Trainity Assignment -2

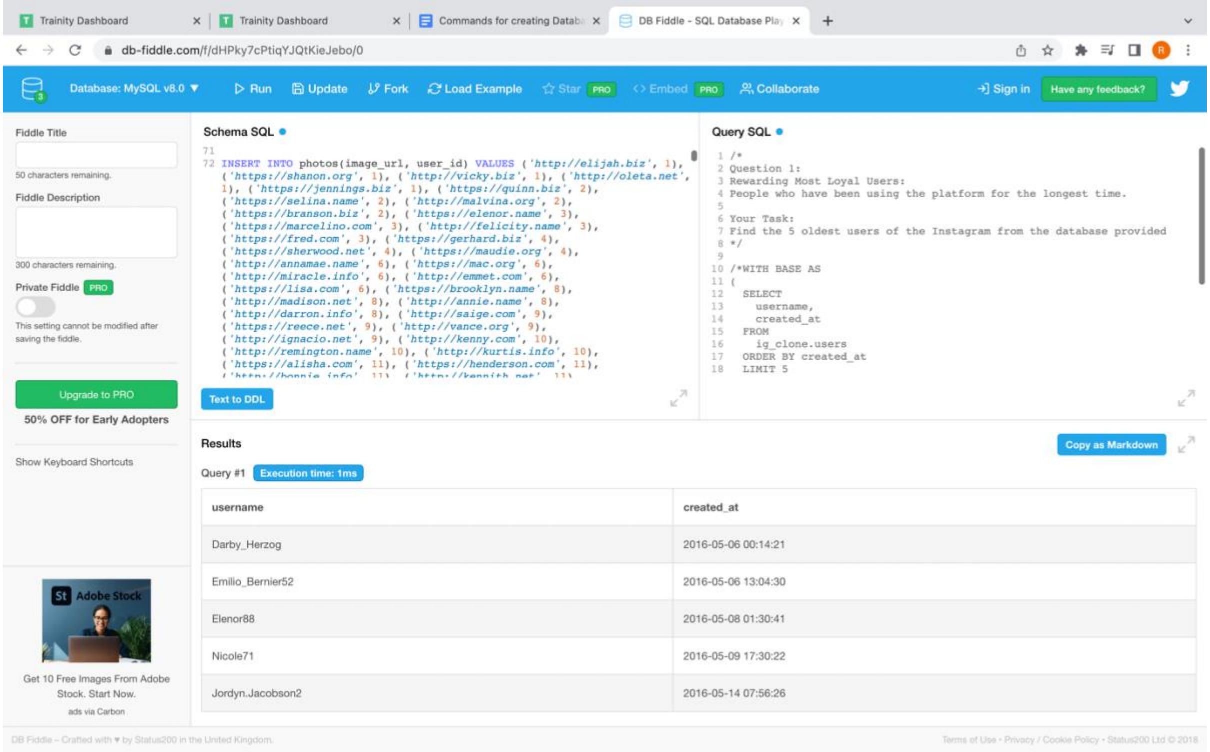
First we will enter the commands for creating the database in the db fiddle once created we will use the database and by performing queries we will analyze it.

Here the database **ig_clone** has multiple tabes **like users, photos,comments , likes, follows, tags, photo_tags**

THE VALUES INPUTTED TO THE TABLE ARE
User table has the columns username and created_at
Photos table has the columns image_url and user_id
Follows table has columns follower_id and followee_id
Comments table has coloumns comment_text and user_id and photo_id
Likes table has columns user_id,photo_id
Follows table has columns
Tags table has columns tag_name
Photo_tags table has columns photo_id, tag_id

MARKETING

1) Find the 5 oldest users of the Instagram from the database provided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Execution time: 1ms
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```sql

