Instagram User Analytics

Description:

Imagine you're a data analyst working with the product team at Instagram. Your role involves analyzing user interactions and engagement with the Instagram app to provide valuable insights that can help the business grow. User analysis involves tracking how users engage with a digital product, such as a software application or a mobile app. The insights derived from this analysis can be used by various teams within the business. For example, the marketing team might use these insights to launch a new campaign, the product team might use them to decide on new features to build, and the development team might use them to improve the overall user experience.
In this project, you'll be using SQL and MySQL Workbench as your tool to analyze Instagram user data and answer questions posed by the management team. Your insights will help the product manager and the rest of the team make informed decisions about the future direction of the Instagram app.
Remember, the goal of this project is to use your SQL skills to extract meaningful insights from the data. Your findings could potentially influence the future development of one of the world's most popular social media platforms.

SQL Tasks:

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.
   Your Task: Identify the five oldest users on Instagram from the provided database.
2. **Inactive User Engagement**: The team wants to encourage inactive users to start posting by sending them promotional emails.
   Your Task: Identify users who have never posted a single photo on Instagram.
3. **Contest Winner Declaration**: The team has organized a contest where the user with the most likes on a single photo wins.
   Your Task: Determine the winner of the contest and provide their details to the team.
4. **Hashtag Research**: A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.
   Your Task: Identify and suggest the top five most commonly used hashtags on the platform.

5. **Ad Campaign Launch**: The team wants to know the best day of the week to launch ads.
   Your Task: Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

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

Approach:

To do this project, I have used the knowledge of the SQL that I have learned during the course with additional reading as well. I have extracted the data from the given database using the various functions I have learnt such as where condition, Group by and other related functions. I have found out the answers to the questions asked by both the marketing departments and metrics department with the SQL queries and executed them in the MYSQL workbench. In order for the report to look visually pleasing I have used Canva to display the answers to the questions so that the project looks little more attractive.

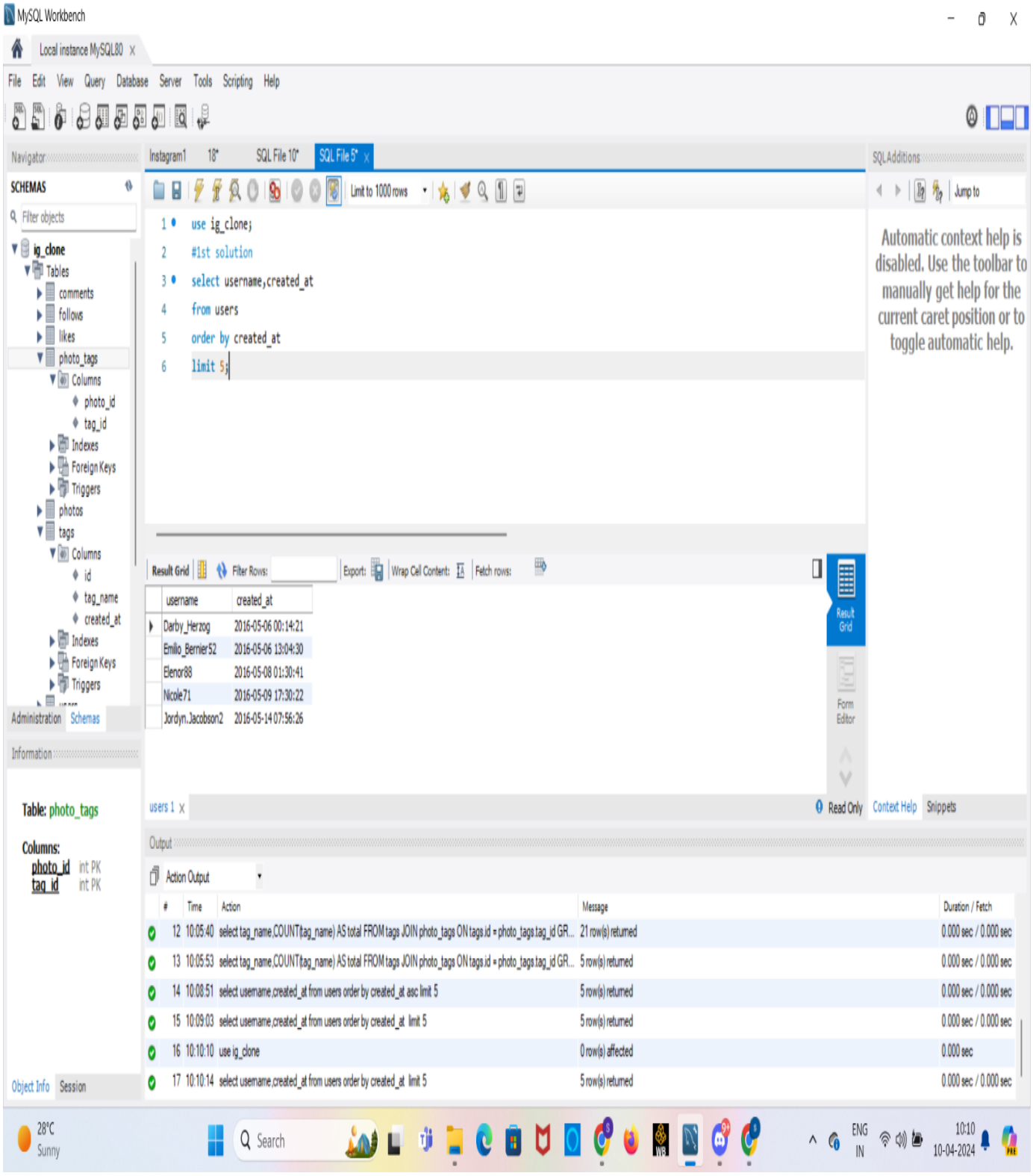
Tech-Stack Used:

The software I have used to do this project to execute the queries is MYSQL workbench. I have used this particular software as it works best with the relational database in creating database and also most popular database system and smooth to execute the queries.

Marketing department answers:

1. Identify the five oldest users on Instagram from the provided database.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image

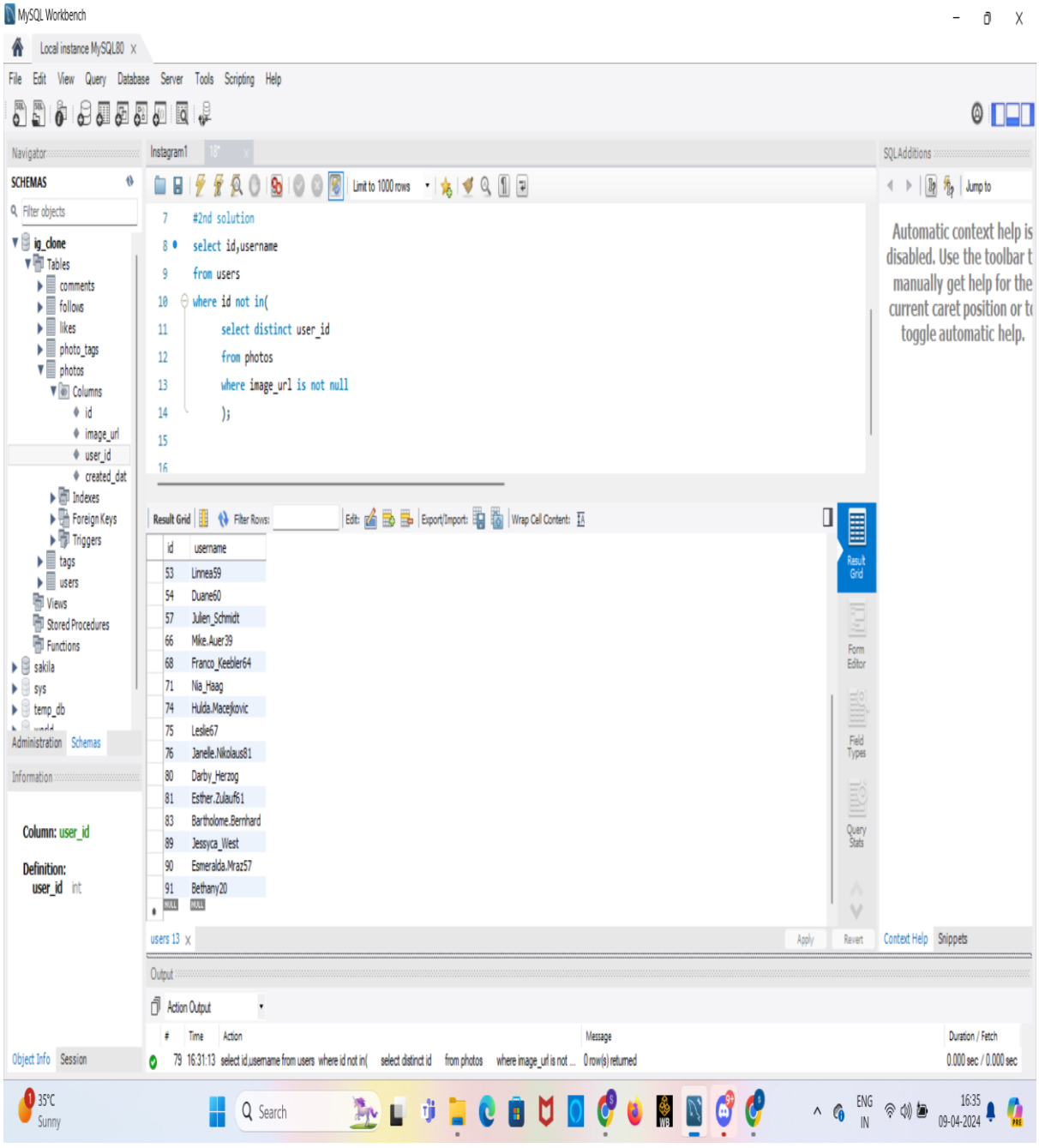


The Most Loyal Top 5 Users of INSTAGRAM

1. **Darby_Herzog-(2016-05-06)**
2. **Emilio_Bernier52-(2016-06-06)**
3. **Elenor88-(2016-05-08)**
4. **Nicole71-(2016-05-09)**
5. **Jordyn_Jacobson2-(2016-05-14)**

2. Identify users who have never posted a single photo on Instagram.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.

