Instagram User Analytics

Description

- Instagram user analysis is simple and small project to obtain information from database that is provided. In this work, user has to write SQL query to get data from this database.

- Data that has been collected by this process can be used by the teams across the business to launch new marketing campaigns, decide on app features, track the success of the app by measuring user engagement and improve the experience altogether with business growth.

Approach

- The data set is observed and studied to understand the different categories and parameters of the data provided.

- This data set is executed to draw useful insights on the business proceedings.

Tech-Stack Used

- MySQL workbench is used to run all the queries in this project.
- This software is very handy to manage the dataset and draw useful insights.

Insights

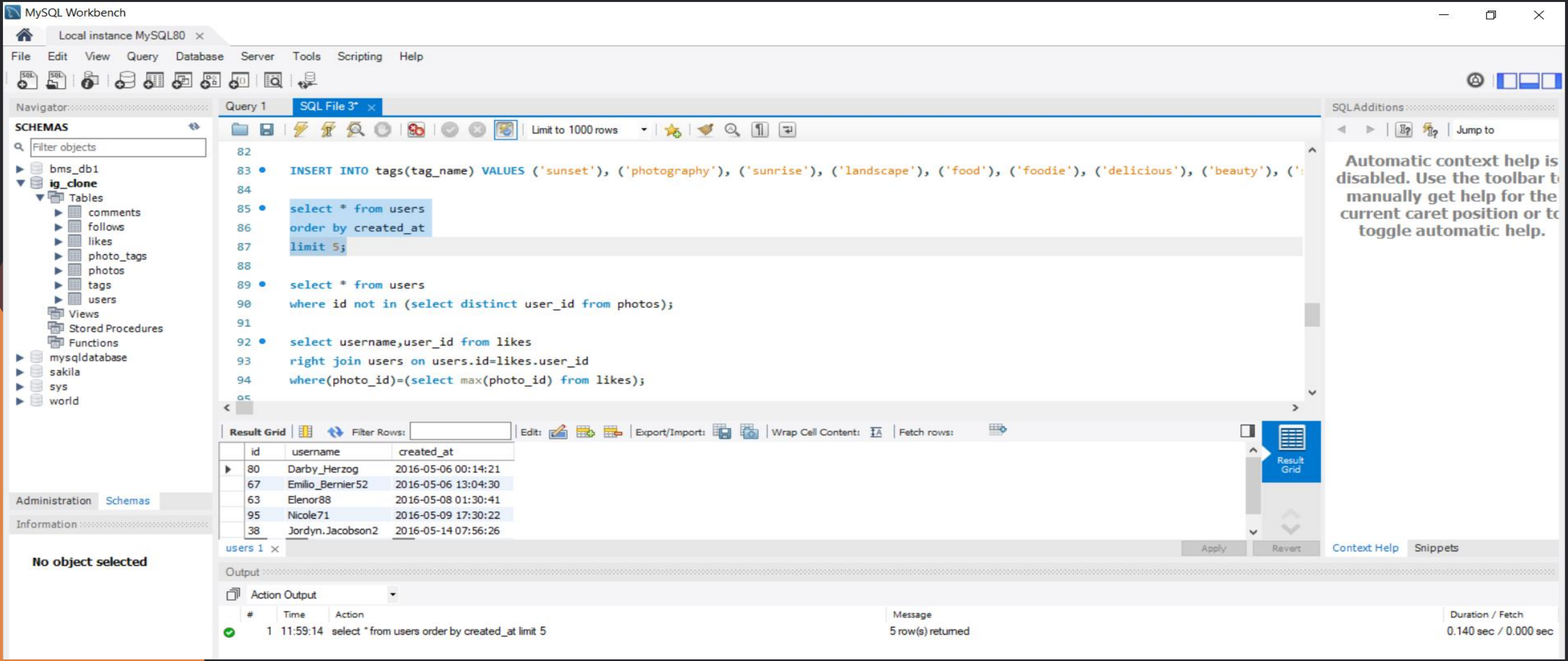
- Learnt about the use of Order by, Group by, In, Not in functions.

- Use of different joins such as inner join, left join, right join ect and when to use them.

Rewarding Most Loyal Users

Find the 5 oldest users of the Instagram from the database provided.