INSERT INTO photos(image_url, user_id) VALUES ('http://elijah.biz', 1),
('https://shanon.org', 1), ('http://vicky.biz', 1), ('http://oleta.net',
1), ('https://jennings.biz', 1), ('https://quinn.biz', 2),
('https://selina.name', 2), ('http://malvina.org', 2),
('https://branson.biz', 2), ('https://elenor.name', 3),
('https://marcelino.com', 3), ('http://felicity.name', 3),
('https://fred.com', 3), ('https://gerhard.biz', 4),
('https://sherwood.net', 4), ('https://maudie.org', 4),
('http://annamae.name', 6), ('https://mac.org', 6),
('http://miracle.info', 6), ('http://emmet.com', 6),
('https://lisa.com', 6), ('https://brooklyn.name', 8),
('http://madison.net', 8), ('http://annie.name', 8),
('http://darron.info', 8), ('http://saige.com', 9),
('https://reece.net', 9), ('http://vance.org', 9),
('http://ignacio.net', 9), ('http://kenny.com', 10),
('http://remington.name', 10), ('http://kurtis.info', 10),
('https://alisha.com', 11), ('https://henderson.com', 11),
('http://bonnie.info', 11), ('http://kennith.net', 11),
```

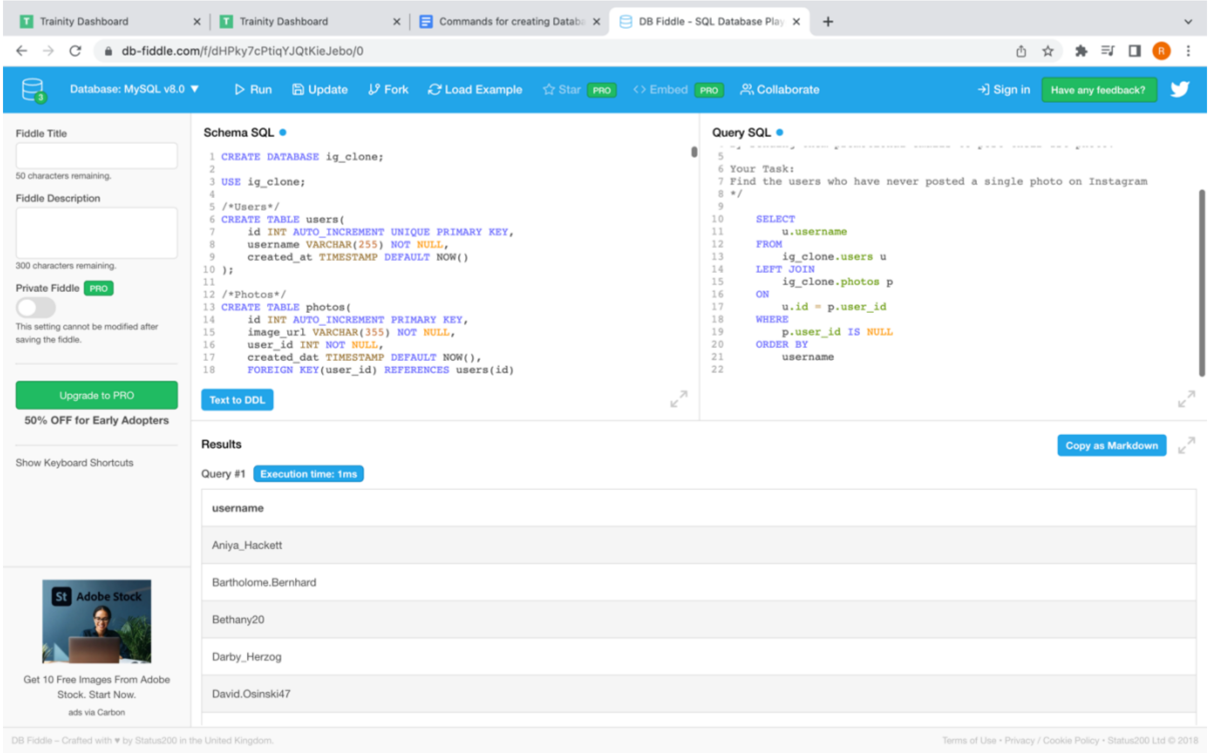
```sql
/*
Question 1:
Rewarding Most Loyal Users:
People who have been using the platform for the longest time.

Your Task:
Find the 5 oldest users of the Instagram from the database provided
*/

