INSTAGRAM USER ANALYTICS

1) **PROJECT DESCRIPTION:** The Project is about the analytics of users Instagram account. This project aims to understand the ways to provide a better experience and also a few intimations to the user based on their account use. I first understand the data provided in the commands then break down the problems into small parts and try to solve them.
2) **APPROACH:** The project was a bit challenging because it was my first project in SQL but I tried to solve it by breaking down the problem which made me understand the data and the questions easily.

   I executed the project by creating a database named 'ig_clone' and created tables as per the commands provided and the inserted values into tables. There were a few commands I didn't understand like TIMESTAMP. I took the help of a few resources and understood the syntax.

   The first step I took to analyze the data and solve the questions was to check if there were any duplicates in the data and if any unnecessary lines in the code and remove them which makes the code more readable.

   Secondly, I executed each table separately and noted down the data type and columns and most importantly the foreign keys and primary keys of the tables.

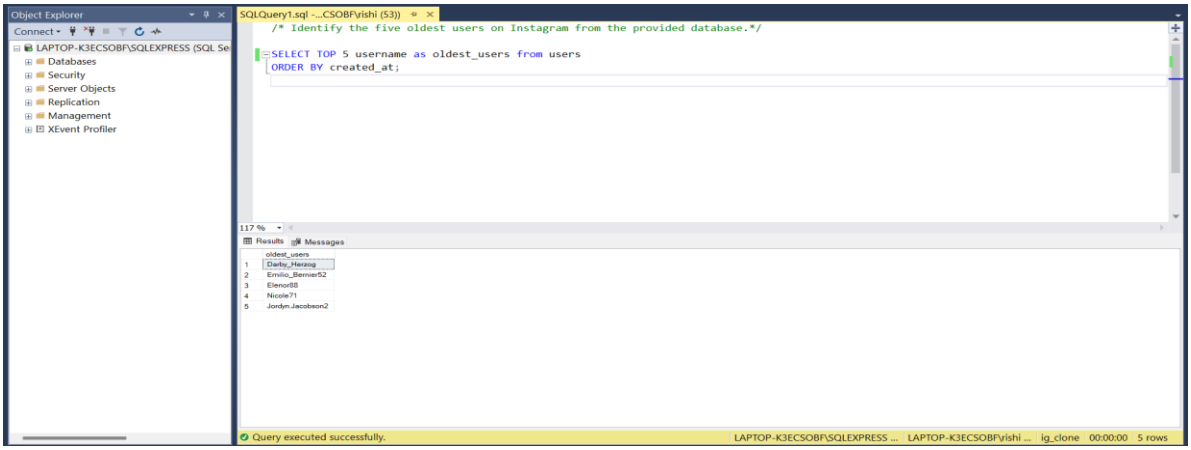
   Then I read the questions twice and understood that for which questions, and which tables were related. Then Dealt with those tables only.
3) **TECH-STACK USED:** I used SQL Server Management Studio. The reason I chose this stack is that I was familiar with this studio since I practiced SQL earlier in college.
4) **INSIGHTS:** I gained a lot of knowledge while doing this project. I discovered new commands in SQL and also gained experience in how to handle real-world data and how to approach the requirements of investors.

