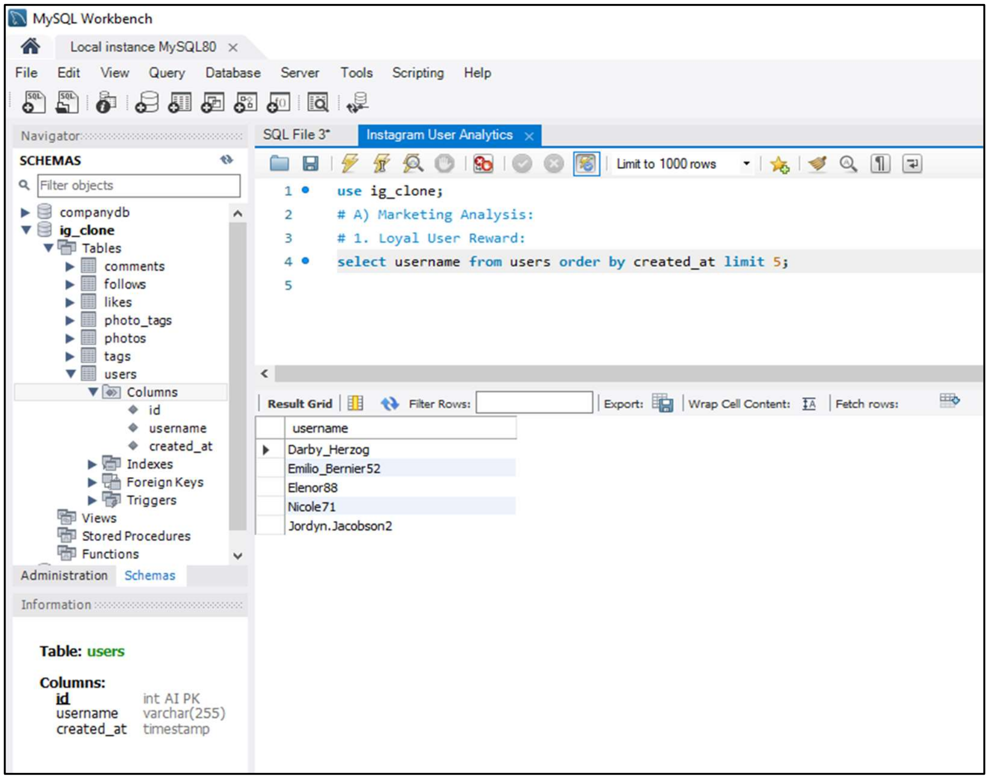
TRAINITY – INSTAGRAM USER ANALYTICS – ASSIGNMENT 02

A. Marketing Analysis:

1. Loyal User Reward - Five oldest users on Instagram from the provided database.

Answer: -

1. Darby_Herzog
2. Emilio_Bernier52
3. Elenor88
4. Nicole71
5. Jordyn.Jacobson2



```
use ig_clone;
# A) Marketing Analysis:
# 1. Loyal User Reward:
select username from users order by created_at limit 5;
```

username
Darby_Herzog
Emilio_Bernier52
Elenor88
Nicole71
Jordyn.Jacobson2

Table: users

Columns:

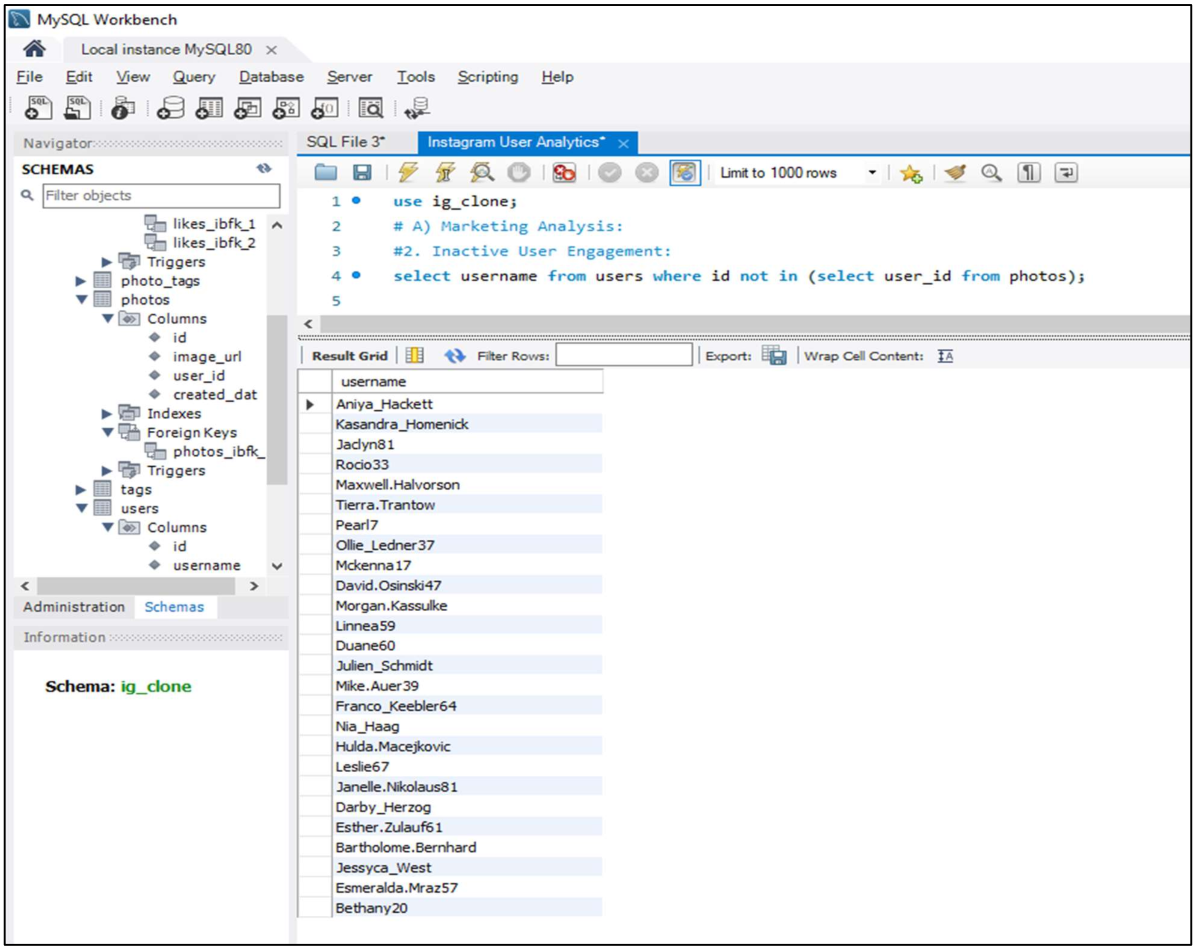
id	int AI PK
username	varchar(255)
created_at	timestamp

2. Inactive User Engagement - Users who have never posted a single photo on Instagram.

Answer: -

1. Aniya_Hackett
2. Kasandra_Homenick
3. Jaclyn81
4. Rocio33
5. Maxwell.Halvorson
6. Tierra.Trantow

7. Pearl7
8. Ollie_Ledner37
9. Mckenna17
10. David.Osinski47
11. Morgan.Kassulke
12. Linnea59
13. Duane60
14. Julien_Schmidt
15. Mike.Auer39
16. Franco_Keebler64
17. Nia_Haag
18. Hulda.Macejkovic
19. Leslie67
20. Janelle.Nikolaus81
21. Darby_Herzog
22. Esther.Zulauf61
23. Bartholome.Bernhard
24. Jessyca_West
25. Esmeralda.Mraz57
26. Bethany20