/*WITH BASE AS
(
  SELECT
    username,
    created_at
  FROM
    ig_clone.users
  ORDER BY created_at
  LIMIT 5
```

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) Find the users who have never posted a single photo on Instagram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Query #1
Execution time: 1ms
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```sql
CREATE DATABASE ig_clone;

USE ig_clone;

/*Users*/
CREATE TABLE users(
    id INT AUTO_INCREMENT UNIQUE PRIMARY KEY,
    username VARCHAR(255) NOT NULL,
    created_at TIMESTAMP DEFAULT NOW()
);

/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
```

```sql

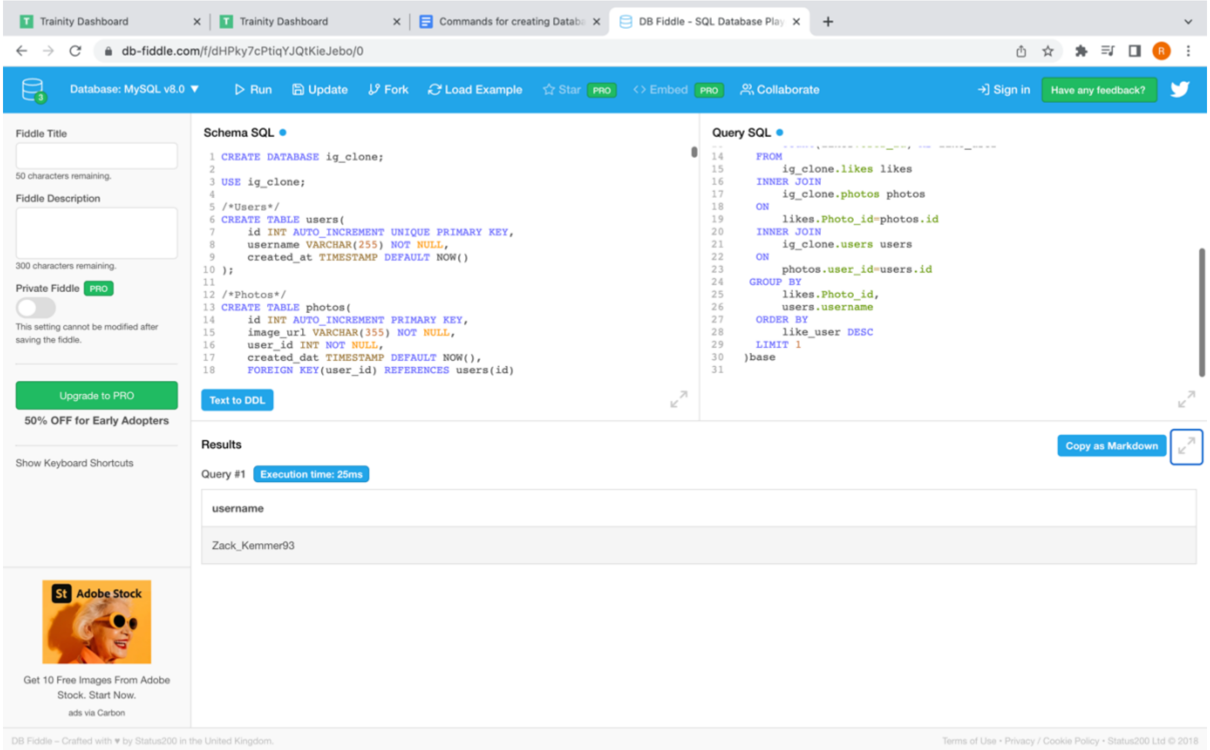
Your Task:
Find the users who have never posted a single photo on Instagram
*/

    SELECT
        u.username
    FROM
        ig_clone.users u
    LEFT JOIN
        ig_clone.photos p
    ON
        u.id = p.user_id
    WHERE
        p.user_id IS NULL
    ORDER BY
        username

```

username
Aniya_Hackett
Bartholome.Bernhard
Bethany20
Darby_Herzog
David.Osinski47

3) Identify the winner of the contest and provide their details to the team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Schema SQL

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/*Photos*/
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    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
```

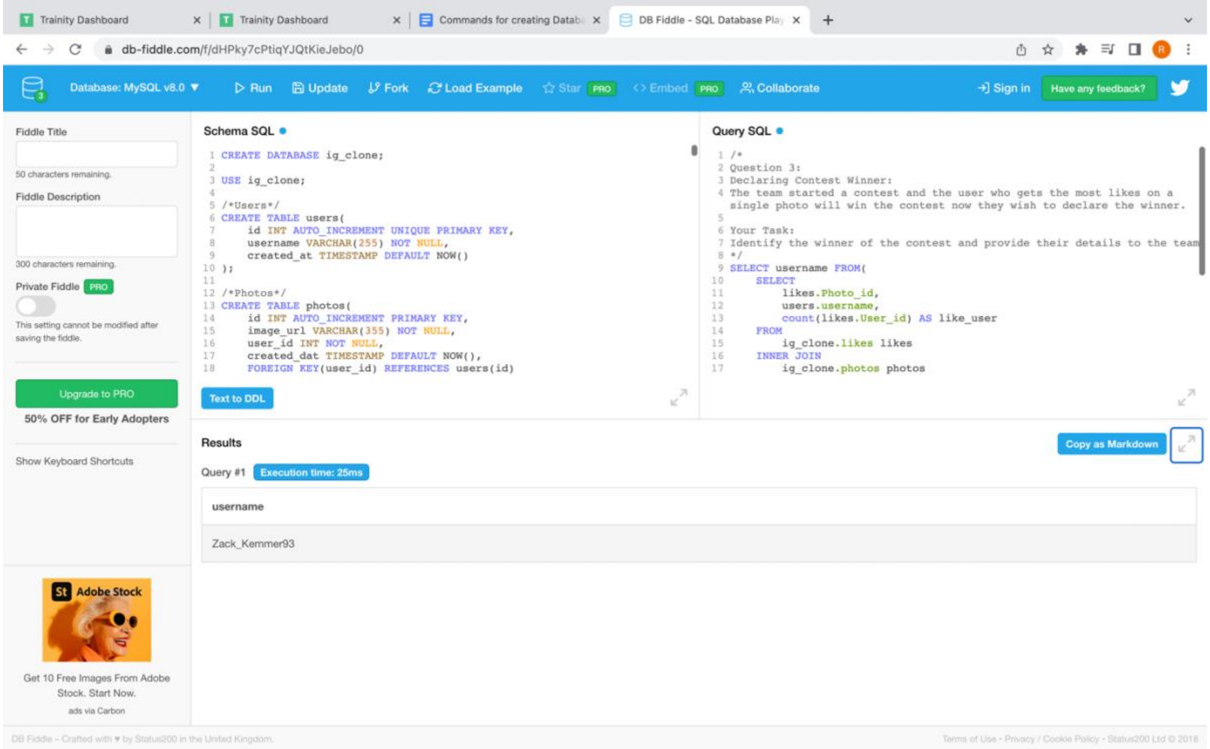
Query SQL