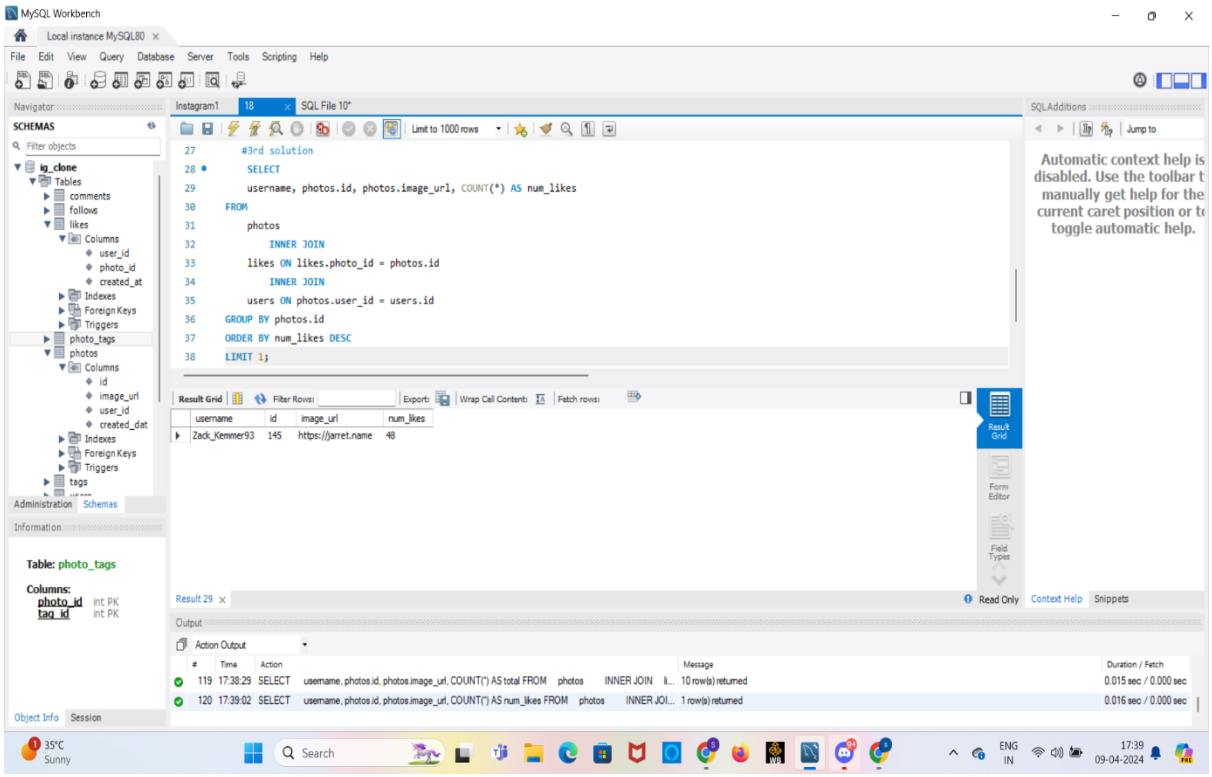


Encouraging Inactive Users to Start Posting

ID	Username	ID	Username	ID	Username
5	Aniya_Hackett	45	David.Osinski47	75	Leslie67
7	Kasandra_Homenick	49	Morgan.Kassulke	76	Janelle.Nikolaus81
14	Jaclyn81	53	Linnea59	80	Darby_Herzog
21	Rocio33	54	Duane60	81	Esther.Zulauf61
24	Maxwell.Halvorson	57	Julien_Schmidt	83	Bartholome.Bernhard