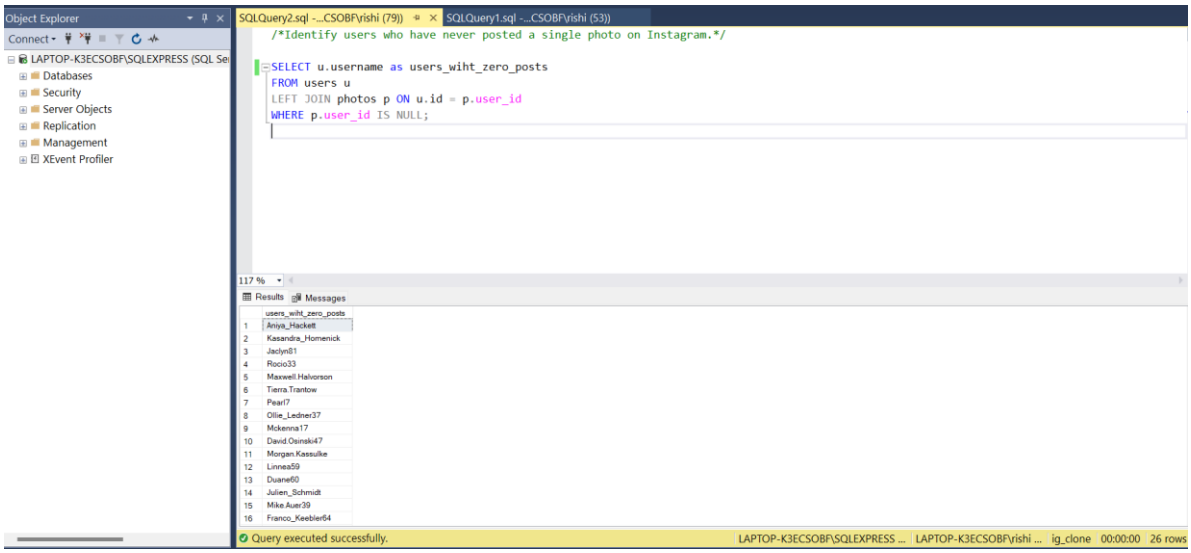
   i) The significant insight related to the project is, that there are very few users on Instagram who didn't post a single photo on Instagram.

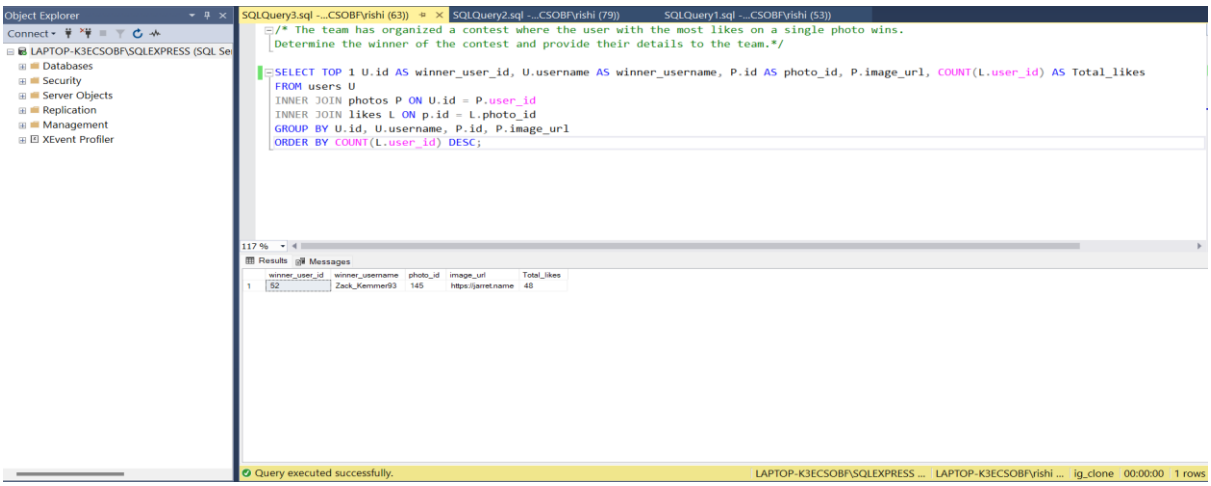
   ii)Also most people register on Instagram on the first and second days of the week which are the weekdays surprisingly and at least on the weekend which is on the seventh day of the week.
5) **RESULT:** I completed the project in three days. This is an achievement for me because I initially felt that I might not complete the project or take a longer time than I completed it.