```sql
    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
  )base
```

Results

Query #1 Execution time: 25ms

username
Zack_Kemmer93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);

/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
```

Query SQL

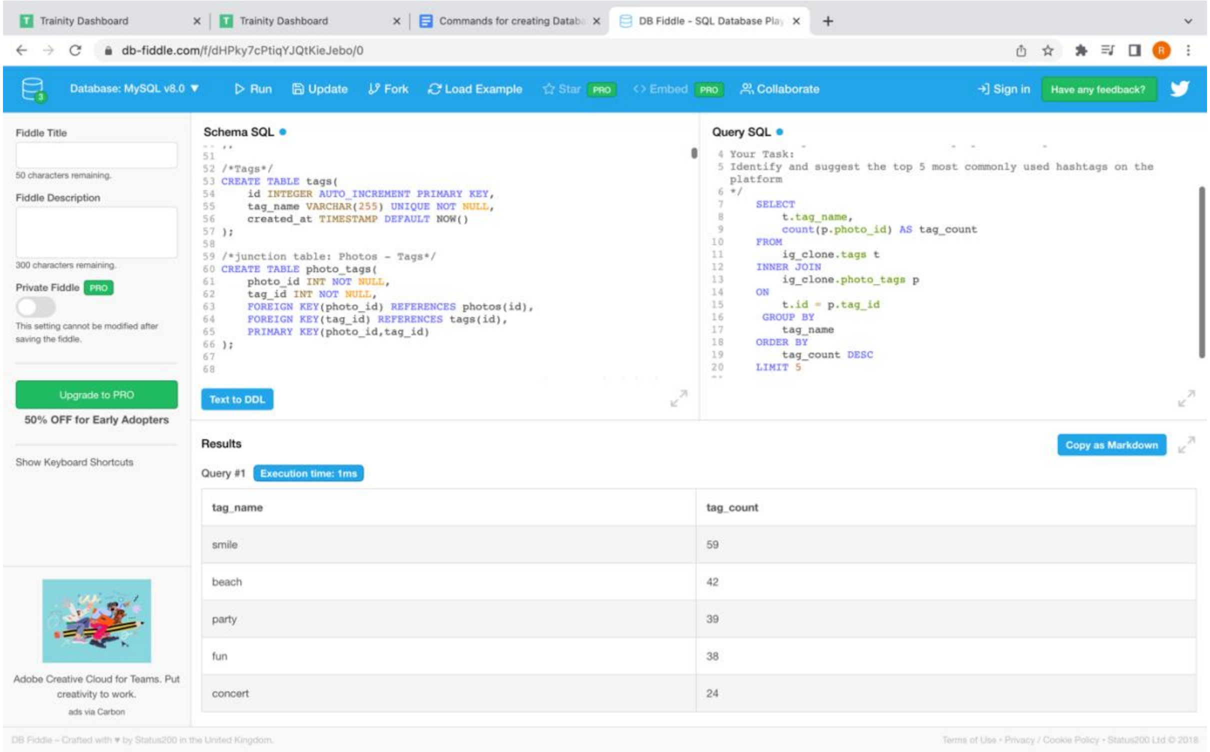
```sql
/*
Question 3:
Declaring Contest Winner:
The team started a contest and the user who gets the most likes on a single photo will win the contest now they wish to declare the winner.

Your Task:
Identify the winner of the contest and provide their details to the team
*/
SELECT username FROM(
    SELECT
        likes.Photo_id,
        users.username,
        count(likes.User_id) AS like_user
    FROM
        ig_clone.likes likes
    INNER JOIN
        ig_clone.photos photos
```

Results

Query #1 Execution time: 25ms

username
Zack_Kemmer93

4) Identify and suggest the top 5 most commonly used hashtags on the platform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Schema SQL

```sql

/*Tags*/
CREATE TABLE tags(
    id INTEGER AUTO_INCREMENT PRIMARY KEY,
    tag_name VARCHAR(255) UNIQUE NOT NULL,
    created_at TIMESTAMP DEFAULT NOW()
);

/*junction table: Photos - Tags*/
CREATE TABLE photo_tags(
    photo_id INT NOT NULL,
    tag_id INT NOT NULL,
    FOREIGN KEY(photo_id) REFERENCES photos(id),
    FOREIGN KEY(tag_id) REFERENCES tags(id),
    PRIMARY KEY(photo_id,tag_id)
);