Schema: ig_clone

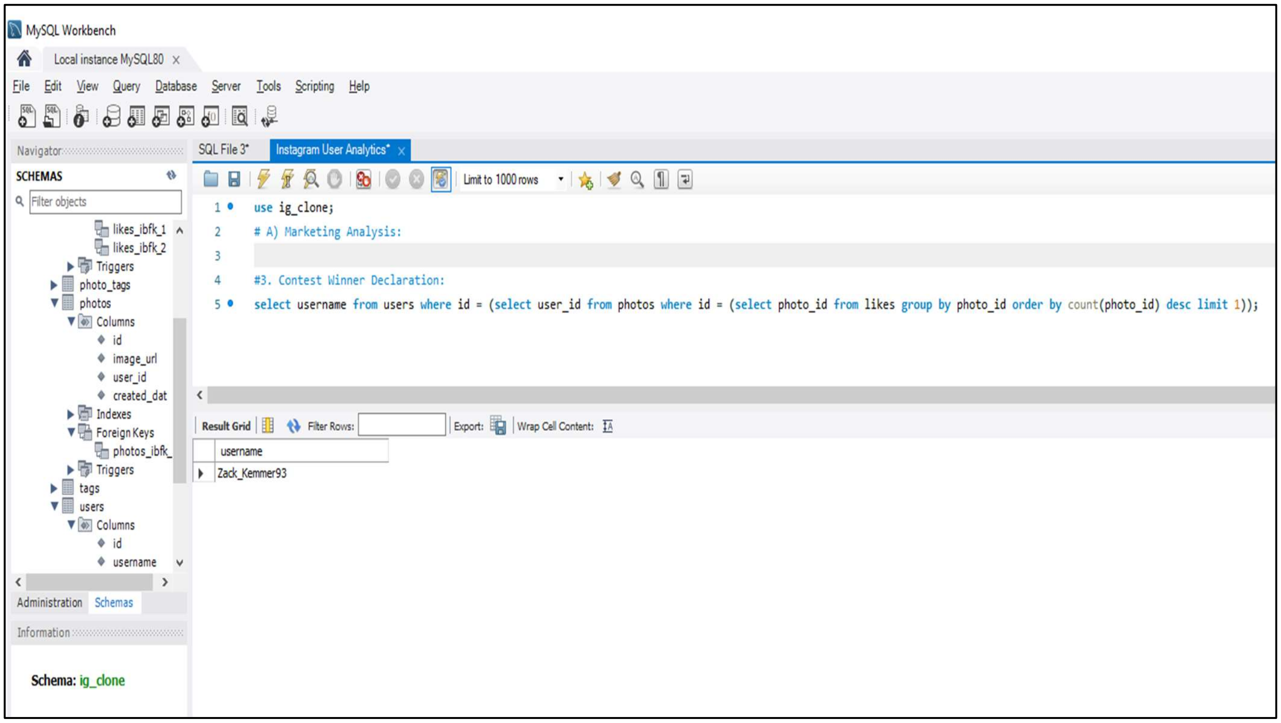
```sql
use ig_clone;
# A) Marketing Analysis:
#2. Inactive User Engagement:
select username from users where id not in (select user_id from photos);
```

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
Darby_Herzog
Esther.Zulauf61
Bartholome.Bernhard
Jessyca_West
Esmeralda.Mraz57
Bethany20