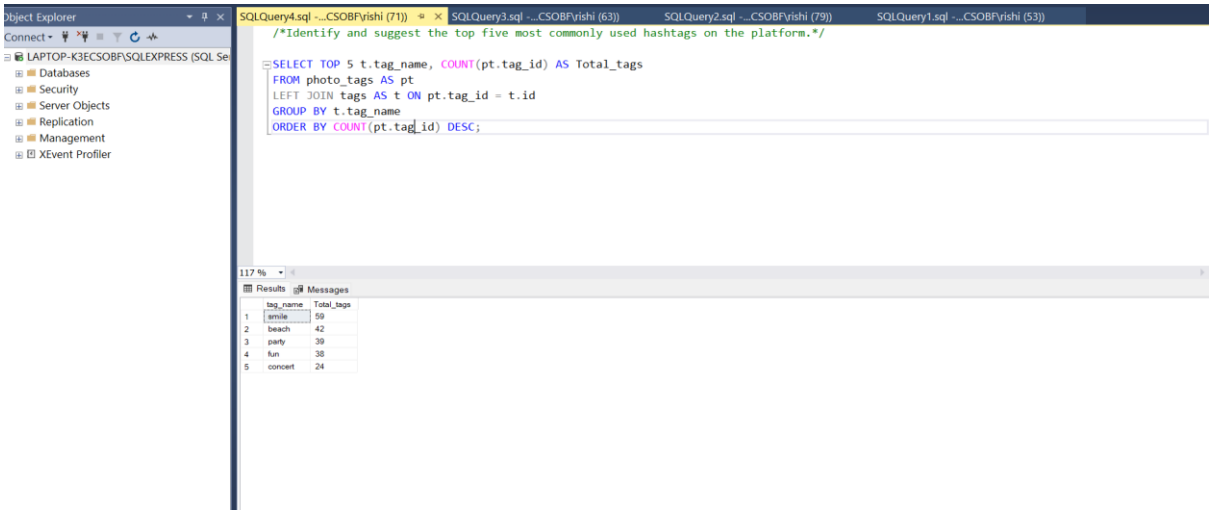
   This Project built confidence in me by completing the project. I also understood the analytics of the user's usage on Instagram. Though I use Instagram daily, after completing this project I understood how the user's usage works.

The queries and outputs are provided below:





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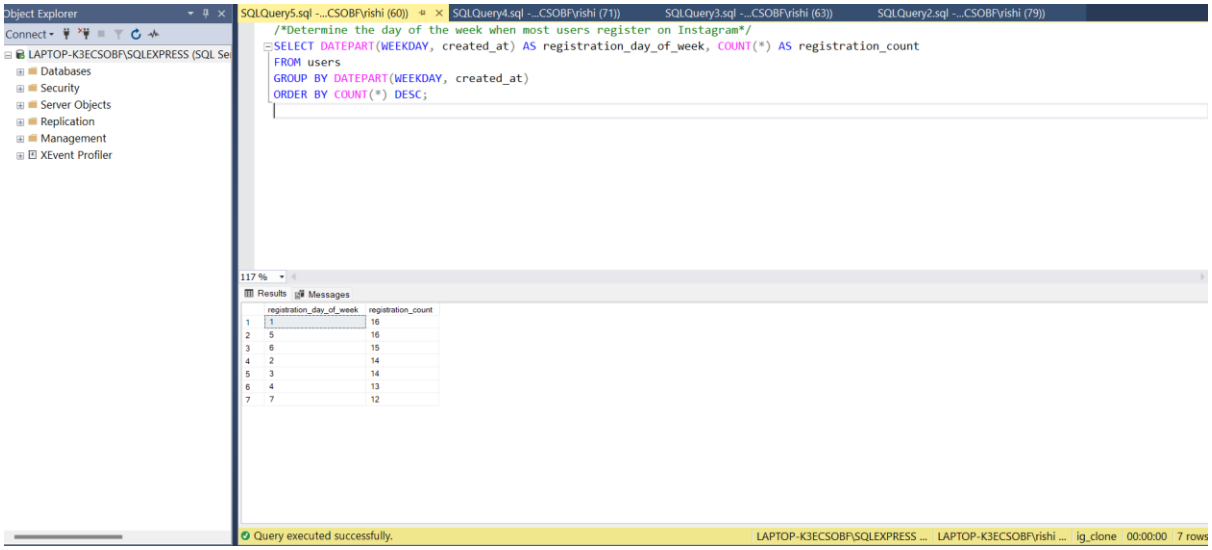
SQLQuery4.sql -...CSOBF\rishi (71))
SQLQuery3.sql -...CSOBF\rishi (63))
SQLQuery2.sql -...CSOBF\rishi (79))
SQLQuery1.sql -...CSOBF\rishi (53))
/*Identify and suggest the top five most commonly used hashtags on the platform.*/
SELECT TOP 5 t.tag_name, COUNT(pt.tag_id) AS Total_tags
FROM photo_tags AS pt
LEFT JOIN tags AS t ON pt.tag_id = t.id
GROUP BY t.tag_name
ORDER BY COUNT(pt.tag_id) DESC;
117 %
Results
Messages
tag_name
Total_tags
1 smile 59
2 beach 42
3 party 39
4 fun 38
5 concert 24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SQLQuery5.sql -...CSOBF\rishi (60))
SQLQuery4.sql -...CSOBF\rishi (71))
SQLQuery3.sql -...CSOBF\rishi (63))
SQLQuery2.sql -...CSOBF\rishi (79))
/*Determine the day of the week when most users register on Instagram*/
SELECT DATEPART(WEEKDAY, created_at) AS registration_day_of_week, COUNT(*) AS registration_count
FROM users
GROUP BY DATEPART(WEEKDAY, created_at)
ORDER BY COUNT(*) DESC;
117 %
Results
Messages
registration_day_of_week
registration_count
1 1 16
2 5 16
3 6 15
4 2 14
5 3 14
6 4 13
7 7 12
Query executed successfully.
LAPTOP-K3ECSOBF\SQLEXPRESS ...
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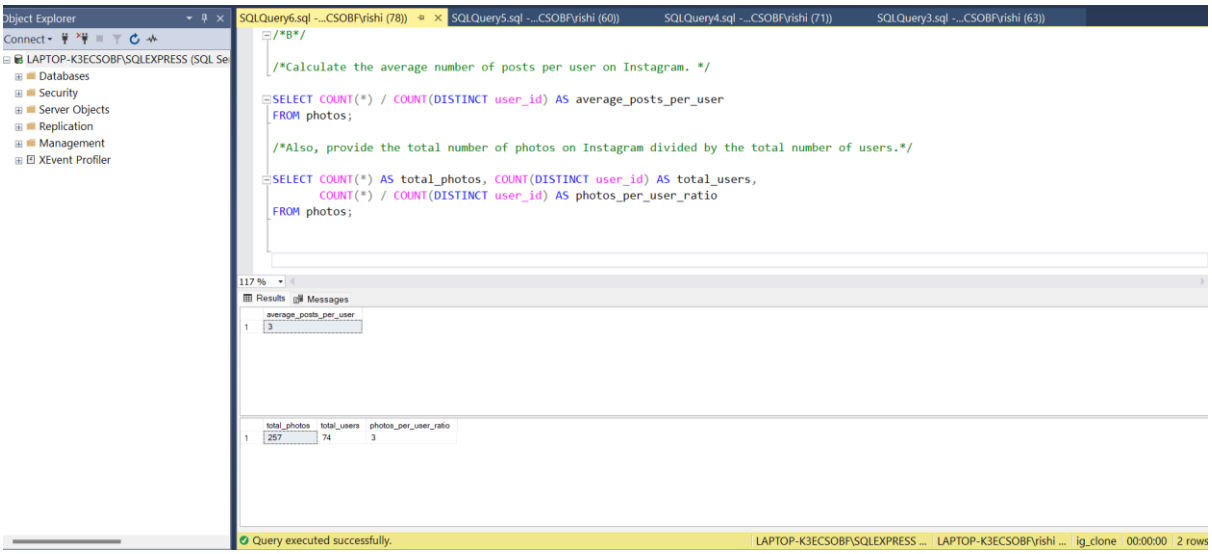
ig_clone
00:00:00
7 rows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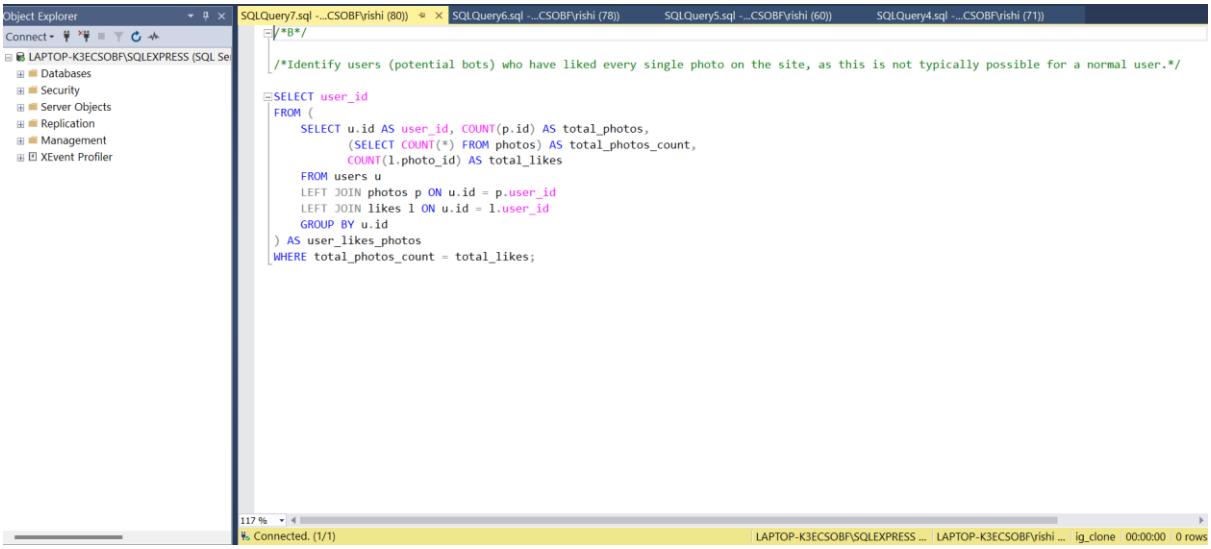
