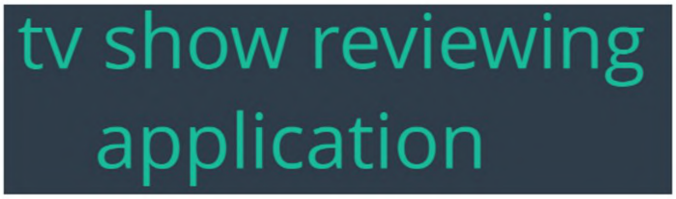
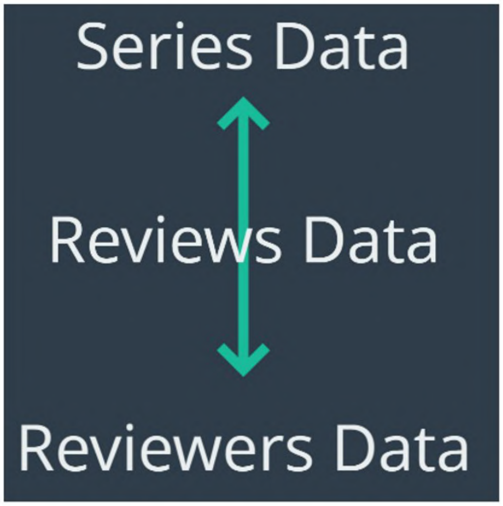
Many To Many Relationship & Instagram Project - SQL Session 10

