

Shubham Saxena

Instagram User Analytics

About Project

As a Data Analyst working for product team at Instagram where i need to perform SQL tasks to analyzing user interactions and engagement with the Instagram app to provide valuable insights that can help the business grow.

A. SQL Tasks (Marketing Analysis):

1. Identify the five oldest users on Instagram from the provided database.
2. Identify users who have never posted a single photo on Instagram.
3. Determine the winner of the contest and provide their details to the team.
4. Identify and suggest the top five most commonly used hashtags on the platform.
5. Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

About Project

B. SQL Tasks(Investors Metrics):

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

Steps Used



Installation
of
MYSQL

Creation of
Dataset

Running of
SQL commands
for tasks

Making
PPT/PDF of
screenshots

INSTALLATION OF MYSQL

INSTALL MYSQL

— — —

- Download it from MYSQL website
- Run the installer
- Create user and password for localhost
- Run workbench.



CREATION OF DATA SET

Filter objects

Administration Schemas

No object selected


```

1 • ⊖ Create Table users(
2     id int auto_increment unique primary key,
3     username Varchar(255) not null,
4     created_at timestamp default now()
5 );
6     /*photos*/
7 • ⊖ create table photos(
8     id int auto_increment primary key,
9     image_url varchar(355) not null,
10    user_id int not null,
11    created_dat timestamp default now(),
12    Foreign key(user_id) references users(id)
13 );
14    /*comments*/
15 • ⊖ create table comments(
16    id int auto_increment primary key,
17    comment_text varchar(255) not null,
18    user_id int not null,
19    photo id int not null,

```

Creation of Data Set “ig_clone” with tables and values named as “comments”, “follows”, “likes”, “photo_tags”, “photos”, “tags”, “users”.

◀ ▶ | I? ⚡ I? | Jump to ▼

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
6	17:50:55	select username,created_at from users LIMIT 0, 1000	100 row(s) returned	0.000 sec / 0.000 sec
7	18:49:15	use ig_clone	0 row(s) affected	0.000 sec
8	18:49:15	select username,created_at from users order by created_at limit 5	5 row(s) returned	0.000 sec / 0.000 sec

SQL COMMANDS

A) Marketing Analysis:

MySQL Workbench

Local instance MySQL80 x

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQLFileDatabaseQueryToolsServerToolsScriptingHelp

Limit to 1000 rows

SQL File 3*

1 • use ig_clone;

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

3 • select username,created_at from users order by created_at limit 5;

4

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

SQL QUERIES

Result Grid

Form Editor

Read Only

Context Help

Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
6	17:50:55	select username,created_at from users LIMIT 0, 1000	100 row(s) returned	0.000 sec / 0.000 sec
7	18:49:15	use ig_clone	0 row(s) affected	0.000 sec
8	18:49:15	select username,created_at from users order by created_at limit 5	5 row(s) returned	0.000 sec / 0.000 sec

ig_clone

Tables

comments

follows

likes

photo_tags

photos

tags

users

Views

Stored Procedures

Functions

sample23

sys

Administration

Schemas

Information

No object selected

Object Info

Session

1. Loyal User Reward:

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

use ig_clone;
select username,created_at from users order by created_at limit 5;

18:49

09-01-2024

2. Inactive User Engagement:

The screenshot shows the MySQL Workbench interface. The top toolbar includes icons for File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows the 'SCHEMAS' panel with a tree view of the 'ig_clone' database, including tables like comments, follows, likes, photo_tags, photos, tags, and users. The main editor window displays a SQL query in the 'Commands' tab, titled 'Instagram Data set*'. The query is:


```

    1 • Use ig_clone;
    2 /*Identify users who have never posted a single photo on Instagram.*/
    3 • select * from photos,users;
    4 • select u.username from users u left join photos p on p.user_id=u.id where p.image_url is null order by u.username
    5
    
```

 The 'Result Grid' tab is active, showing a table with the following data:

username
Aniya_Hackett
Bartholome.Bernhard
Bethany20
Darby_Herzog
David.Osinski47
Duane60
Esmeralda.Mraz57
Esther.Zulauf61
Franco_Keebler64
Hulda.Macejkovic
Jadyn81
Janelle.Nikolaus81
Jessyca_West
Julien_Schmidt
Kassandra_Homenick
Leslie67
Linnea59
Maxwell.Halvorson
Mckenna17

 The right sidebar contains the 'SQLAdditions' panel with a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.' The bottom status bar shows 'Read Only', 'Context Help', and 'Snippets'.