SQL :
select * from users order by created_at limit 5;



```
INSERT INTO tags(tag_name) VALUES ('sunset'), ('photography'), ('sunrise'), ('landscape'), ('food'), ('foodie'), ('delicious'), ('beauty'), ('

select * from users
order by created_at
limit 5;

select * from users
where id not in (select distinct user_id from photos);

select username,user_id from likes
right join users on users.id=likes.user_id
where(photo_id)=(select max(photo_id) from likes);
```

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

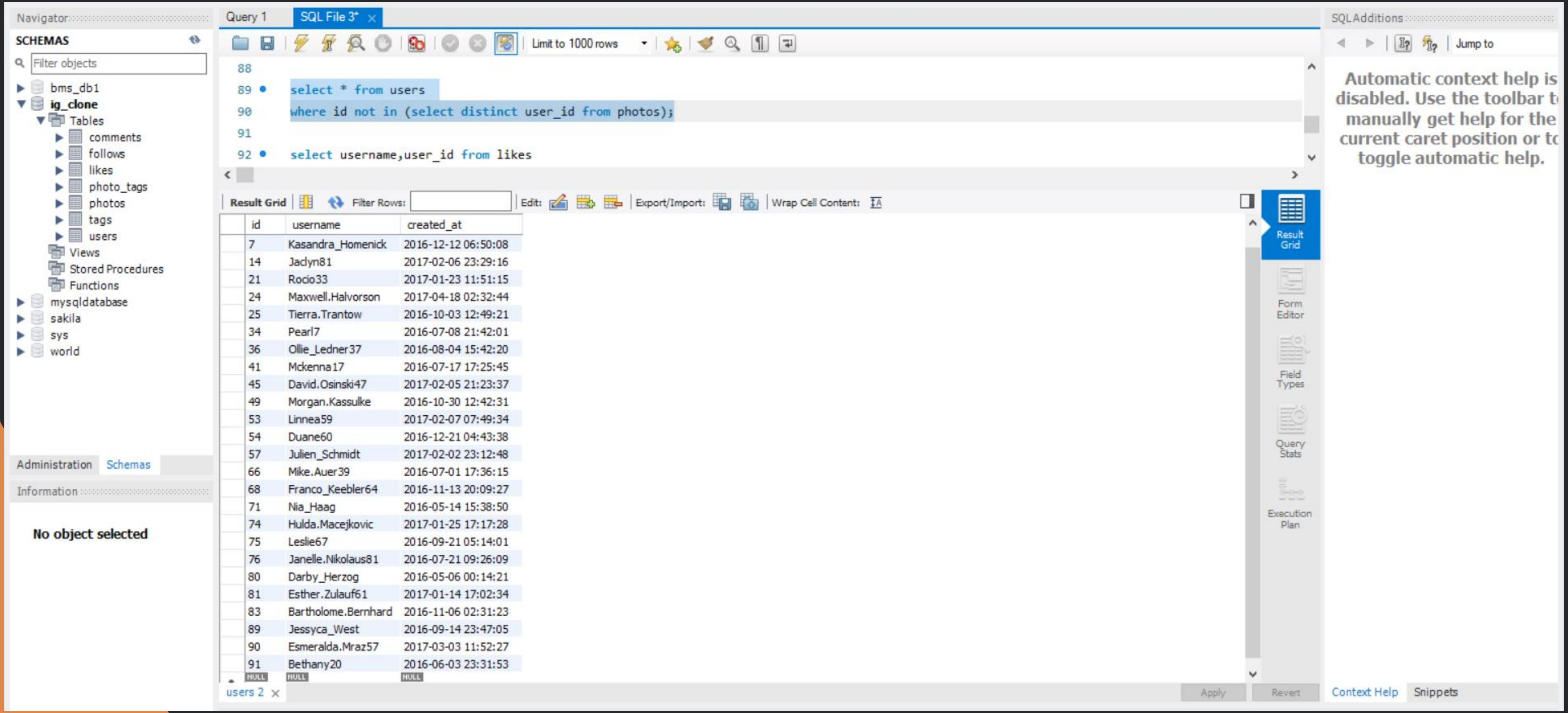
#	Time	Action	Message	Duration / Fetch
1	11:59:14	select * from users order by created_at limit 5	5 row(s) returned	0.140 sec / 0.000 sec