SQLQuery6.sql -...CSOBF\rishi (78))
SQLQuery5.sql -...CSOBF\rishi (60))
SQLQuery4.sql -...CSOBF\rishi (71))
SQLQuery3.sql -...CSOBF\rishi (63))
/*B*/
/*Calculate the average number of posts per user on Instagram. */
SELECT COUNT(*) / COUNT(DISTINCT user_id) AS average_posts_per_user
FROM photos;
/*Also, provide the total number of photos on Instagram divided by the total number of users.*/
SELECT COUNT(*) AS total_photos, COUNT(DISTINCT user_id) AS total_users,
COUNT(*) / COUNT(DISTINCT user_id) AS photos_per_user_ratio
FROM photos;
117 %
Results
Messages
average_posts_per_user
1 3
total_photos
total_users
photos_per_user_ratio
1 257 74 3
Query executed successfully.
LAPTOP-K3ECSOBF\SQLEXPRESS ...
LAPTOP-K3ECSOBF\rishi ...
ig_clone
00:00:00
2 rows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SQLQuery7.sql -...CSOBF\rishi (80))
SQLQuery6.sql -...CSOBF\rishi (78))
SQLQuery5.sql -...CSOBF\rishi (60))
SQLQuery4.sql -...CSOBF\rishi (71))
/*B*/
/*Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.*/
SELECT user_id
FROM (
SELECT u.id AS user_id, COUNT(p.id) AS total_photos,
(SELECT COUNT(*) FROM photos) AS total_photos_count,
COUNT(l.photo_id) AS total_likes
FROM users u
LEFT JOIN photos p ON u.id = p.user_id
LEFT JOIN likes l ON u.id = l.user_id
GROUP BY u.id
) AS user_likes_photos
WHERE total_photos_count = total_likes;
117 %
Connected. (1/1)
LAPTOP-K3ECSOBF\SQLEXPRESS ...
LAPTOP-K3ECSOBF\rishi ...
ig_clone
00:00:00
0 rows