```

Query SQL

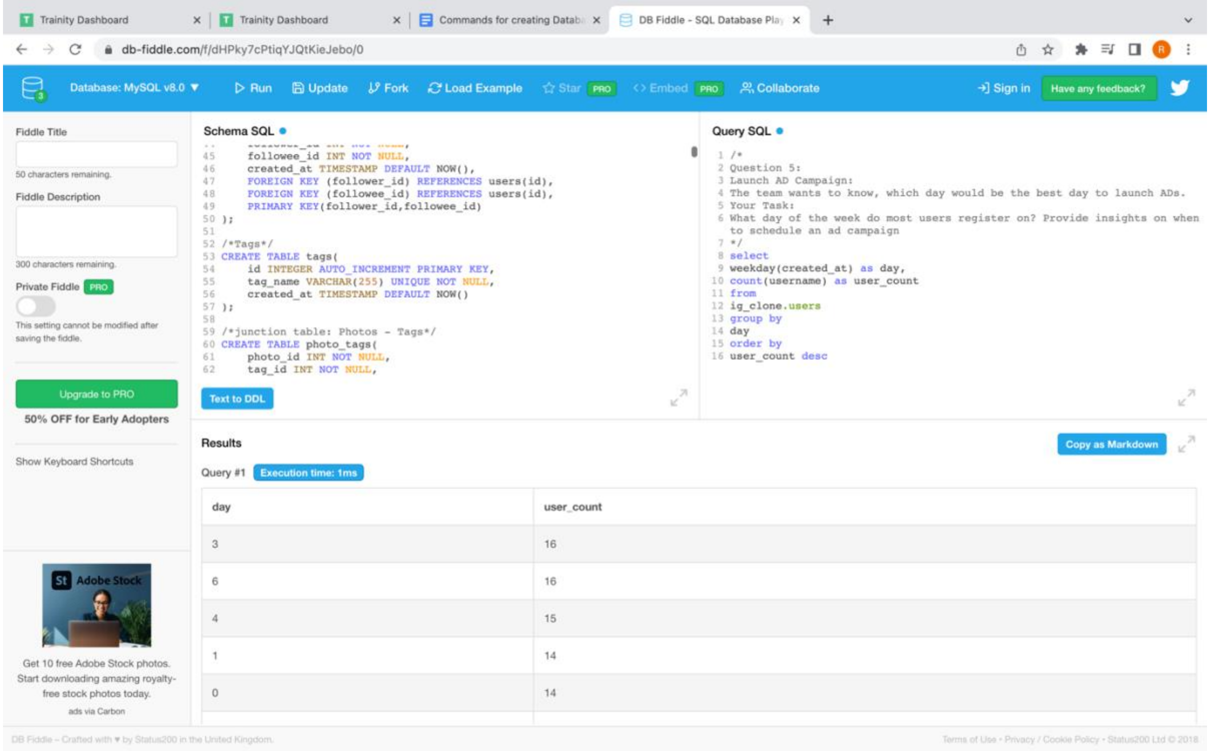
```sql
Your Task:
Identify and suggest the top 5 most commonly used hashtags on the platform
*/
    SELECT
        t.tag_name,
        count(p.photo_id) AS tag_count
    FROM
        ig_clone.tags t
    INNER JOIN
        ig_clone.photo_tags p
    ON
        t.id = p.tag_id
     GROUP BY
        tag_name
    ORDER BY
        tag_count DESC
    LIMIT 5
```

Results

Query #1 Execution time: 1ms

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

5) What day of the week do most users register on? Provide insights on when to schedule an ad campaign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Schema SQL

```sql
    followee_id INT NOT NULL,
    created_at TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY (follower_id) REFERENCES users(id),
    FOREIGN KEY (followee_id) REFERENCES users(id),
    PRIMARY KEY(follower_id,followee_id)
);

/*Tags*/
CREATE TABLE tags(
    id INTEGER AUTO_INCREMENT PRIMARY KEY,
    tag_name VARCHAR(255) UNIQUE NOT NULL,
    created_at TIMESTAMP DEFAULT NOW()
);

/*junction table: Photos - Tags*/
CREATE TABLE photo_tags(
    photo_id INT NOT NULL,
    tag_id INT NOT NULL,
```

Query SQL

```sql
/*
Question 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
*/
select
weekday(created_at) as day,
count(username) as user_count
from
ig_clone.users
group by
day
order by
user_count desc
```