3. Contest Winner Declaration:

The screenshot shows the MySQL Workbench interface with a local instance of MySQL80. The 'Commands' tab is active, displaying a SQL query to determine the contest winner. The query is as follows:

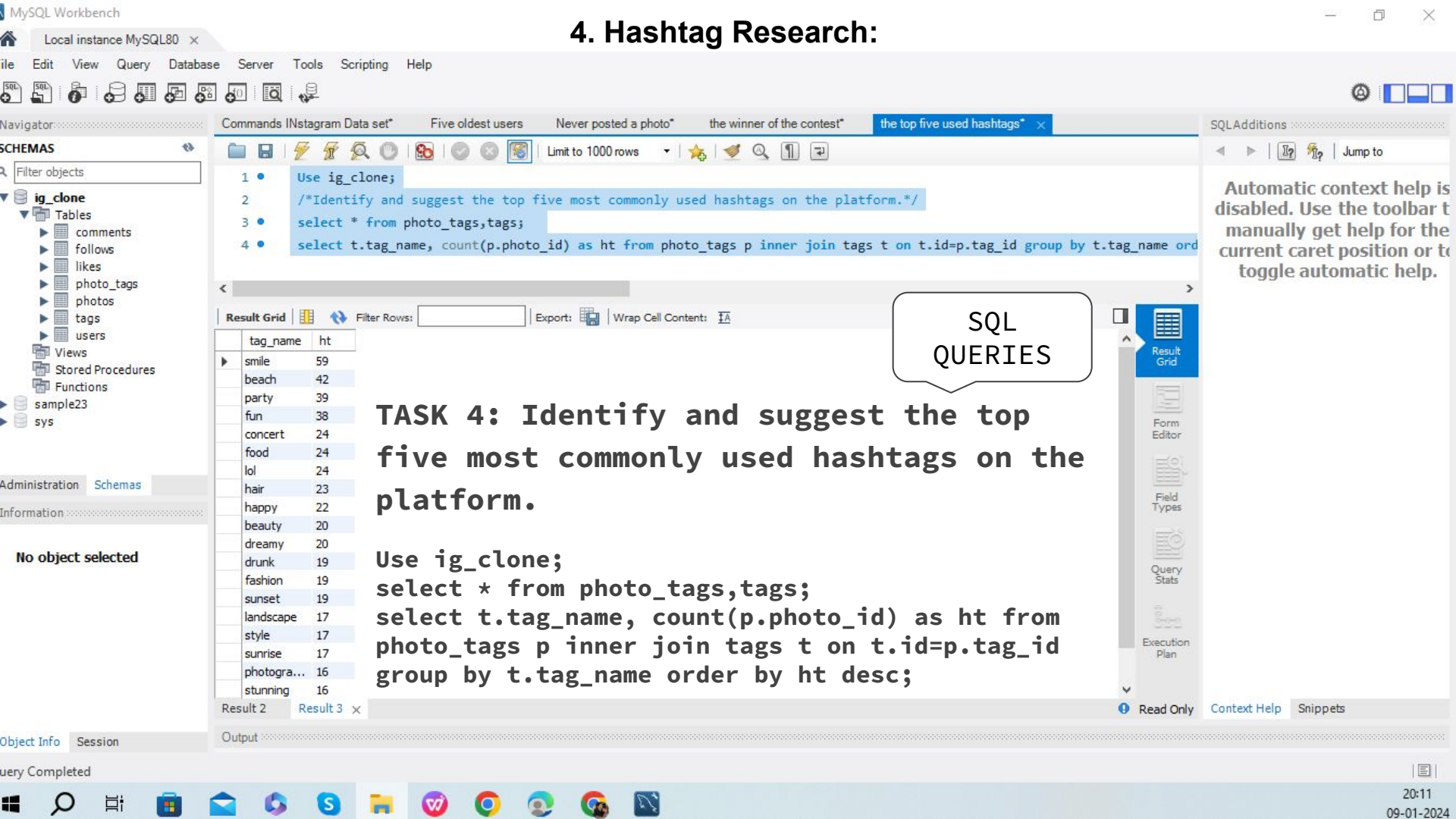
```
1 Use ig_clone;
2 /*Determine the winner of the contest and provide their details to the team.*/
3 select * from likes,photos,users;
4 select likes.photo_id, users.username, count(likes.user_id) as Total_likes
5 from likes inner join photos on likes.photo_id=photos.id
6 inner join users on photos.user_id=users.id group by
7 likes.photo_id,users.username order by Total_likes desc ;
```

The 'Result Grid' tab shows the results of the query, displaying a table with columns: photo_id, username, and Total_likes. The results are ordered by Total_likes in descending order.

photo_id	username	Total_likes
145	Zack_Kemmer93	48
127	Malinda_Streich	43
182	Adelle96	43
123	Seth46	42
30	Presley_McClure	41
52	Annalise.McKenzie16	41
61	Delpha.Kihn	41
147	Meggie_Doyle	41
174	Elenor88	41
192	Kathryn80	41
256	Javonte83	41
13	Harley_Lind18	40
97	Irwin.Larson	40
153	Aurelie71	40
161	Cesar93	40
244	Damon35	40
11	Alexander35	20

A callout box labeled 'SQL QUERIES' points to the SQL editor. A text box on the right states: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

At the bottom of the interface, the status bar shows 'Query Completed' and the system clock displays '20:00 09-01-2024'.