Remind Inactive Users to Start Posting

Find the users who have never posted a single photo on Instagram

select * from users

where id not in (select distinct user_id from photos);



```
select * from users
where id not in (select distinct user_id from photos);

select username,user_id from likes
```

id	username	created_at
7	Kasandra_Homenick	2016-12-12 06:50:08
14	Jaclyn81	2017-02-06 23:29:16
21	Rocio33	2017-01-23 11:51:15
24	Maxwell.Halvorson	2017-04-18 02:32:44
25	Tierra.Trantow	2016-10-03 12:49:21
34	Pearl7	2016-07-08 21:42:01
36	Ollie_Ledner37	2016-08-04 15:42:20
41	Mckenna17	2016-07-17 17:25:45
45	David.Osinski47	2017-02-05 21:23:37
49	Morgan.Kassulke	2016-10-30 12:42:31
53	Linnea59	2017-02-07 07:49:34
54	Duane60	2016-12-21 04:43:38
57	Julien_Schmidt	2017-02-02 23:12:48
66	Mike.Auer39	2016-07-01 17:36:15
68	Franco_Keebler64	2016-11-13 20:09:27
71	Nia_Haag	2016-05-14 15:38:50
74	Hulda.Macejkovic	2017-01-25 17:17:28
75	Leslie67	2016-09-21 05:14:01
76	Janelle.Nikolaus81	2016-07-21 09:26:09
80	Darby_Herzog	2016-05-06 00:14:21
81	Esther.Zulauf61	2017-01-14 17:02:34
83	Bartholome.Bernhard	2016-11-06 02:31:23
89	Jessyca_West	2016-09-14 23:47:05
90	Esmeralda.Mraz57	2017-03-03 11:52:27
91	Bethany20	2016-06-03 23:31:53
NULL	NULL	NULL

