Instagram User Analytics

SQL Fundamentals

Description:

User analytics is a way of analyzing user data in order to give companies a clear view of user controls.Typically a business intelligence software is used to combine customer behaviour data from web and mobile applications to create a holistic view of the user and the user experience.

I aided in the attempt to get spawn business insights for the marketing, product and development team in this assignment concerning Instagram User Analysis by sending the data to the team by using SQL (structured query language). Meanwhile I used various sql queries to gather the needed data. Through the data provided, I was able to ascertain the most oldest users, whether the user had posted any pictures or not, the most popular hashtag, the toal number of users and much more.

Approach:

I fistly evaluated the objectives and considered the actual data that the team needed and after that I imported the data into www.DB Fiddle.com and ran numerous queries to acknowledge the data and track down the insights that the team desired for maximum business growth.

Tech Stack Used:

Db Fiddle (SQL Database Playground) – My SQL v 8.0

Insights:

I ran various sql commands to acquire insights and understanding of how to handle real time sql queries through this assignment.I extracted several insights from the data furnished by the Instagram users, including the most engaging users, users who never posted a photo, contest winner, the most commonly used hashtags, the day of week on which most users registered, how many times the average users post, and the bot & fake accounts.

Results:

A) Marketing:

1) **Rewarding Most Loyal Users:** People who have been using the platform for the longest time.

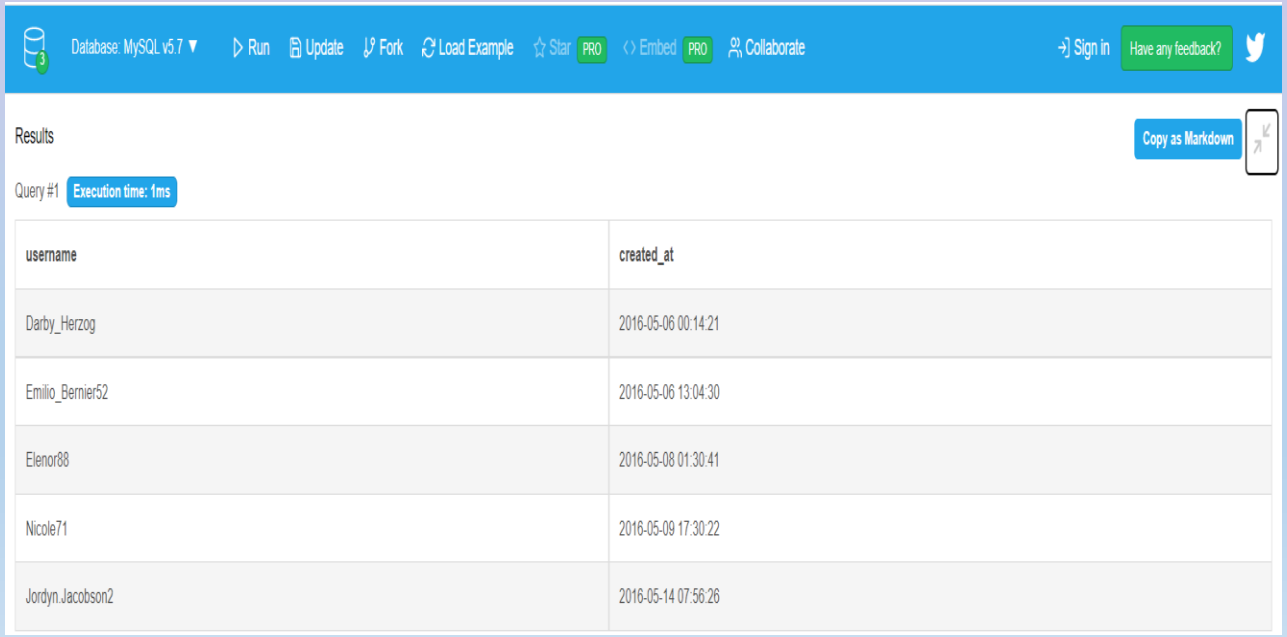
TASK: Find the 5 oldest users of Instagram from the database provided.