25	Tierra.Trantow	66	Mike.Auer39	89	Jessyca_West
34	Pearl7	68	Franco_Keebler64	90	Esmeralda.Mraz57
36	Ollie_Ledner37	71	Nia_Haag	91	Bethany20
41	Mckenna17	74	Hulda.Macejkovic		

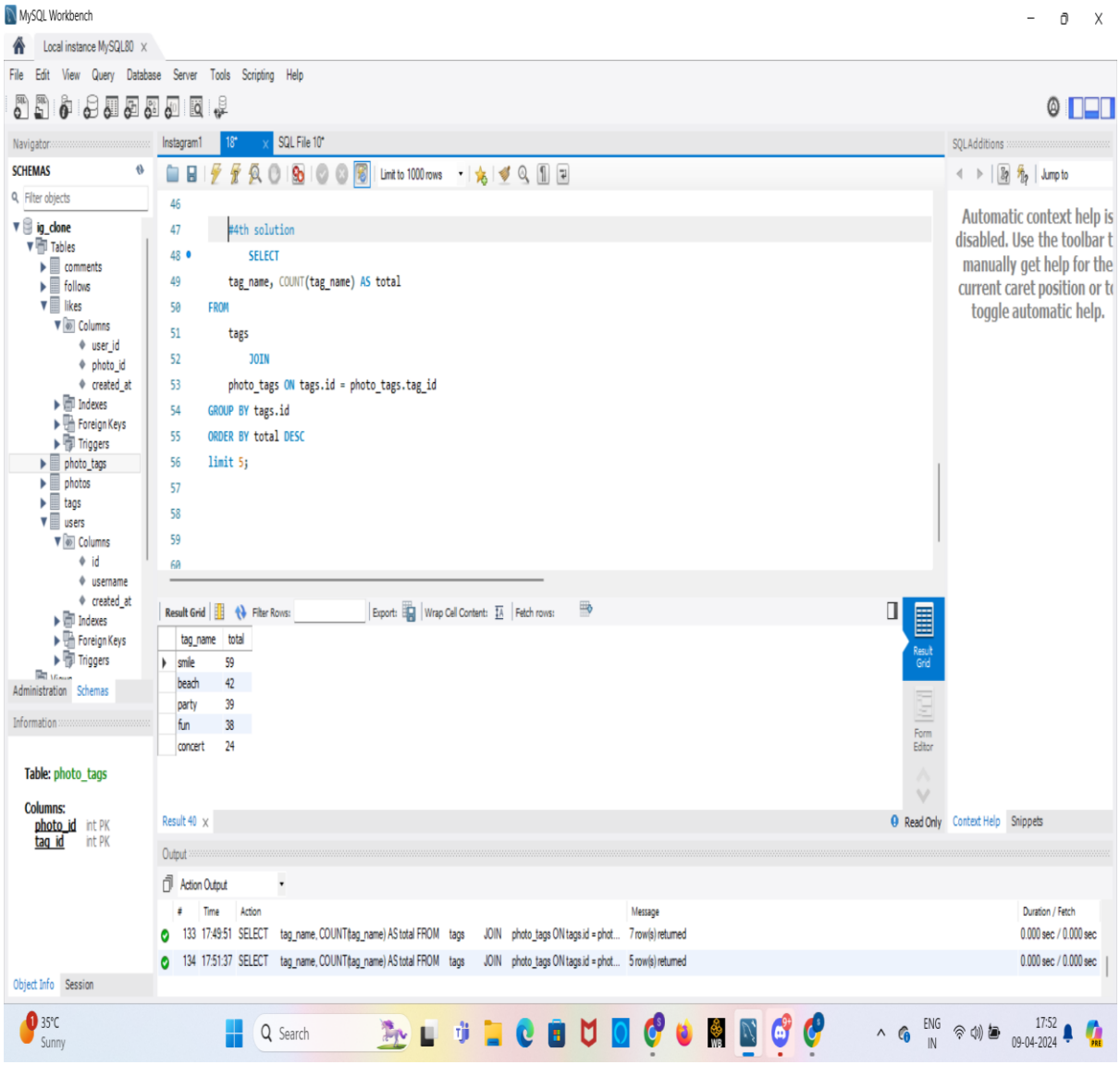
3. Determine the winner of the contest and provide their details to the team.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.