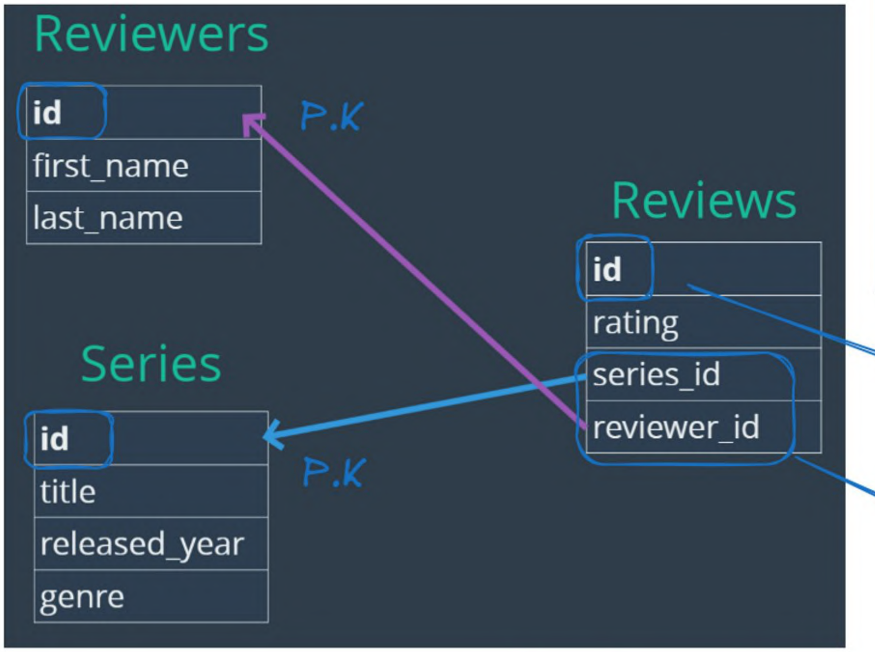
09 July 2024 14:03

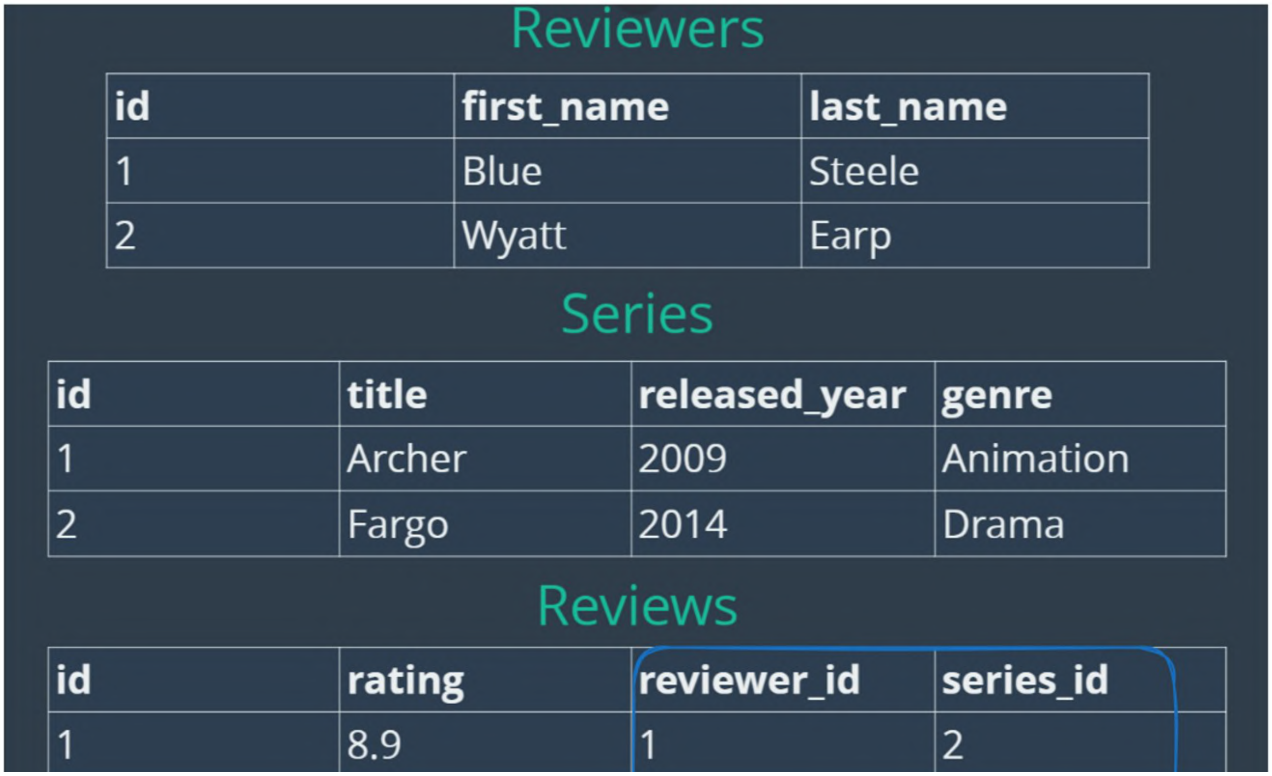
Many : Many Relationship - SQL Session 10



tv show reviewing application







Reviewers

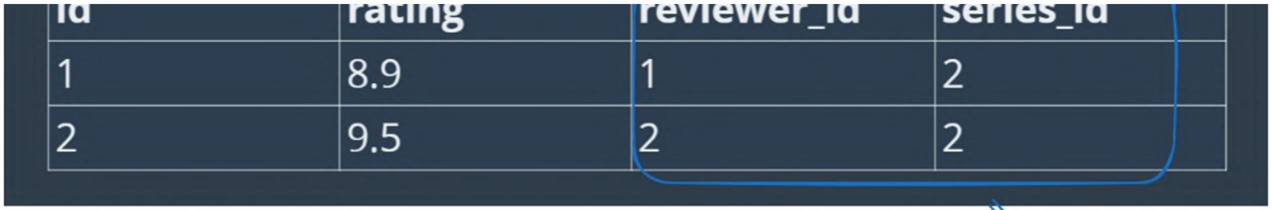
id	first_name	last_name
1	Blue	Steele
2	Wyatt	Earp