Query

Query SQL

```
1 SELECT username,created_at
2 FROM
3 ig_clone.users
4 ORDER BY created_at
5 LIMIT 5
6
```

Output



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

2) <u>Remind Inactive Users to Start Posting</u>: By sending them promotional emails to post their first photo.

<u>TASK:</u> Find the users who have never posted a single photo on Instagram.

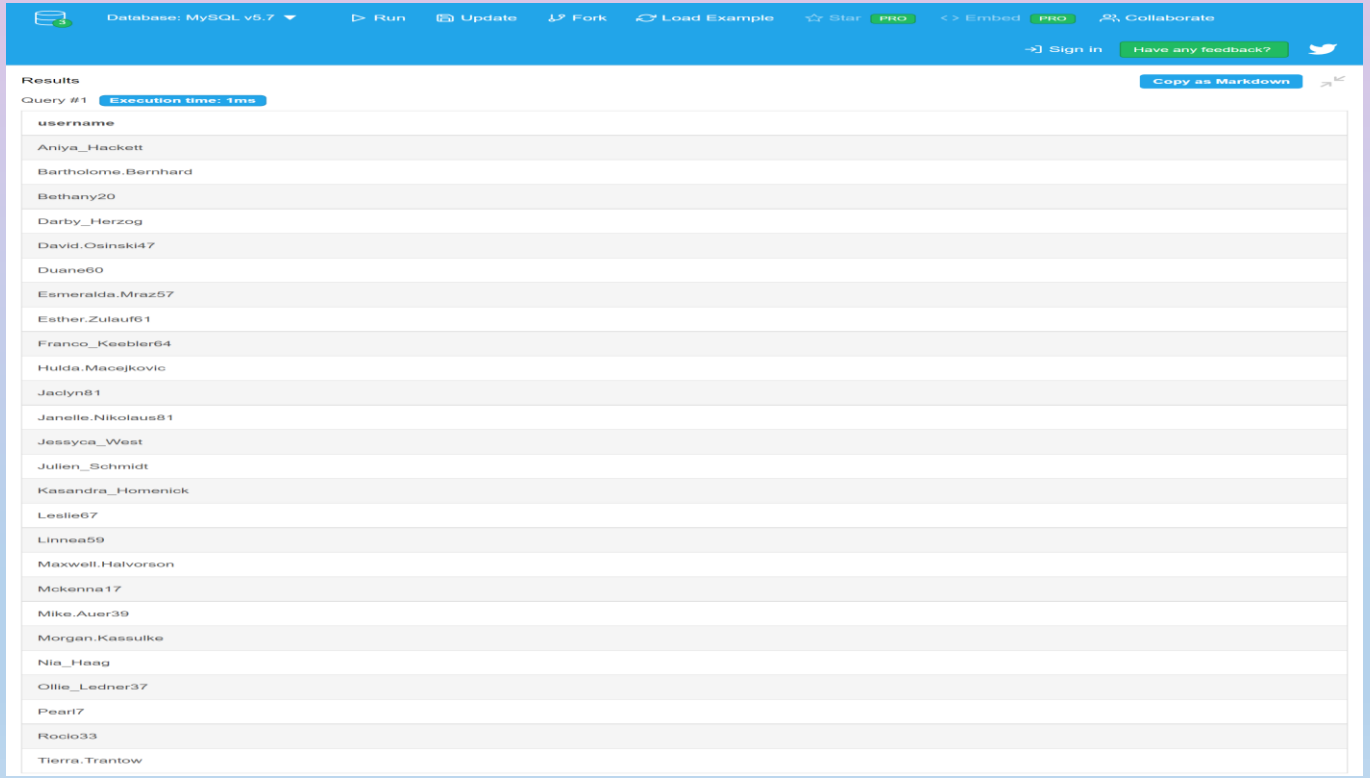
Query

Collaborate

Query SQL

```
1  SELECT u.username
2  FROM
3  ig_clone.users u
4  LEFT JOIN
5  ig_clone.photos p
6  ON u.id=p.user_id
7  WHERE
8  p.user_id is null
9  ORDER BY
10 u.username
```

Output



3)**Declaring Contest Winner:** The team started a contest and the user who gets the most likes on a single photo will win the contest now they wish to declare the winner.