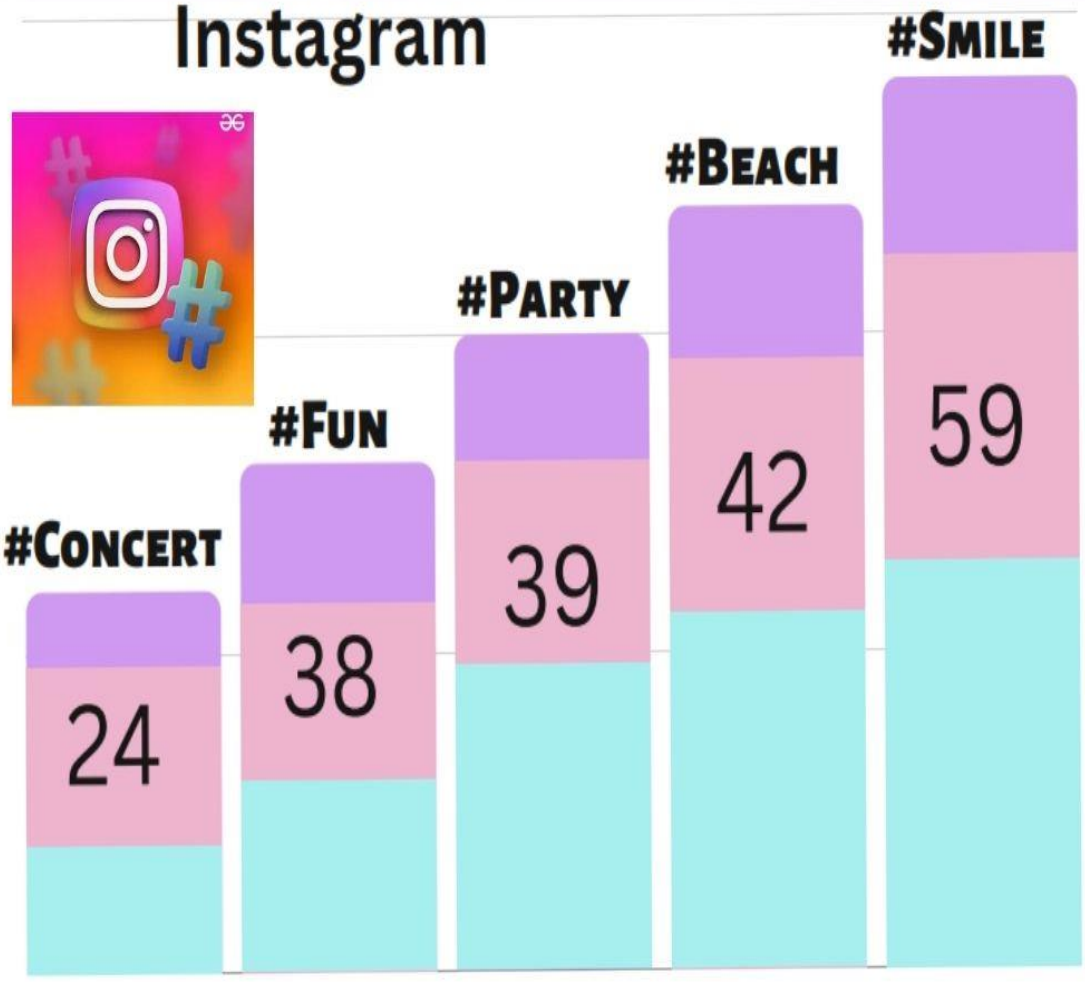


4. Identify and suggest the top five most commonly used hashtags on the platform.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.