Series

id	title	released_year	genre
1	Archer	2009	Animation
2	Fargo	2014	Drama

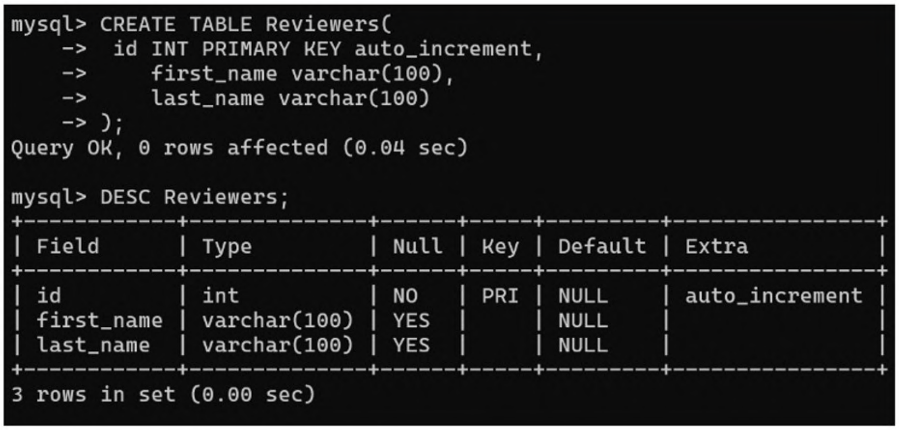
Reviews

id	rating	reviewer_id	series_id
1	8.9	1	2

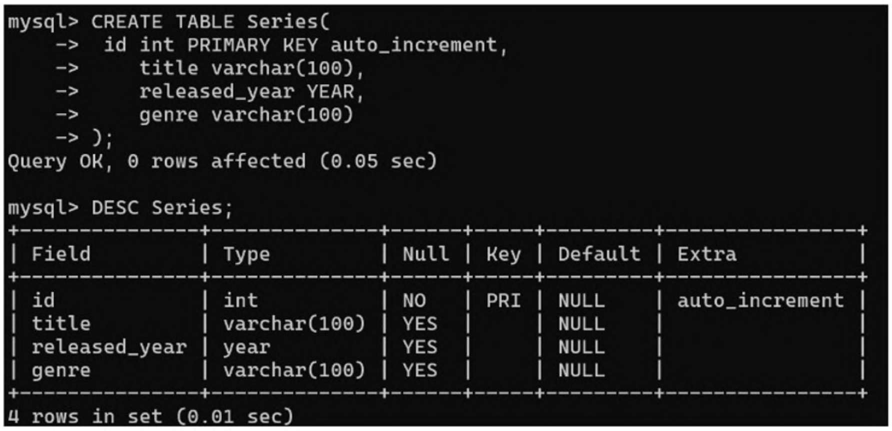


id	rating	reviewer_id	series_id
1	8.9	1	2
2	9.5	2	2

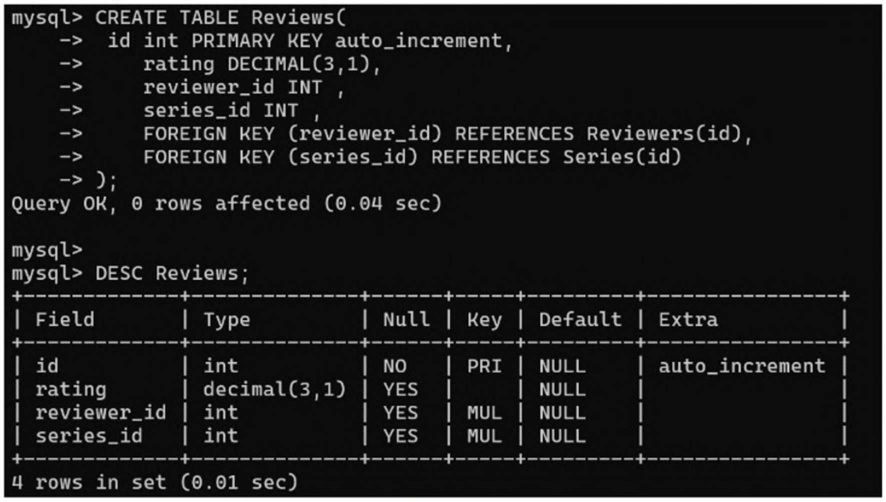
Foreign Key



```
mysql> CREATE TABLE Reviewers(
    ->  id INT PRIMARY KEY auto_increment,
    ->     first_name varchar(100),
    ->     last_name varchar(100)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC Reviewers;
+------------+--------------+------+-----+---------+----------------+
| Field      | Type         | Null | Key | Default | Extra          |
+------------+--------------+------+-----+---------+----------------+
| id         | int          | NO   | PRI | NULL    | auto_increment |
| first_name | varchar(100) | YES  |     | NULL    |                |
| last_name  | varchar(100) | YES  |     | NULL    |                |
+------------+--------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```



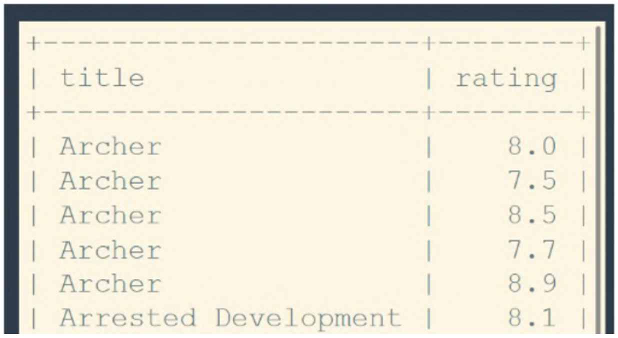
```
mysql> CREATE TABLE Series(
    ->  id int PRIMARY KEY auto_increment,
    ->     title varchar(100),
    ->     released_year YEAR,
    ->     genre varchar(100)
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESC Series;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| id            | int          | NO   | PRI | NULL    | auto_increment |
| title         | varchar(100) | YES  |     | NULL    |                |
| released_year | year         | YES  |     | NULL    |                |
| genre         | varchar(100) | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
4 rows in set (0.01 sec)
```



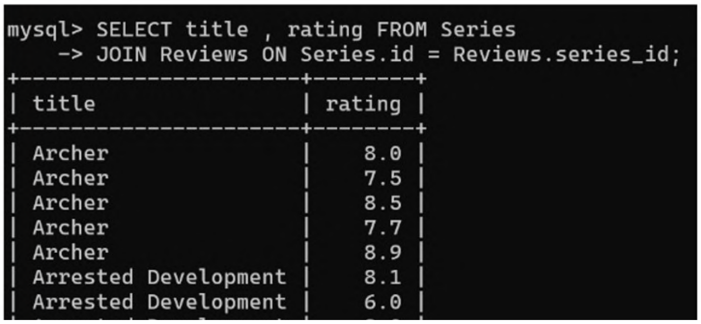
```
mysql> CREATE TABLE Reviews(
    ->  id int PRIMARY KEY auto_increment,
    ->     rating DECIMAL(3,1),