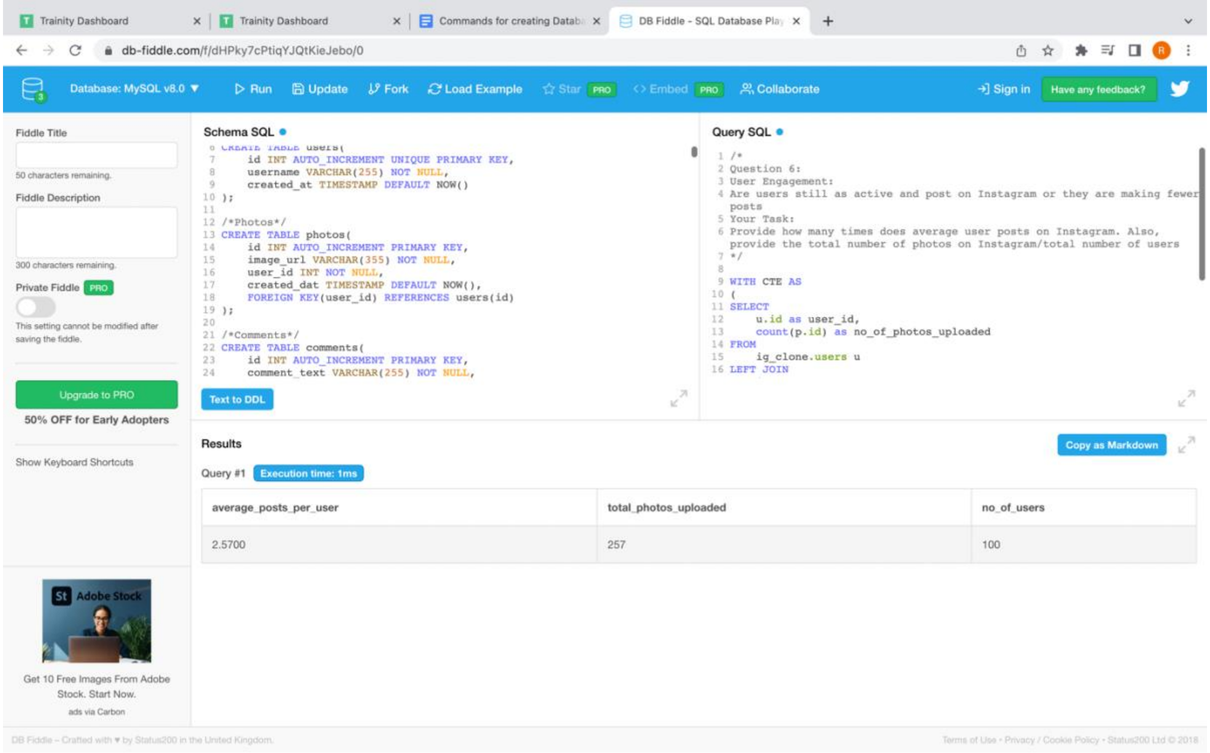
Results

Query #1 Execution time: 1ms

day	user_count
3	16
6	16
4	15
1	14
0	14

B) MARKETING

1) Provide how many times does average user posts on Instagram. Also, provide the total number of photos on Instagram/total number of users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Query #1
Execution time: 1ms
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```
CREATE TABLE users(
    id INT AUTO_INCREMENT UNIQUE PRIMARY KEY,
    username VARCHAR(255) NOT NULL,
    created_at TIMESTAMP DEFAULT NOW()
);

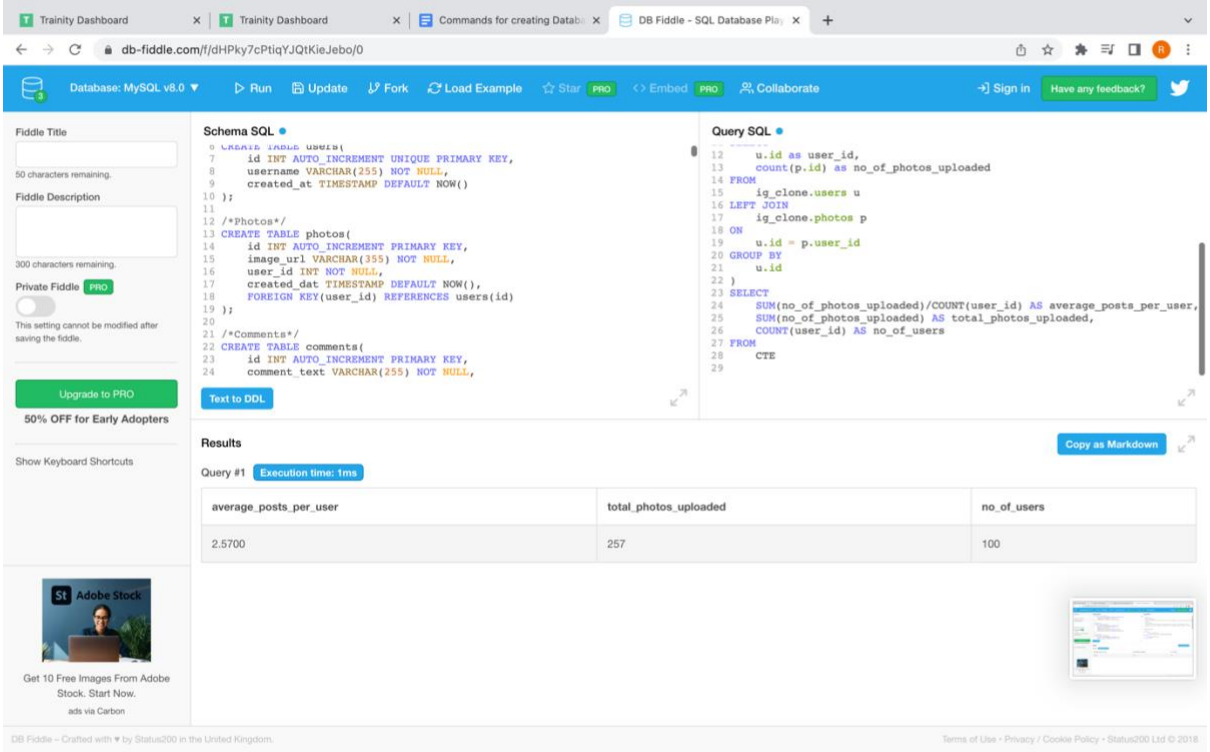
/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
);