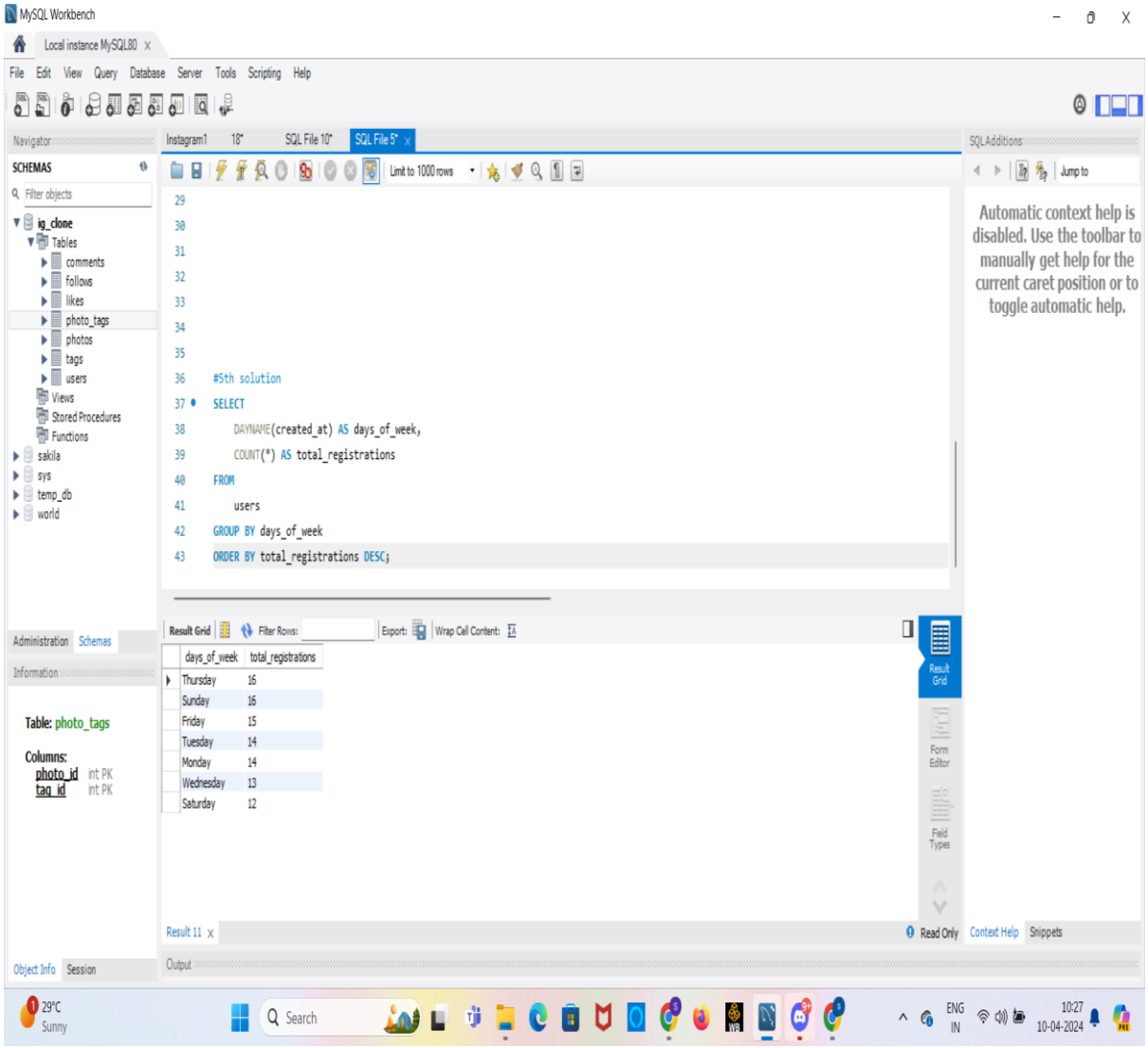


TOP 5 HASHTAGS USED ON INSTAGRAM



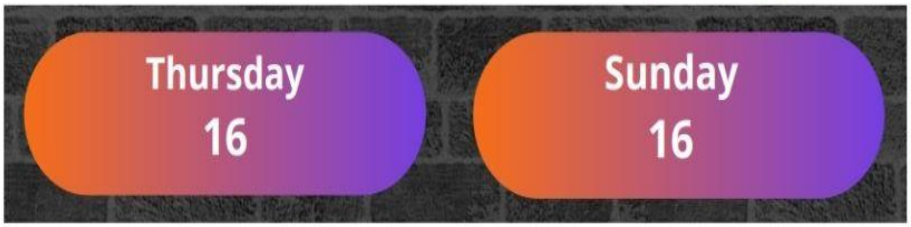
5. Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.