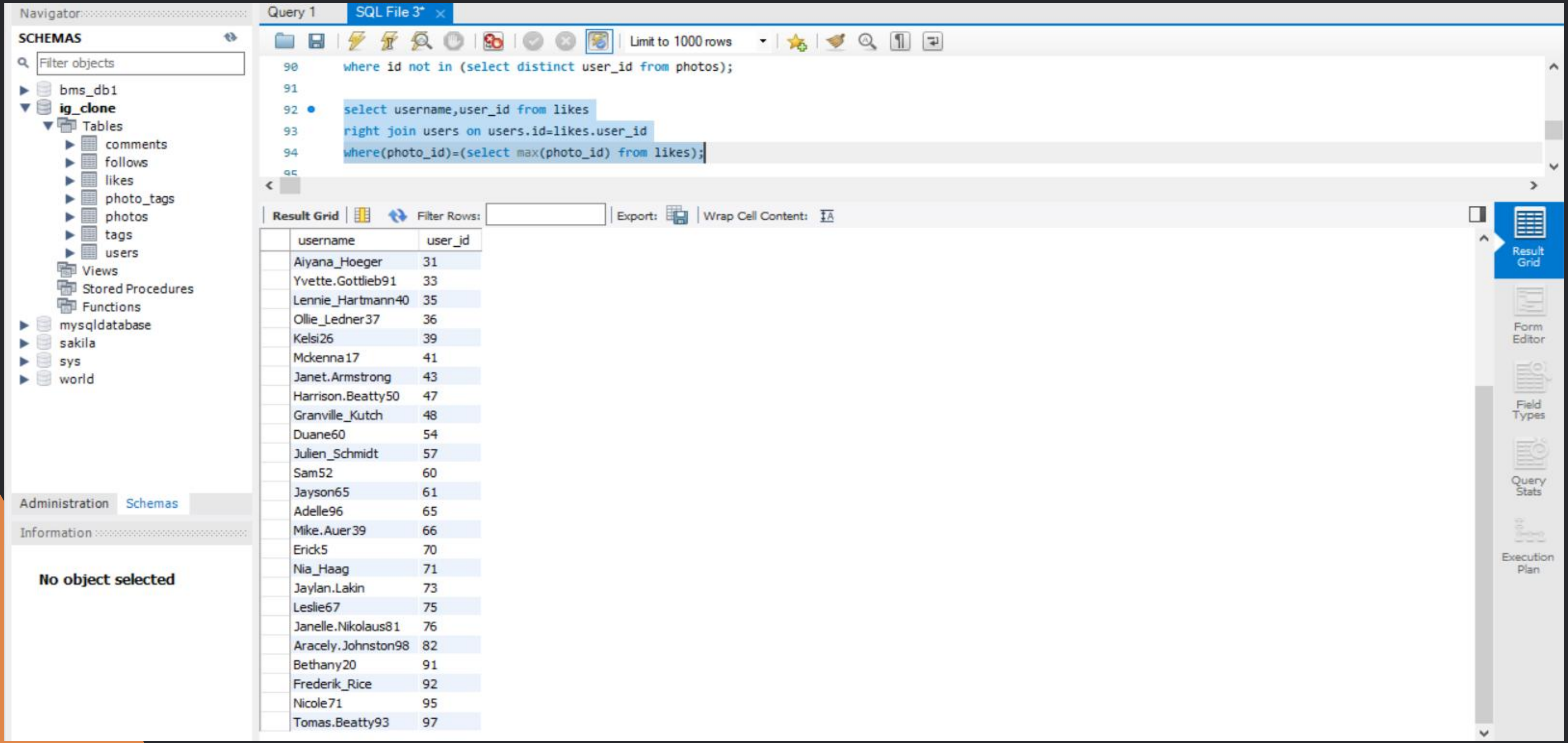
Declaring Contest Winner

Identify the winner of the contest and provide their details to the team

select username,user_id from likes

right join users on users.id=likes.user_id

where(photo_id)=(select max(photo_id) from likes);



```
where id not in (select distinct user_id from photos);

select username,user_id from likes
right join users on users.id=likes.user_id
where(photo_id)=(select max(photo_id) from likes);