/*Comments*/
CREATE TABLE comments(
    id INT AUTO_INCREMENT PRIMARY KEY,
    comment_text VARCHAR(255) NOT NULL,
```

```
/*
Question 6:
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
*/

WITH CTE AS
(
SELECT
    u.id as user_id,
    count(p.id) as no_of_photos_uploaded
FROM
    ig_clone.users u
LEFT JOIN
```

average_posts_per_user	total_photos_uploaded	no_of_users
2.5700	257	100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```
CREATE TABLE users(
    id INT AUTO_INCREMENT UNIQUE PRIMARY KEY,
    username VARCHAR(255) NOT NULL,
    created_at TIMESTAMP DEFAULT NOW()
);

/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
);

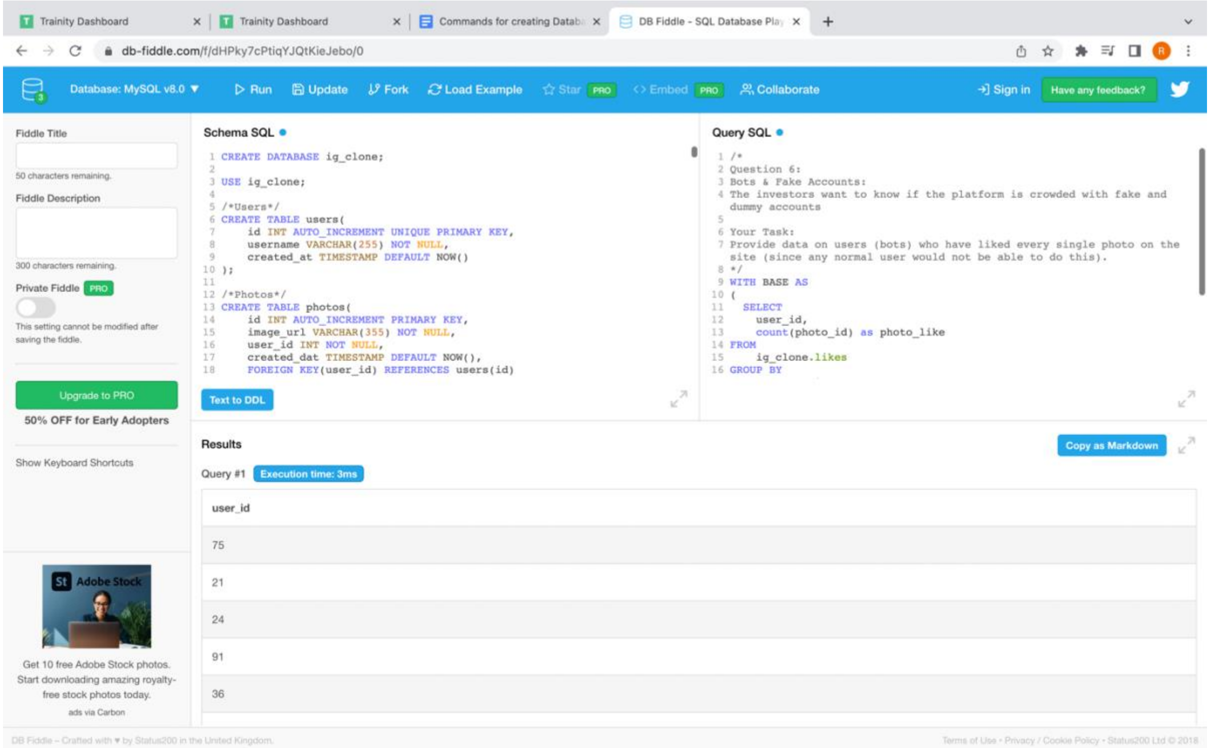
/*Comments*/
CREATE TABLE comments(
    id INT AUTO_INCREMENT PRIMARY KEY,
    comment_text VARCHAR(255) NOT NULL,
```

```
    u.id as user_id,
    count(p.id) as no_of_photos_uploaded
FROM
    ig_clone.users u
LEFT JOIN
    ig_clone.photos p
ON
    u.id = p.user_id
GROUP BY
    u.id
)
SELECT
    SUM(no_of_photos_uploaded)/COUNT(user_id) AS average_posts_per_user,
    SUM(no_of_photos_uploaded) AS total_photos_uploaded,
    COUNT(user_id) AS no_of_users
FROM
    CTE