3. Contest Winner Declaration - User with the most likes on a single photo

Answer: -

1. Zack_Kemmer93



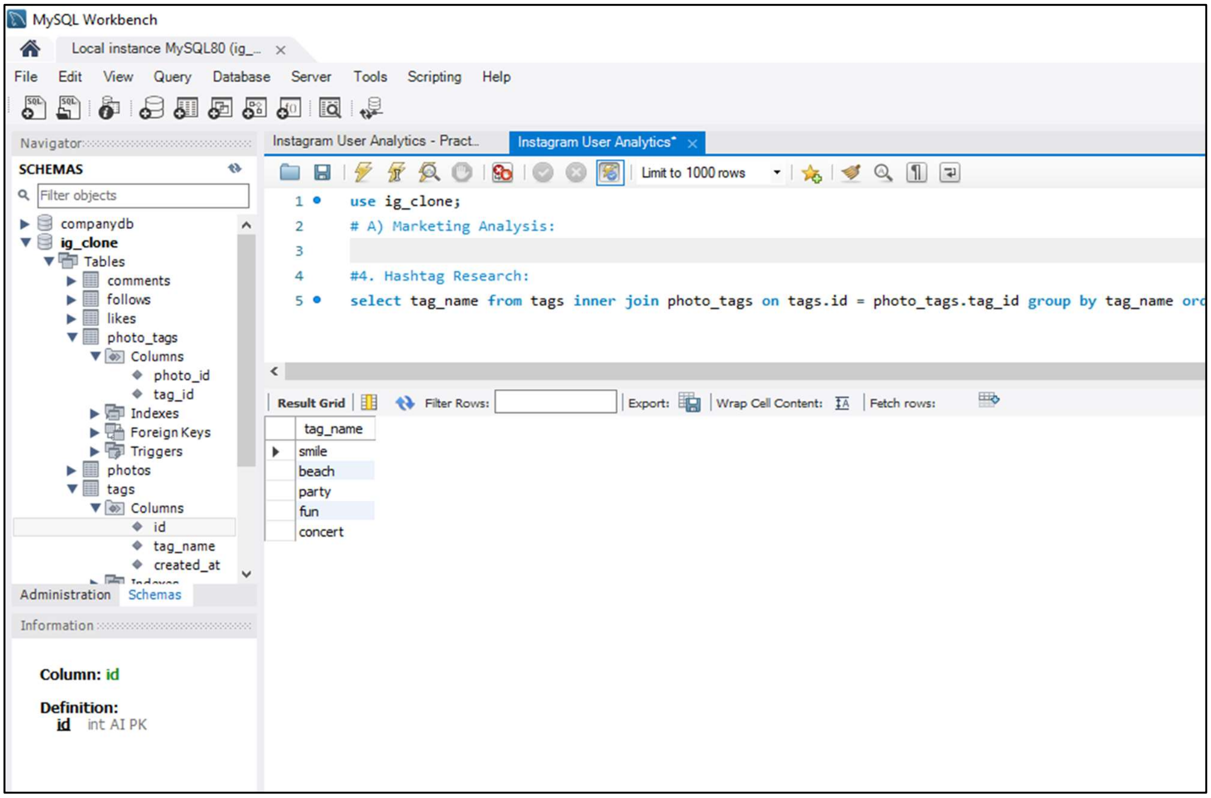
```
use ig_clone;
# A) Marketing Analysis:

#3. Contest Winner Declaration:
select username from users where id = (select user_id from photos where id = (select photo_id from likes group by photo_id order by count(photo_id) desc limit 1));
```

```
username
Zack_Kemmer93
```