TASK: Identify the winner of contest and provide their details to the team.

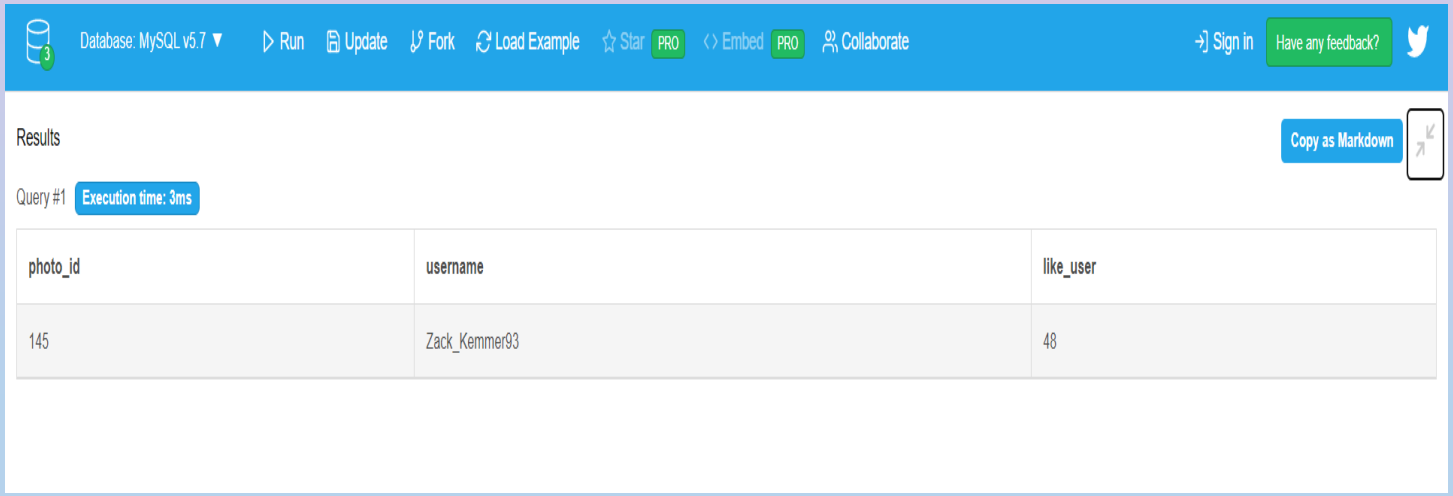
Query

Collaborate Sign in Have any feedback?

Query SQL

```
SELECT
likes.photo_id,
users.username,
COUNT(likes.user_id)as like_user
FROM
ig_clone.likes likes
INNER JOIN
ig_clone.photos photos
ON likes.photo_id=photos.id
INNER JOIN
ig_clone.users users
ON photos.user_id=users.id
GROUP BY likes.photo_id, users.username
ORDER BY like_user desc
LIMIT 1
```

Output



4) <u>Hashtag Researching:</u> A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.

<u>TASK:</u>Identify and suggest the top five commonly used hashtags on the platform.

Query

Collaborate | Sign in | Have any feedback?

Query SQL

```
1  SELECT
2  t.tag_name,
3  COUNT(p.photo_id) as num_tags
4  FROM
5  ig_clone.photo_tags p
6  INNER JOIN
7  ig_clone.tags t
8  ON p.tag_id=t.id
9  GROUP BY
10 tag_name
11 ORDER BY
12 num_tags desc
13 LIMIT 5
```

Output

Database: MySQL v5.7 ▼ | Run | Update | Fork | Load Example | Star PRO | Embed PRO | Collaborate | Sign in | Have any feedback?

Results | Copy as Markdown

Query #1 Execution time: 3ms

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

5) **Launch Ad Campagin:** The team wants to know, which day would be the best day to launch ads.

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

QUERY

Sign in | Have any feedback?