```

average_posts_per_user	total_photos_uploaded	no_of_users
2.5700	257	100

2) 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).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Schema SQL

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);

/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
```

Query SQL

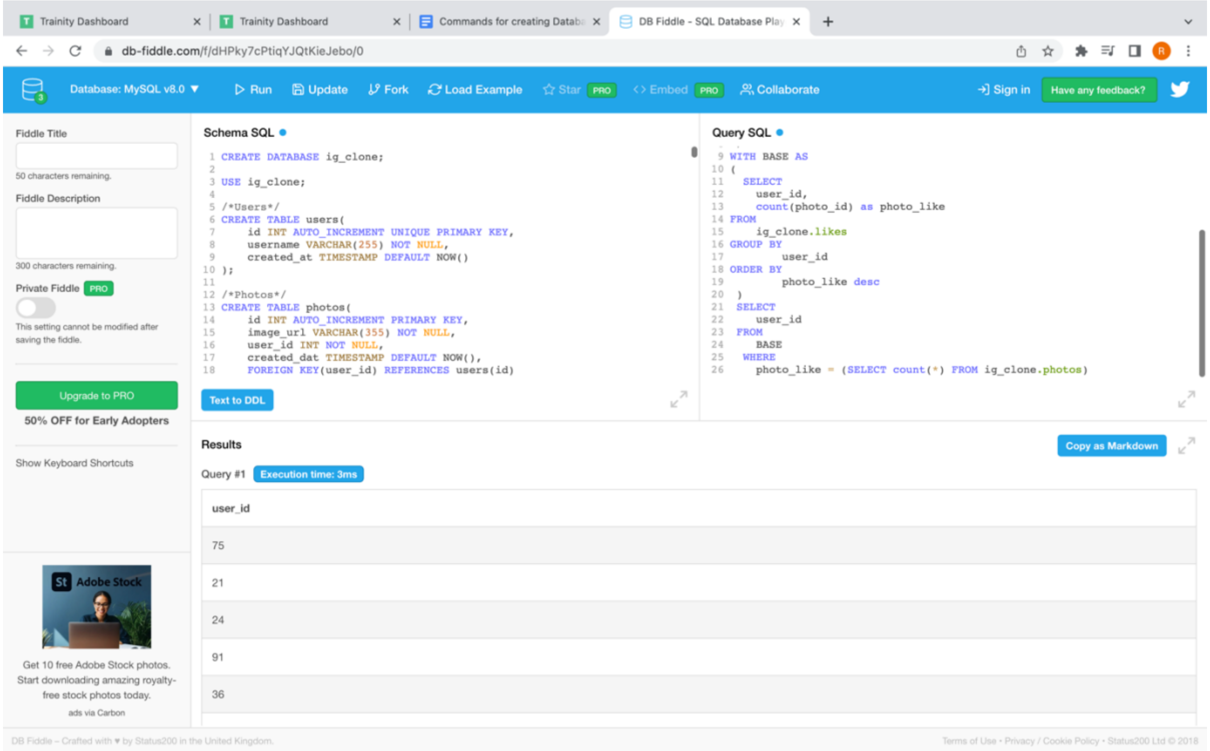
```sql
/*
Question 6:
Bots & Fake Accounts:
The investors want to know if the platform is crowded with fake and dummy accounts

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).
*/
WITH BASE AS
(
  SELECT
    user_id,
    count(photo_id) as photo_like
FROM
    ig_clone.likes
GROUP BY
```

Results

Query #1 Execution time: 3ms

user_id
75
21
24
91
36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    created_at TIMESTAMP DEFAULT NOW()
);

/*Photos*/
CREATE TABLE photos(
    id INT AUTO_INCREMENT PRIMARY KEY,
    image_url VARCHAR(355) NOT NULL,
    user_id INT NOT NULL,
    created_dat TIMESTAMP DEFAULT NOW(),
    FOREIGN KEY(user_id) REFERENCES users(id)
```

Query SQL

```sql
WITH BASE AS
(
  SELECT
    user_id,
    count(photo_id) as photo_like
FROM
    ig_clone.likes
GROUP BY
        user_id
ORDER BY
        photo_like desc
 )
 SELECT
    user_id
 FROM
    BASE
  WHERE
    photo_like = (SELECT count(*) FROM ig_clone.photos)
```

Results

Query #1 Execution time: 3ms

user_id
75
21
24
91
36