    ->     reviewer_id INT ,
    ->     series_id INT ,
    ->     FOREIGN KEY (reviewer_id) REFERENCES Reviewers(id),
    ->     FOREIGN KEY (series_id) REFERENCES Series(id)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> DESC Reviews;
+-------------+--------------+------+-----+---------+----------------+
| Field       | Type         | Null | Key | Default | Extra          |
+-------------+--------------+------+-----+---------+----------------+
| id          | int          | NO   | PRI | NULL    | auto_increment |
| rating      | decimal(3,1) | YES  |     | NULL    |                |
| reviewer_id | int          | YES  | MUL | NULL    |                |
| series_id   | int          | YES  | MUL | NULL    |                |
+-------------+--------------+------+-----+---------+----------------+
4 rows in set (0.01 sec)
```

```
INSERT INTO series (title, released_year, genre) VALUES
    ('Archer', 2009, 'Animation'),
    ('Arrested Development', 2003, 'Comedy'),
    ("Bob's Burgers", 2011, 'Animation'),
    ('Bojack Horseman', 2014, 'Animation'),
    ("Breaking Bad", 2008, 'Drama'),
    ('Curb Your Enthusiasm', 2000, 'Comedy'),
    ("Fargo", 2014, 'Drama'),
    ( Breaking Bad , 2008, 'Drama'),
    ('Curb Your Enthusiasm', 2000, 'Comedy'),
    ("Fargo", 2014, 'Drama'),
    ('Freaks and Geeks', 1999, 'Comedy'),
    ('General Hospital', 1963, 'Drama'),
    ('Halt and Catch Fire', 2014, 'Drama'),
    ('Malcolm In The Middle', 2000, 'Comedy'),
    ('Pushing Daisies', 2007, 'Comedy'),
    ('Seinfeld', 1989, 'Comedy'),
    ('Stranger Things', 2016, 'Drama');


INSERT INTO reviewers (first_name, last_name) VALUES
    ('Thomas', 'Stoneman'),
    ('Wyatt', 'Skaggs'),
    ('Kimbra', 'Masters'),
    ('Domingo', 'Cortes'),
    ('Colt', 'Steele'),
    ('Pinkie', 'Petit'),
    ('Marlon', 'Crafford');