Query SQL

```
1 SELECT weekday (created_at) AS weekday,
2 COUNT (username) AS num_users
3 FROM ig_clone.users
4 GROUP BY 1
5 ORDER BY 2 DESC
```

OUTPUT

Database: MySQL v5.7 ▼ | Run | Save | Load Example | Collaborate | Sign in | Have any feedback?

Results | Copy as Markdown

Query #1 Execution time: 1ms

weekday	num_users
3	16
6	16
4	15
1	14
0	14
2	13
5	12

B) INVESTMENT METRICS:

1) **User Engagement:** Are users still as active and post on Instagram or they are making fewer posts.

TASK: Provide how many times does average user posts on Instagram. Also, provide the total number of photos on instagram/total no of photos.

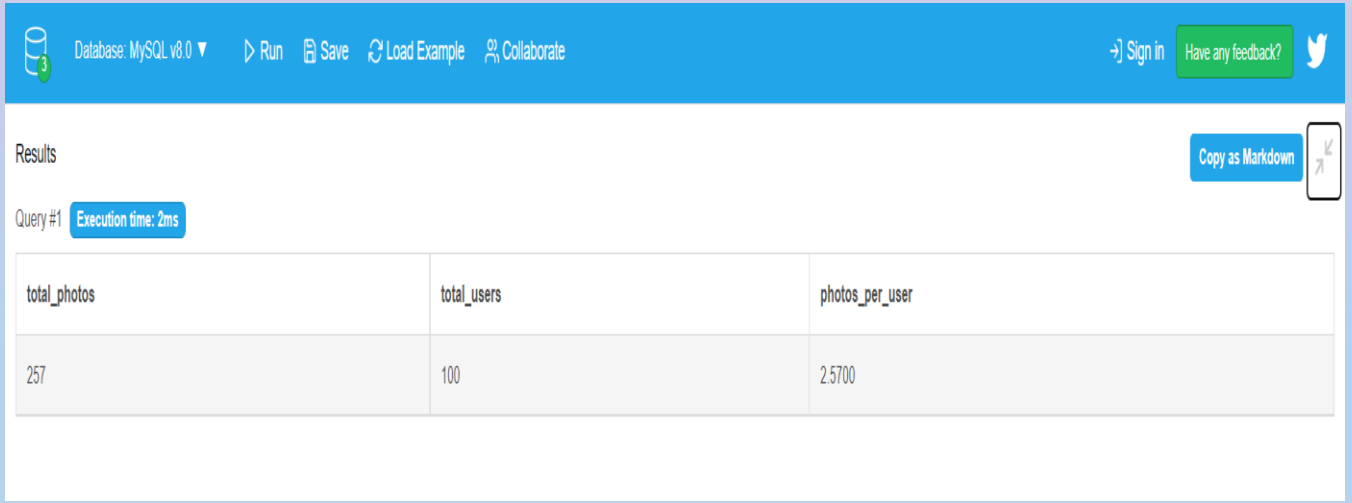
QUERY

Sign in | Have any feedback?

Query SQL

```
WITH CTE AS ( SELECT u.id AS userid,
COUNT(p.id) AS photoid
FROM ig_clone.users u
LEFT JOIN
ig_clone.photos p ON u.id = p.user_id GROUP BY u.id )
SELECT SUM(photoid) AS total_photos,
COUNT(userid) AS total_users, SUM(photoid) / COUNT(userid) AS photos_per_user
FROM CTE
```

OUTPUT



total_photos	total_users	photos_per_user
257	100	2.5700

2) **Bots & Fake Accounts:** The investors want to know if the platform is crowded with fake and dummy accounts.

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

QUERY

Sign in | Have any feedback?

Query SQL

```
1 WITH photo_count AS ( SELECT user_id, COUNT(photo_id) AS num_like
2 FROM ig_clone.likes
3 GROUP BY user_id
4 ORDER BY num_like DESC )
5 SELECT * FROM photo_count WHERE num_like = (SELECT count(*) FROM ig_clone.photos)
```

OUTPUT

Database: MySQL v8.0 | Run | Save | Load Example | Collaborate | Sign in | Have any feedback?

Results | Copy as Markdown

Query #1 Execution time: 3ms

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

Thank you

Rashi Tiwari

tiwarirashi322@gmail.com