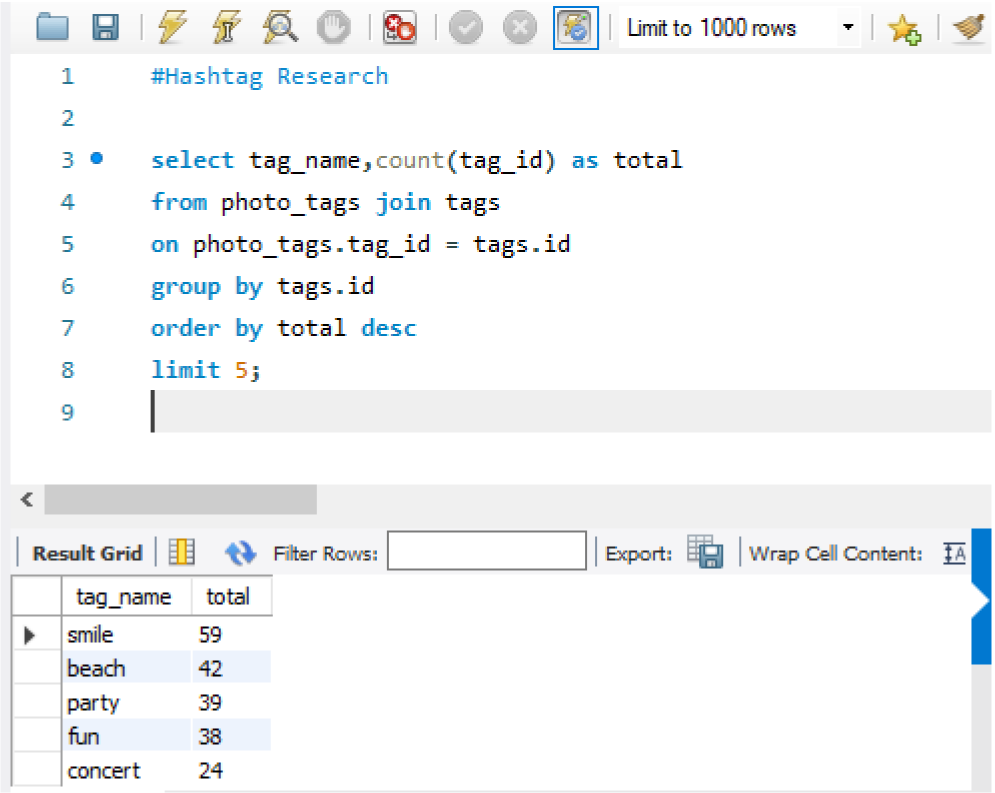
limit 1 ;

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

Result: the top five most commonly used hashtags on the platform

Smile	59
Beach	42

Party	39
Fun	38
Concert	24



```
#Hashtag Research

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

tag_name	total
smile	59
beach	42
party	39
fun	38
concert	24

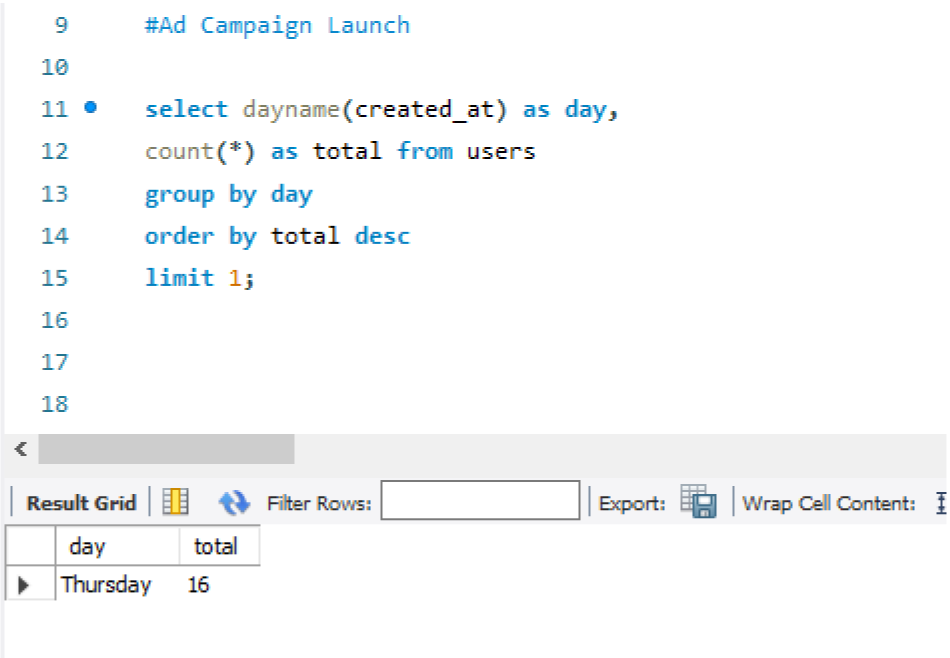
Code-Hashtag Research

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

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

Result- day of week when most user register on Instagram that day we will schedule an ad campaign.

day	total
Thursday	16



```
#Ad Campaign Launch

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

day	total
Thursday	16

Code -Ad Campaign Launch

select dayname(created_at) as day,

count(*) as total from users

group by day

order by total desc

limit 1;

B) Investor Metrics:

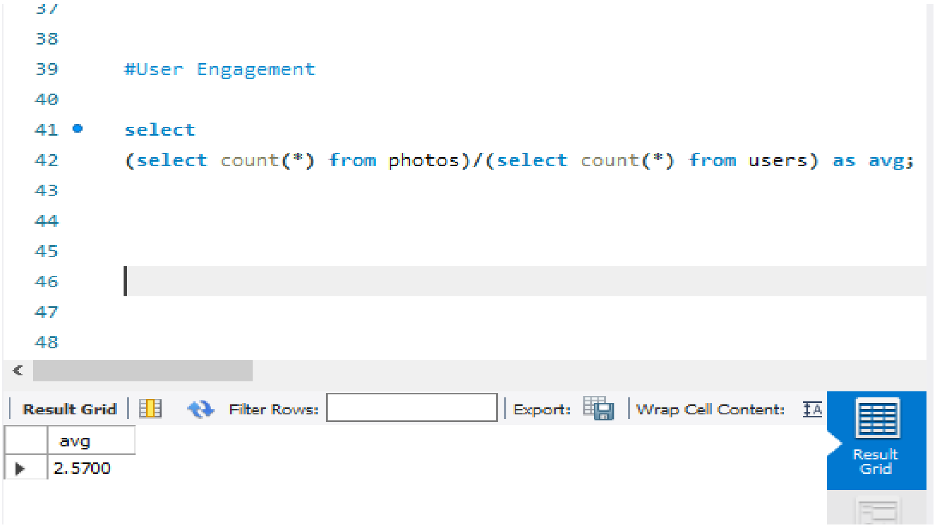
1.User Engagement: Investors want to know if users are still active and posting on Instagram or if they are making fewer posts.
Result: we will calculate the average number of posts per user on Instagram by dividing the total number of photos on Instagram to the total number of users.

Avg - 2.5700

Code -User Engagement

select

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



```
#User Engagement

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

```
avg
2.5700
```

2.Bots & Fake Accounts: Investors want to know if the platform is crowded with fake and dummy accounts.
Result: we will identify fake account by identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user..

5	257
14	257
21	257
24	257
36	257
41	257
54	257
57	257
66	257
71	257
75	257
76	257
91	257

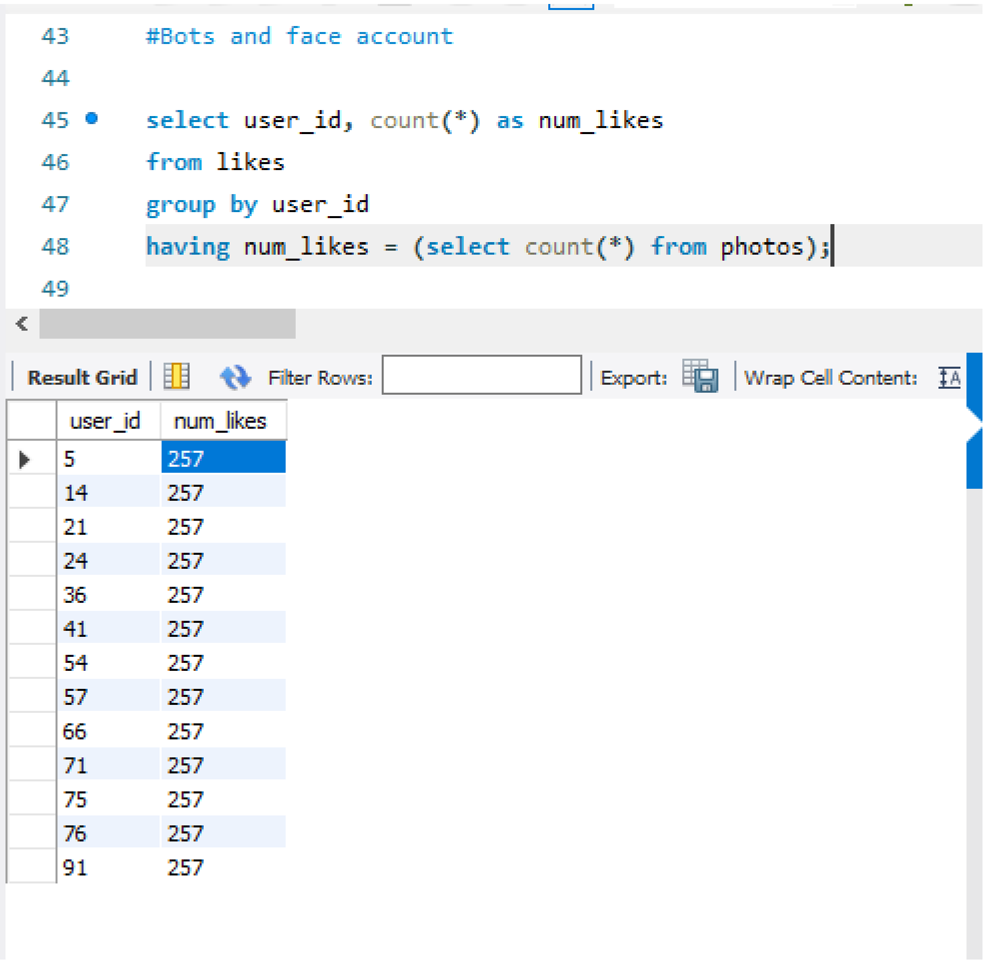
Code -#Bots and face account

```
select user_id, count(*) as num_likes

from likes

group by user_id

having num_likes = (select count(*) from photos);
```



```sql
#Bots and face account

select user_id, count(*) as num_likes
from likes
group by user_id
having num_likes = (select count(*) from photos);
```

user_id	num_likes
5	257
14	257
21	257
24	257
36	257
41	257
54	257
57	257
66	257
71	257
75	257
76	257
91	257

Result -With this project we learned that with the implementation of joins and various database functions in sql we can determine the valuable insight. with this project we determine the various information about Instagram and Instagram users which will helpful for business purpose as well as it will enhance user experience.