```

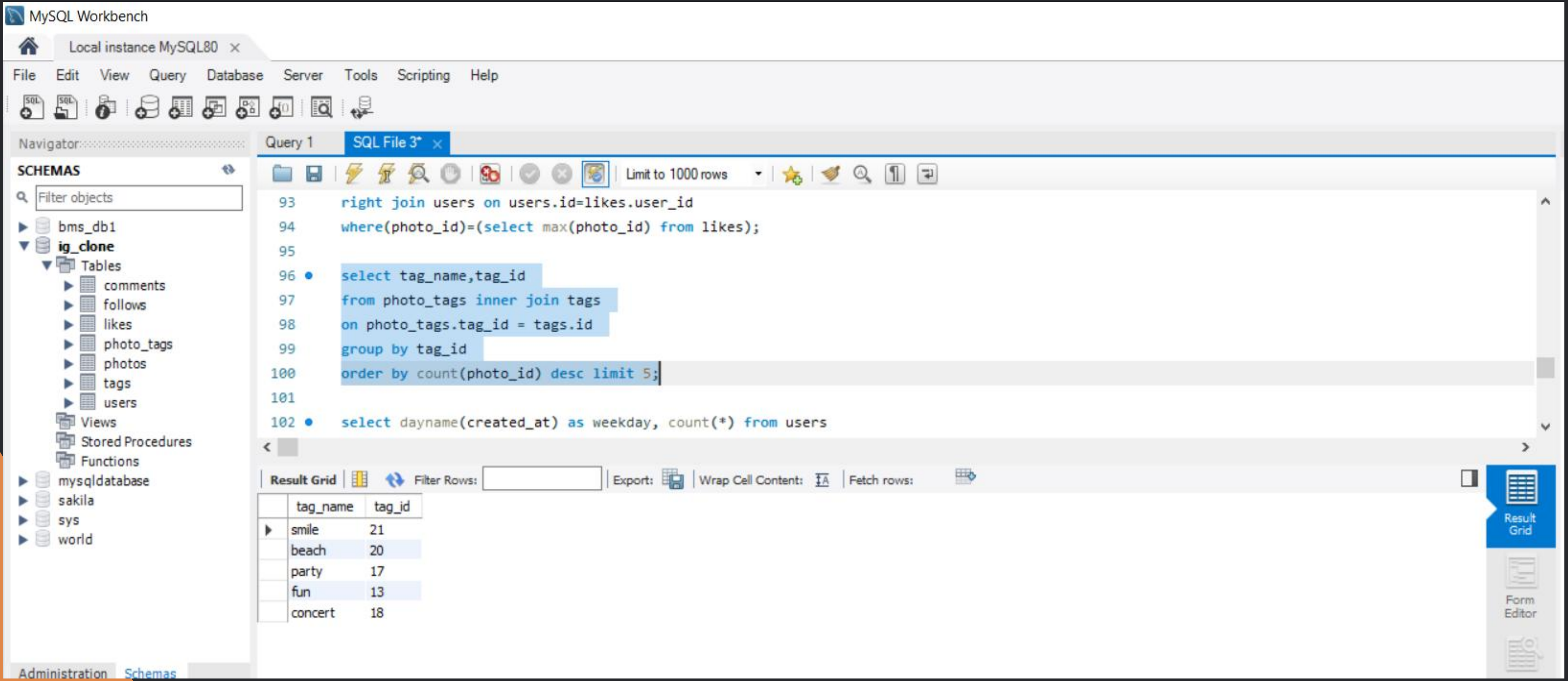
username	user_id
Aiyana_Hoeger	31
Yvette.Gottlieb91	33
Lennie_Hartmann40	35
Ollie_Ledner37	36
Kelsi26	39
Mckenna17	41
Janet.Armstrong	43
Harrison.Beatty50	47
Granville_Kutch	48
Duane60	54
Julien_Schmidt	57
Sam52	60
Jayson65	61
Adelle96	65
Mike.Auer39	66
Erick5	70
Nia_Haag	71
Jaylan.Lakin	73
Leslie67	75
Janelle.Nikolaus81	76
Aracely.Johnston98	82
Bethany20	91
Frederik_Rice	92
Nicole71	95
Tomas.Beatty93	97