4. Hashtag Research - Top five most commonly used hashtags on the platform

Answer: -

1. smile
2. beach
3. party
4. fun
5. concert



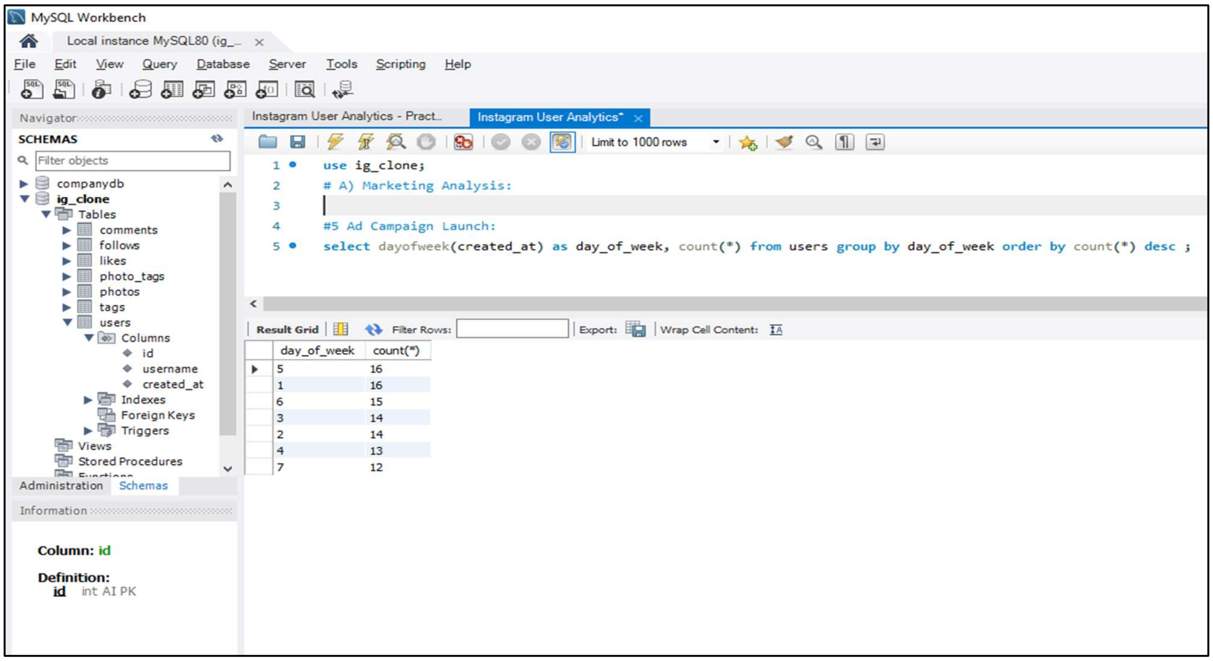
```
use ig_clone;
# A) Marketing Analysis:

#4. Hashtag Research:
select tag_name from tags inner join photo_tags on tags.id = photo_tags.tag_id group by tag_name ord
```

tag_name
smile
beach
party
fun
concert

5. **Ad Campaign Launch - The best day of the week to launch ads**

<u>Answer: -</u>

1. Day of week – ‘5’(Thursday) or ‘1’(Sunday)



```
use ig_clone;
# A) Marketing Analysis:

#5 Ad Campaign Launch:
select dayofweek(created_at) as day_of_week, count(*) from users group by day_of_week order by count(*) desc ;
```

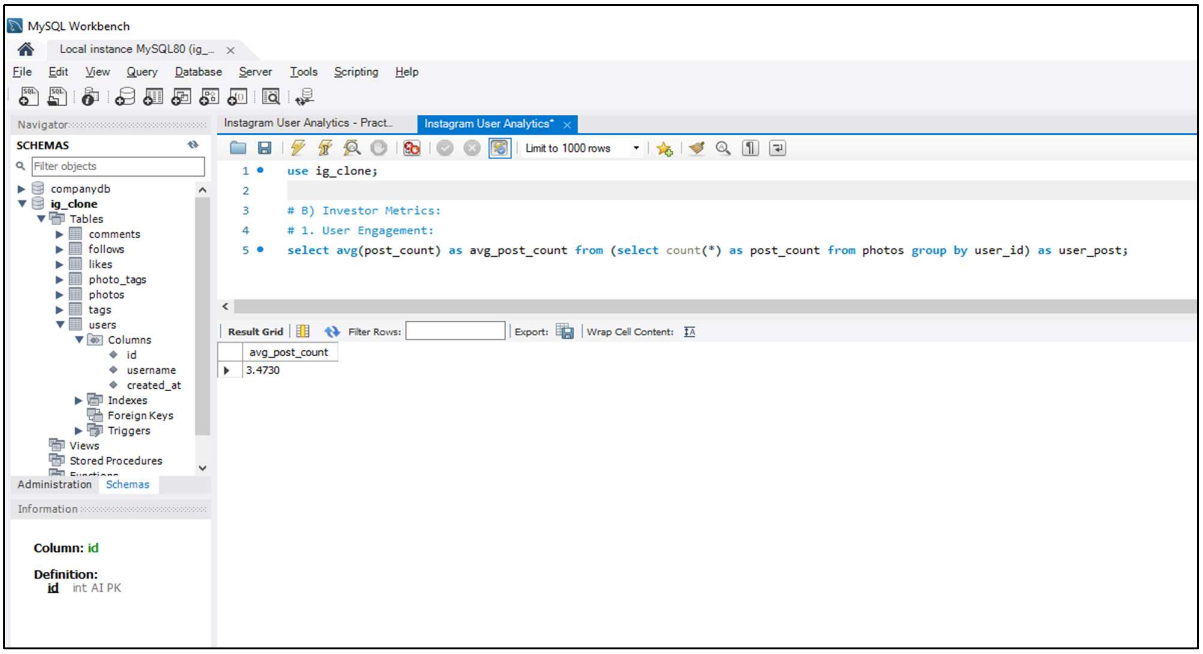
day_of_week	count(*)
5	16
1	16
6	15
3	14
2	14
4	13
7	12