4. Hashtag Research:

Commands INstagram Data set* Five oldest users Never posted a photo* the winner of the contest* the top five used hashtags* x

```
1 • Use ig_clone;  
2 • /*Identify and suggest the top five most commonly used hashtags on the platform.*/  
3 • select * from photo_tags,tags;  
4 • select t.tag_name, count(p.photo_id) as ht from photo_tags p inner join tags t on t.id=p.tag_id group by t.tag_name order by ht desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	tag_name	ht
▶	smile	59
	beach	42
	party	39
	fun	38
	concert	24
	food	24
	lol	24
	hair	23
	happy	22
	beauty	20
	dreamy	20
	drunk	19
	fashion	19
	sunset	19
	landscape	17
	style	17
	sunrise	17
	photogra...	16
	stunning	16

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

Use ig_clone;
select * from photo_tags,tags;
select t.tag_name, count(p.photo_id) as ht from photo_tags p inner join tags t on t.id=p.tag_id group by t.tag_name order by ht desc;

SQL
QUERIES

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result 2 Result 3 x

Read Only Context Help Snippets

Output

Query Completed

20:11

09-01-2024

5. Ad Campaign Launch:

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help



Navigator

SCHEMAS

Filter objects

- ig_clone
 - Tables
 - comments
 - follows
 - likes
 - photo_tags
 - photos
 - tags
 - users
 - Views
 - Stored Procedures
 - Functions
 - sample23
 - sys

Administration Schemas

Information

No object selected

Object Info Session

Query Completed

Commands INstagram Data set*

Five oldest users

Never posted a photo*

the winner of the contest*

the top five used hashtags*

the day of the we

SQLAdditions



Limit to 1000 rows

```
1 • Use ig_clone;  
2 /*Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campai  
3 • Select * from users;  
4 • select date_format((created_at), '%W') as DDay, count(username) from users group by 1 order by 2 desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	DDay	count(username)
▶	Thursday	16
	Sunday	16
	Friday	15
	Tuesday	14
	Monday	14
	Wednesday	13
	Saturday	12

SQL
QUERIES

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

```
Use ig_clone;  
Select * from users;  
select date_format((created_at), '%W') as DDay,  
count(username) from users group by 1 order by 2  
desc;
```

users 2 Result 3 x

Read Only

Context Help

Snippets

Output

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result Grid

Form Editor

Field Types

Query Stats

Execution Plan

SQL COMMANDS

A) Investors Metrics:
















Local instance MySQL80 x



Filter objects

- Tables
 - comments
 - follows
 - likes
 - photo_tags
 - photos
 - tags
 - users
- Views
- Stored Procedures
- Functions
- sample23
- sys

Information











 Limit to 1000 rows
 





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	totalphotos	total_users	photoperuser
▶	257	100	2.5700

SQL QUERIES




Form Editor

Field Types



Query Stats

Read Only Context Help Snippets



23:52
09-01-202

MySQL Workbench

Local instance MySQL80

FileEditViewQueryDatabaseServerToolsScriptingHelp

Navigator

ig_clone

Tables

comments

follows

likes

photo_tags

photos

tags

users

Views

Stored Procedures

Functions

sample23

sys

AdministrationSchemas

Information

No object selected

the top five used hashtags*the day of the week when most...the average number of posts per...Identify users (potential bots)*

Limit to 1000 rows

1 • Use ig_clone;
2 /* Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for
3 • select * from users, likes;
4 • with base as(
5 select u.username, count(l.photo_id) as botlikes from likes l inner join users u on u.id=l.user_id
6 group by u.username)
7 select username, botlikes from base where botlikes=(select count(*)from photos)order by us

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

username	botlikes
Aniya_Hackett	257
Bethany20	257
Duane60	257
Jadyn81	257
Janelle.Nikolaus81	257
Julien_Schmidt	257
Leslie67	257
Maxwell.Halvorson	257
Mckenna17	257
Mike.Auer39	257
Nia_Haag	257
Ollie_Ledner37	257
Rocio33	257

Result 1Result 2 ×

Read OnlyContext HelpSnippets

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

SQL
QUERIES

TASK 2: Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.
Use ig_clone;
select * from users, likes;
with base as(
select u.username, count(l.photo_id) as botlikes from likes l
inner join users u on u.id=l.user_id
group by u.username)
select username, botlikes from base where botlikes=(select count(*)from photos)order by username;

Query Completed

00:03
10-01-2024

Thank
You

10/01/2024