Instagram User Analytics

SQL Fundamentals

A) Marketing: The marketing team wants to launch some campaigns, and they need your help with the following

1. **Rewarding Most Loyal Users:** People who have been using the platform for the longest time.
   Your Task: Find the 5 oldest users of the Instagram from the database provided

```
106
107     -- Your Task: Find the 5 oldest users of the Instagram from the database provided
108 •   select *from users
109     order by  created_at
110     limit 5 ;
111
112
113
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

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

2. **Remind Inactive Users to Start Posting:** By sending them promotional emails to post their 1st photo.
   Your Task: Find the users who have never posted a single photo on Instagram.

```
113     -- Your Task: Find the users who have never posted a single photo on Instagram
114 •   select users.id, users.username
115     from users
116     left join photos on users.id = photos.user_id
117     where photos.user_id is NULL;
118
119
120
121
```

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

id	username
5	Aniya_Hackett
7	Kasandra_Homenick
14	Jaclyn81
21	Rocio33
24	Maxwell.Halvorson
25	Tierra.Trantow
34	Pearl7
36	Ollie_Ledner37

Result 20

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

```
120     -- Your Task: Identify the winner of the contest and provide their details to the team
121 •   select users.username, count(likes.photo_id) as total_likes
122     FROM users
123     inner join photos on users.id = photos.user_id
124     inner join  likes on photos.id = likes.photo_id
125     group by  users.id
126     order by total_likes desc
127     limit 1;
```

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

username	total_likes
Eveline95	420

4 **Hashtag Researching:** A partner brand wants to know, which hashtags to use in the post to reach the most people on the platform.
Your Task: Identify and suggest the top 5 most commonly used hashtags on the platform

```
129     -- Your Task: Identify and suggest the top 5 most commonly used hashtags on the platform
130 •   select tags.tag_name, count(photo_tags.tag_id) as tag_count
131     from tags
132     inner join photo_tags on tags.id=photo_tags.tag_id
133     group by tags.tag_name
134     order by tag_count desc
135     limit 5;
```

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

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

5. **Launch AD Campaign:** The team wants to know, which day would be the best day to launch ADs.
   Your Task: What day of the week do most users register on? Provide insights on when to schedule an ad campaign

```
137    -- Your Task: What day of the week do most users register on? Provide insights on when to schedule an ad campaign
138
139 •  select  dayname(created_at)as day,count(*) as num_of_registration  from  users
140    group by dayname(created_at)
141    order by count(created_at) desc
142    limit 1;
143
144
145
146
```

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

day	num_of_registration
Thursday	16

B) Investor Metrics: Our investors want to know if Instagram is performing well and is not becoming redundant like Facebook, they want to assess the app on the following grounds

1. **User Engagement:** Are users still as active and post on Instagram or they are making fewer posts
   Your Task: Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users

```
147     -- Your Task: Provide how many times does average user posts on Instagram.
148     -- Also, provide the total number of photos on Instagram/total number of users
149
150
151 •   SELECT COUNT(*) AS total_photos, (SELECT COUNT(DISTINCT id) FROM users) AS total_users,
152     COUNT(*) / (SELECT COUNT(DISTINCT id) FROM users) AS photos_per_user
153     FROM photos;
154
155
```

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

total_photos	total_users	photos_per_user
257	100	2.5700

1. **Bots & Fake Accounts:** The investors want to know if the platform is crowded with fake and dummy accounts
   Your Task: Provide data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this).

```
156
157     -- Your Task: Provide data on users (bots) who have liked every single photo on the site (since any normal user would not be able to do this)
158
159 •   SELECT * from users
160     join likes
161     on id = user_id
162     GROUP BY user_id
163     HAVING COUNT(DISTINCT photo_id) = (SELECT COUNT(DISTINCT id) FROM photos);
164
```

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

id	username	created_at	user_id	photo_id	created_at
5	Aniya_Hackett	2016-12-07 01:04:39	5	1	2023-07-07 17:17:38
14	Jadyn81	2017-02-06 23:29:16	14	1	2023-07-07 17:17:38
21	Rocio33	2017-01-23 11:51:15	21	1	2023-07-07 17:17:38
24	Maxwell.Halvorson	2017-04-18 02:32:44	24	1	2023-07-07 17:17:38
36	Ollie_Ledner37	2016-08-04 15:42:20	36	1	2023-07-07 17:17:38
41	Mckenna17	2016-07-17 17:25:45	41	1	2023-07-07 17:17:38

Thank You