B. Investor Metrics:

1. **User Engagement - The average number of posts per user on Instagram & the total number of photos on Instagram divided by the total number of users.**

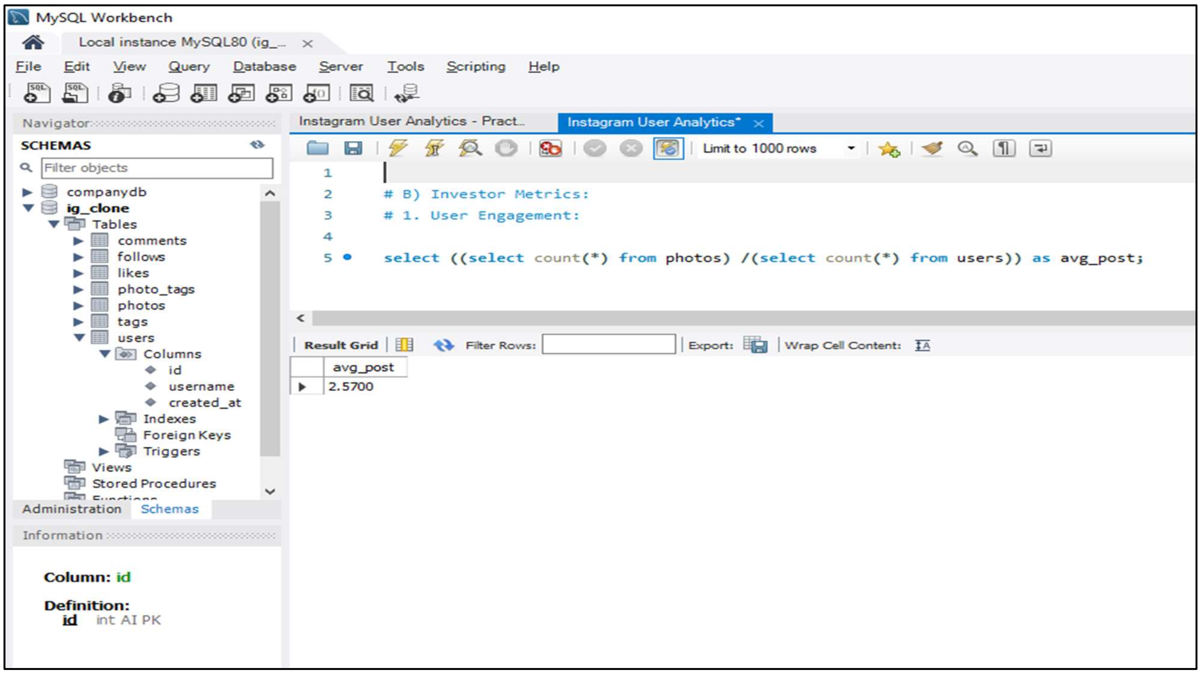
Answer: -

1. Average number of posts per user on Instagram: 3.4730
2. The total number of photos on Instagram divided by the total number of users: 2.5700



```sql
use ig_clone;

# B) Investor Metrics:
# 1. User Engagement:
select avg(post_count) as avg_post_count from (select count(*) as post_count from photos group by user_id) as user_post;
```