Hashtag Researching

Identify and suggest the top 5 most commonly used hashtags on the platform.

select tag_name,tag_id from photo_tags inner join tags on photo_tags.tag_id = tags.id

group by tag_id order by count(photo_id) desc limit 5;



```
right join users on users.id=likes.user_id
where(photo_id)=(select max(photo_id) from likes);

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

select dayname(created_at) as weekday, count(*) from users
```

tag_name	tag_id
smile	21
beach	20
party	17
fun	13
concert	18

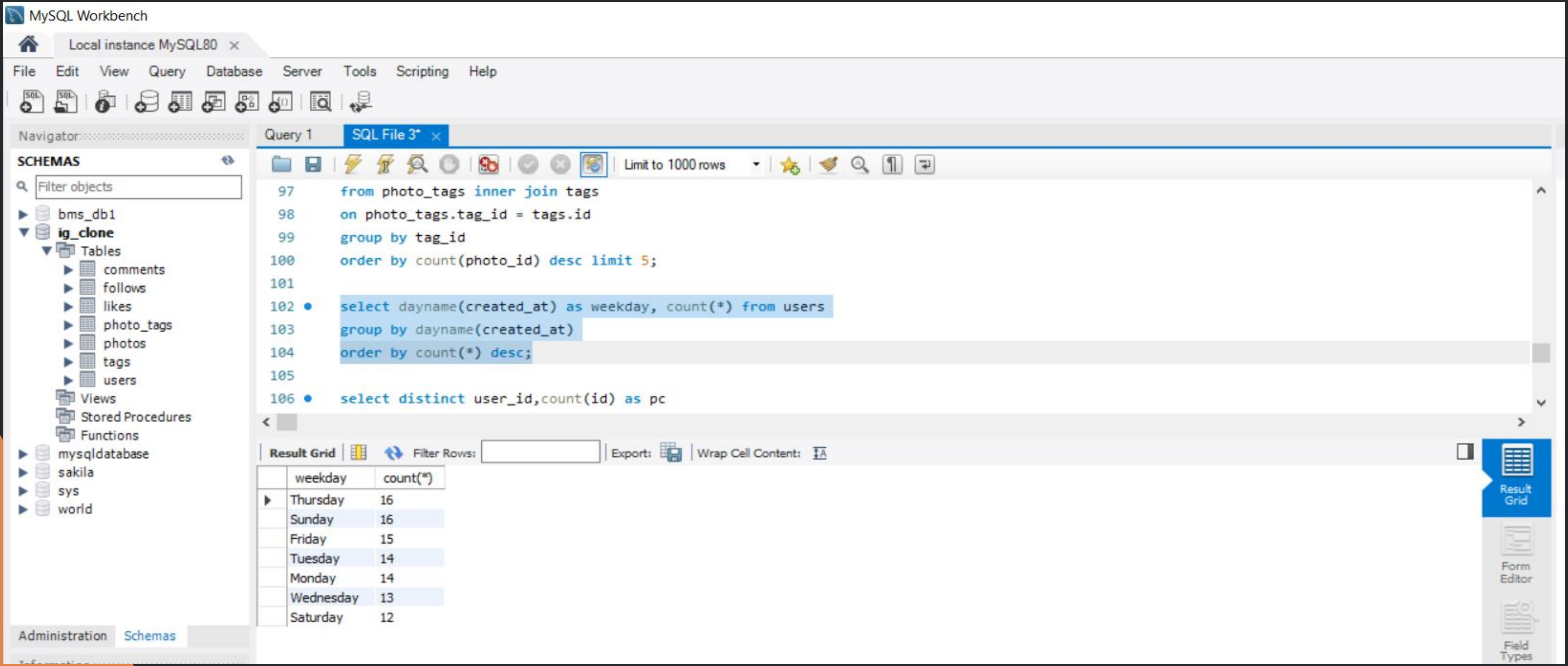
Launch AD Campaign

What day of the week do most users register on? Provide insights on when to schedule an ad campaign

select dayname(created_at) as weekday, count(*) from users

group by dayname(created_at)

order by count(*) desc;



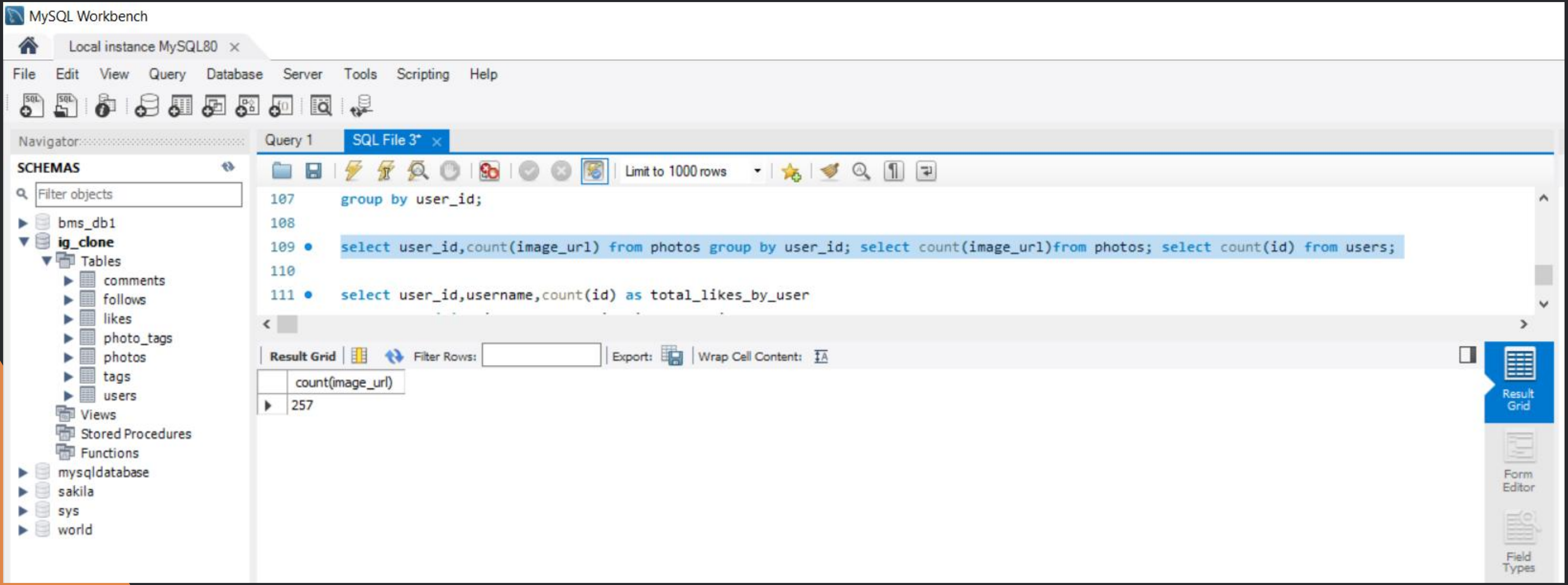
```
from photo_tags inner join tags
on photo_tags.tag_id = tags.id
group by tag_id
order by count(photo_id) desc limit 5;

select dayname(created_at) as weekday, count(*) from users
group by dayname(created_at)
order by count(*) desc;

select distinct user_id,count(id) as pc
```

weekday	count(*)
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

User Engagement

Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users

select user_id,count(image_url) from photos group by user_id; select count(image_url)from photos; select count(id) from users;



```
group by user_id;

select user_id,count(image_url) from photos group by user_id; select count(image_url)from photos; select count(id) from users;

select user_id,username,count(id) as total_likes_by_user
```