Ad Campaign Launch

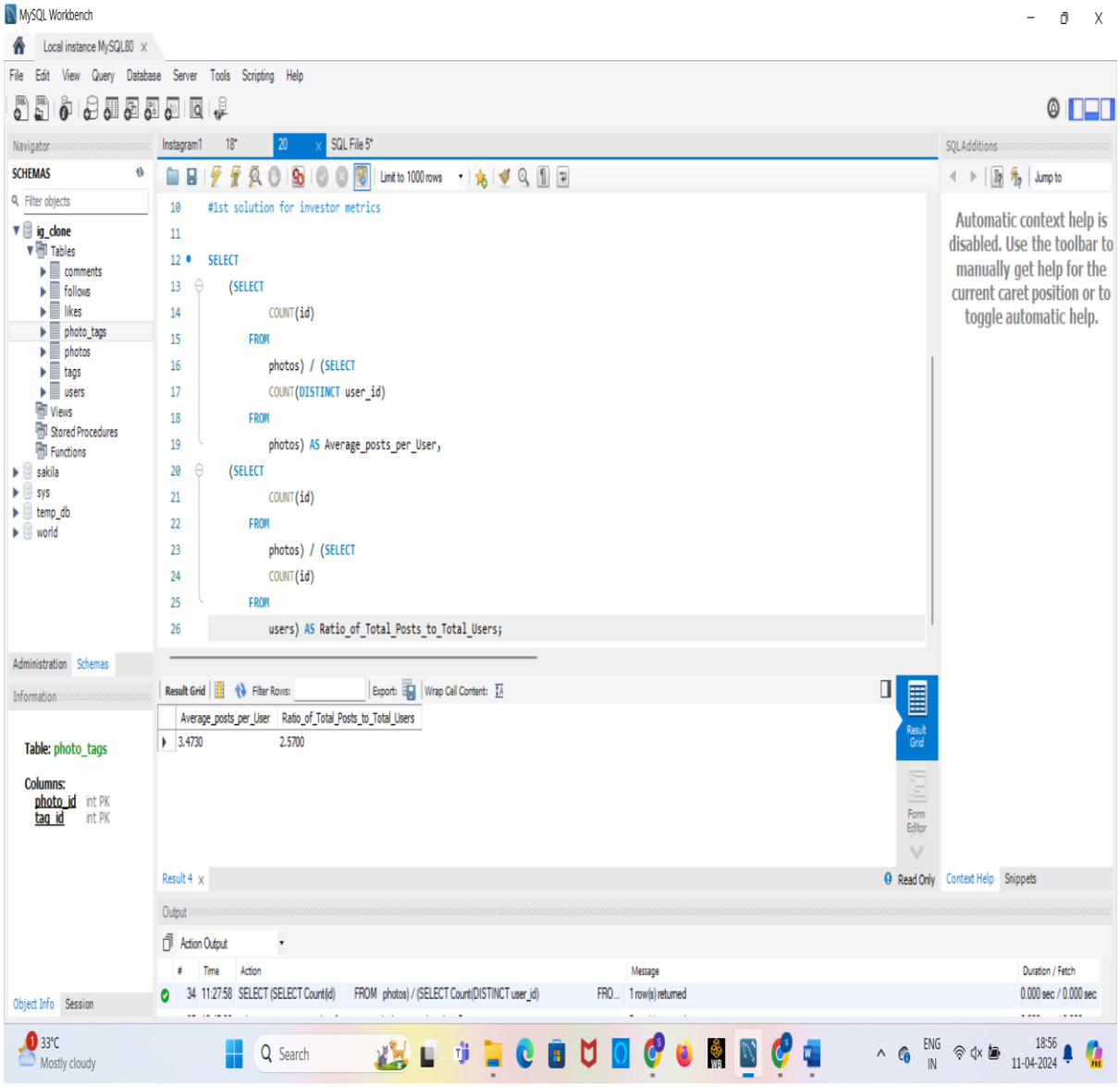
Best time to schedule an advertisement campaign



Investor Metric department answers:

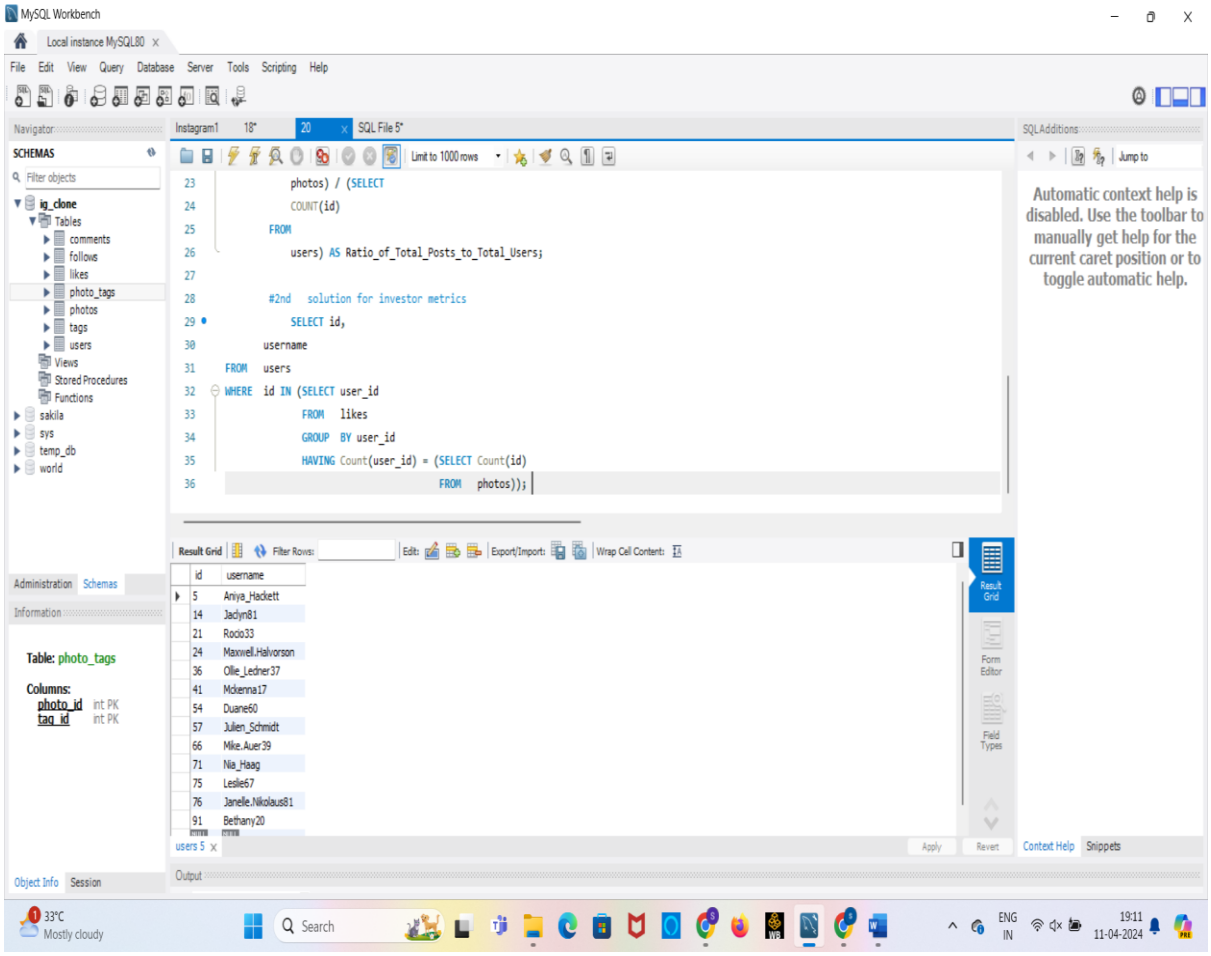
1.Calculate the average number of posts per user on Instagram. Also, provide the total number of photos on Instagram divided by the total number of users.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.



2. Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.

Query used: The query used to solve this question and the answer to the question i.e the output both are shown in the below image.



Insights: By doing this project I have gained a lot of understanding on how the data sets can be analysed using SQL queries and also how to get the required information out from the given dataset. It also helped me in trying different approaches I can apply to a particular question to be solved with various query commands. Furthermore, it helped me understand how does the analytic process is applied to the datasets and how they are solved in real time scenarios.

Results:

The outcomes required for both the marketing team and the investor metric team has been solved using the SQL queries in MYSQL workbench and the outputs have been provided thoroughly so that the respective teams can take best possible decision based on the results and insights provided.