avg_post_count
3.4730



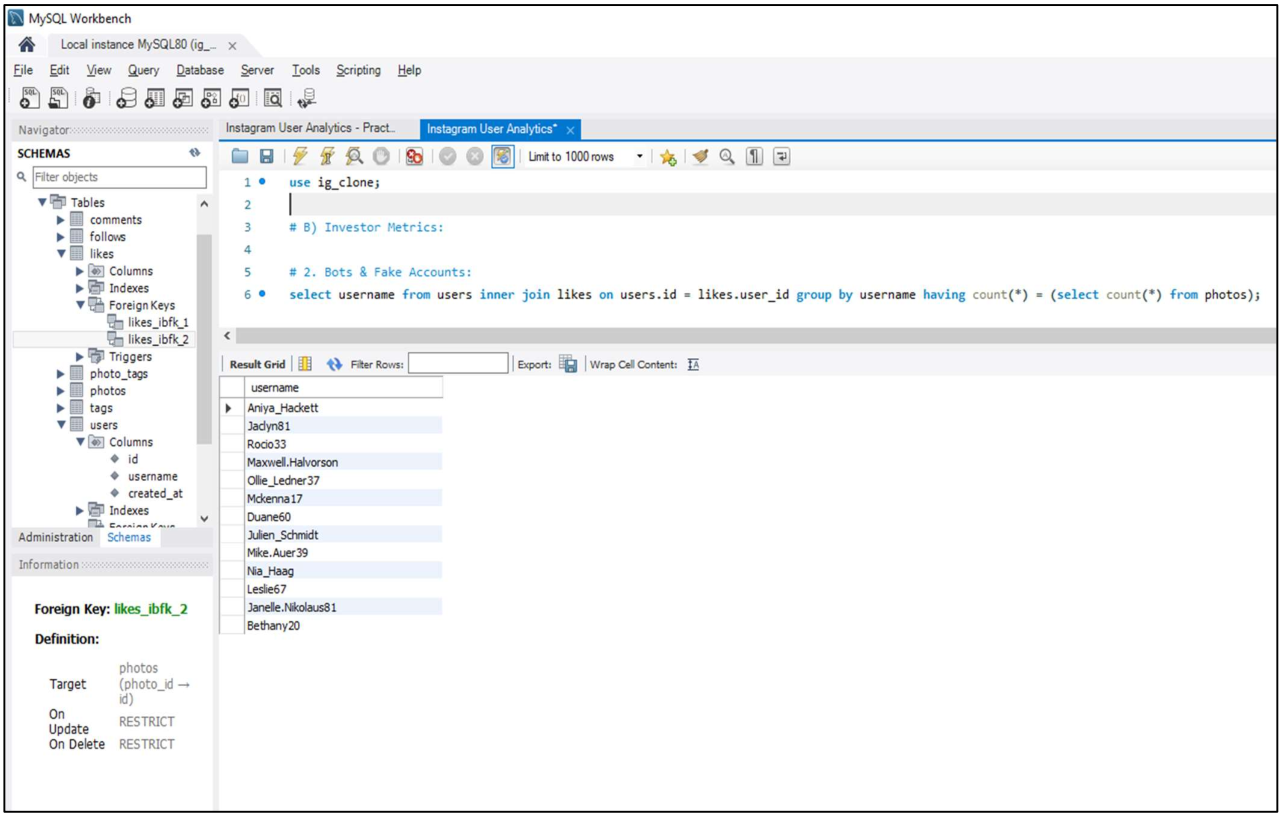
```sql

# B) Investor Metrics:
# 1. User Engagement:

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

avg_post
2.5700

2. Bots & Fake Accounts - Users (potential bots) who have liked every single photo on the site

Answer: -

1. Aniya_Hackett
2. Jaclyn81
3. Rocio33
4. Maxwell.Halvorson
5. Ollie_Ledner37
6. Mckenna17
7. Duane60
8. Julien_Schmidt
9. Mike.Auer39
10. Nia_Haag
11. Leslie67
12. Janelle.Nikolaus81
13. Bethany20