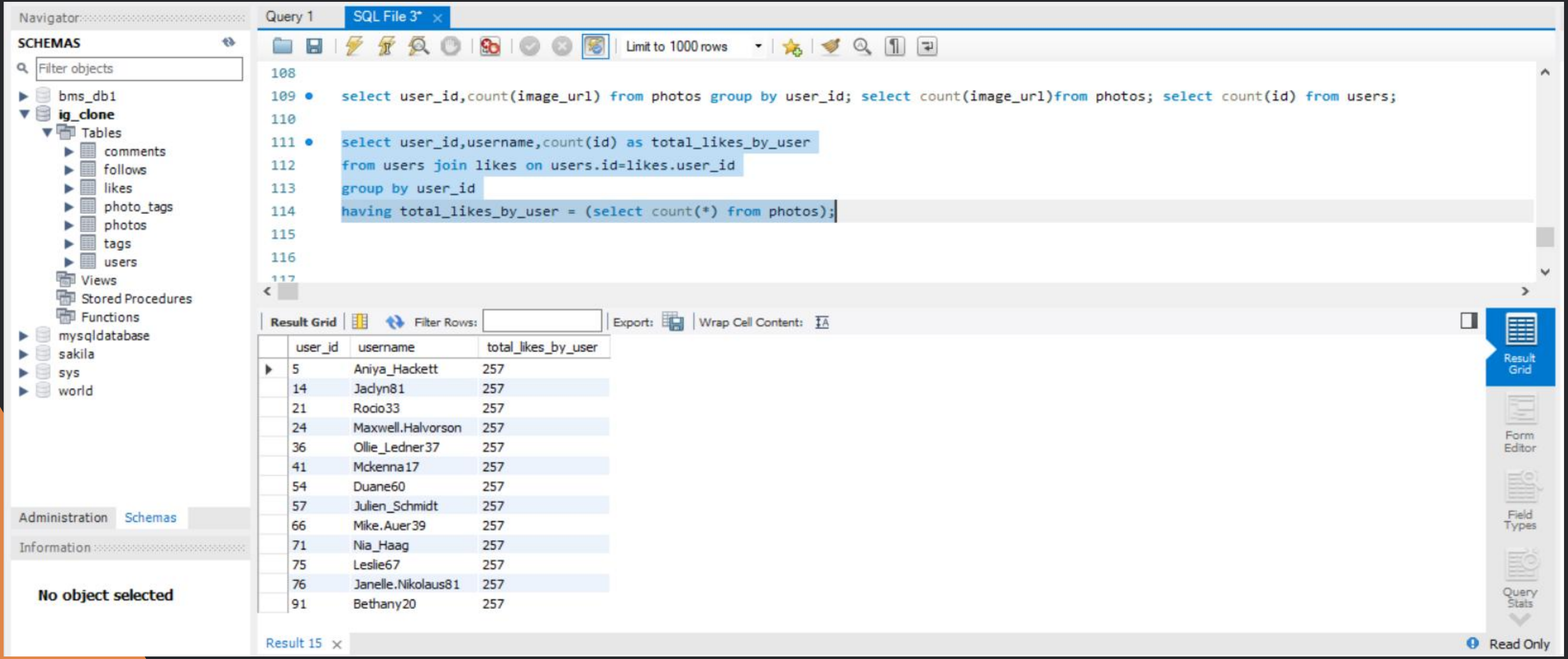
count(image_url)
257

Bots & Fake Accounts

Provide data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this)

select user_id,username,count(id) as total_likes_by_user from users join likes on users.id=likes.user_id

group by user_id having total_likes_by_user = (select count(*) from photos);



```
select user_id,count(image_url) from photos group by user_id; select count(image_url)from photos; select count(id) from users;

select user_id,username,count(id) as total_likes_by_user
from users join likes on users.id=likes.user_id
group by user_id
having total_likes_by_user = (select count(*) from photos);
```

user_id	username	total_likes_by_user
5	Aniya_Hackett	257
14	Jaclyn81	257
21	Rocio33	257
24	Maxwell.Halvorson	257
36	Ollie_Ledner37	257
41	Mckenna17	257
54	Duane60	257
57	Julien_Schmidt	257
66	Mike.Auer39	257
71	Nia_Haag	257
75	Leslie67	257
76	Janelle.Nikolaus81	257
91	Bethany20	257

Result

Understood Joins and the differents functions present in SQL and how data can be used to draw meaningful insights.

Thank You