```
use ig_clone;

# B) Investor Metrics:

# 2. Bots & Fake Accounts:
select username from users inner join likes on users.id = likes.user_id group by username having count(*) = (select count(*) from photos);
```

username
Aniya_Hackett
Jaclyn81
Rocio33
Maxwell.Halvorson
Ollie_Ledner37
Mckenna17
Duane60
Julien_Schmidt
Mike.Auer39
Nia_Haag
Leslie67
Janelle.Nikolaus81
Bethany20

Foreign Key: likes_ibfk_2

Definition:

Target	photos (photo_id → id)
On Update	RESTRICT
On Delete	RESTRICT

FINAL SUMMARY: -

Sr No	Question	Answer
1	Project Description	Analysing the user engagement on Instagram platform from the provided data base and answering the questions to the management that helps them to make decisions.
2	Approach	The steps that I approached on this project are explained below. 1. Read the complete query from given data base to understand the details of tables, columns, primary keys, foreign keys used in it. 2. Started to working on the given data base to extract the required information to get the answers. 3. The approach for all the questions are as follows.
2 (A-1)	Marketing Analysis - Loyal User Reward - Five oldest users on Instagram from the provided database	Used a select query to extract the top '5' username from the users table ordered by descending by the created date.
2 (A-2)	Marketing Analysis - Inactive User Engagement - Users who have never posted a single photo on Instagram	Since the user_id in the photos table is the id in the users table, I used a select query to extract the username from users table whose id is not in the photos table.
2 (A-3)	Marketing Analysis - Contest Winner Declaration - User with the most likes on a single photo	1. First used a select, group by and order by queries to extract a photo_id of the most liked photo from the likes table. 2. Since the photo_id in the likes table is the id in photos table, with the help of above result, I extracted the user_id of that corresponding photo_id. 3. Similarly, since the user_id in the photos table is the id in the users table, I extracted the username of the corresponding user_id.

2 (A-4)	Marketing Analysis - Hashtag Research - Top five most commonly used hashtags on the platform	Since the id in the tags table is the tag_id in the photo_tags, I joined both the tables using inner join and extracted the top '5' tag_name and using group by tag_name and its count.
2 (A-5)	Marketing Analysis - Ad Campaign Launch - The best day of the week to launch ads	Used a day of week function to extract the weekday of the users created at column and then extracted its count grouped it by the same weekday.
2 (B-1)	Investor Metrics - User Engagement - The average number of posts per user on Instagram & the total number of photos on Instagram divided by the total number of users	1. Used select query and got the count of photos table grouped by user_id and then used an average function to get the average value of the same. 2. Used a select query and division operator to get the average of photos count and users count.
2 (B-2)	Investor Metrics - Bots & Fake Accounts - Users (potential bots) who have liked every single photo on the site	1. Used select to get the count of the photos table. 2. Did inner join the users and likes tables since the user_id in the likes table is the id in the users table. 3. Used select to extract the username after grouped the above by using the having function and result in the first row (count of the photos table)
3	Tech-Stack Used	MySQL Workbench 8.0.36
4	Insights	Through this project, learned on how to approach the project, understanding the given data base and questions, selecting the way / sequence of writing queries to get the required data, if there is an error occurring how to use an alternative query for the same etc.
5	Result	This project has potentially increased the knowledge on working on a particular project and as well the experience to select and write queries according to the requirement.