INSERT INTO reviews(series_id, reviewer_id, rating) VALUES
    (1,1,8.0),(1,2,7.5),(1,3,8.5),(1,4,7.7),(1,5,8.9),
    (2,1,8.1),(2,4,6.0),(2,3,8.0),(2,6,8.4),(2,5,9.9),
    (3,1,7.0),(3,6,7.5),(3,4,8.0),(3,3,7.1),(3,5,8.0),
    (4,1,7.5),(4,3,7.8),(4,4,8.3),(4,2,7.6),(4,5,8.5),
    (5,1,9.5),(5,3,9.0),(5,4,9.1),(5,2,9.3),(5,5,9.9),
    (6,2,6.5),(6,3,7.8),(6,4,8.8),(6,2,8.4),(6,5,9.1),
    (7,2,9.1),(7,5,9.7),
    (8,4,8.5),(8,2,7.8),(8,6,8.8),(8,5,9.3),
    (9,2,5.5),(9,3,6.8),(9,4,5.8),(9,6,4.3),(9,5,4.5),
    (10,5,9.9),
    (13,3,8.0),(13,4,7.2),
    (14,2,8.5),(14,3,8.9),(14,4,8.9);
```

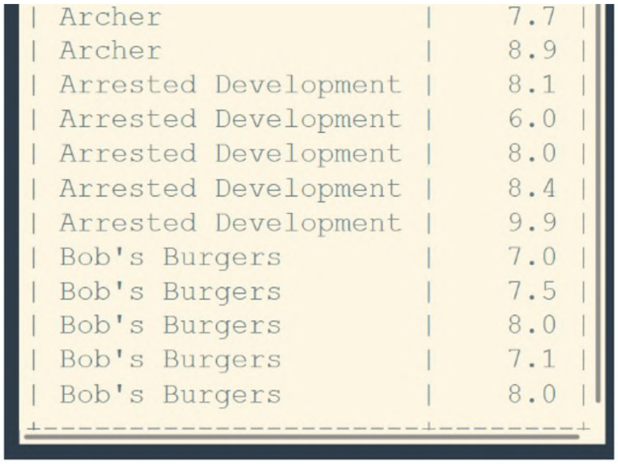
QUICK CHALLENGE :



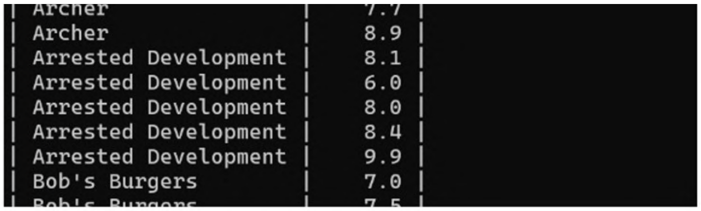
```
+----------------------+--------+
| title                | rating |
+----------------------+--------+
| Archer               |    8.0 |
| Archer               |    7.5 |
| Archer               |    8.5 |
| Archer               |    7.7 |
| Archer               |    8.9 |
| Arrested Development |    8.1 |
```



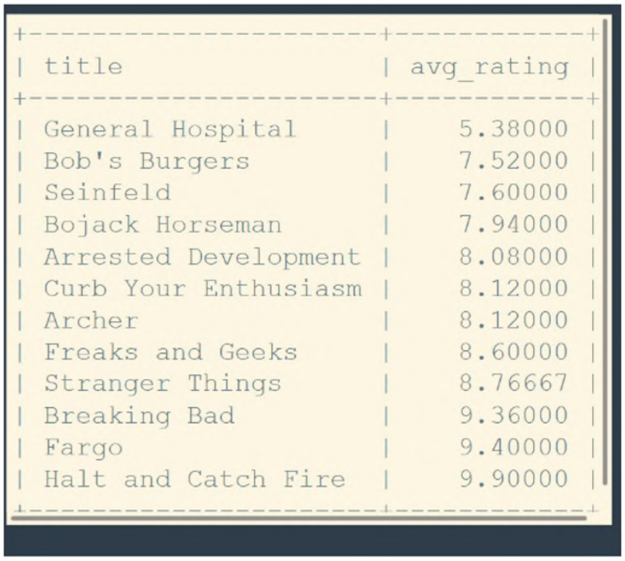
```
mysql> SELECT title , rating FROM Series
    -> JOIN Reviews ON Series.id = Reviews.series_id;
+----------------------+--------+
| title                | rating |
+----------------------+--------+
| Archer               |    8.0 |
| Archer               |    7.5 |
| Archer               |    8.5 |
| Archer               |    7.7 |
| Archer               |    8.9 |
| Arrested Development |    8.1 |
| Arrested Development |    6.0 |
```



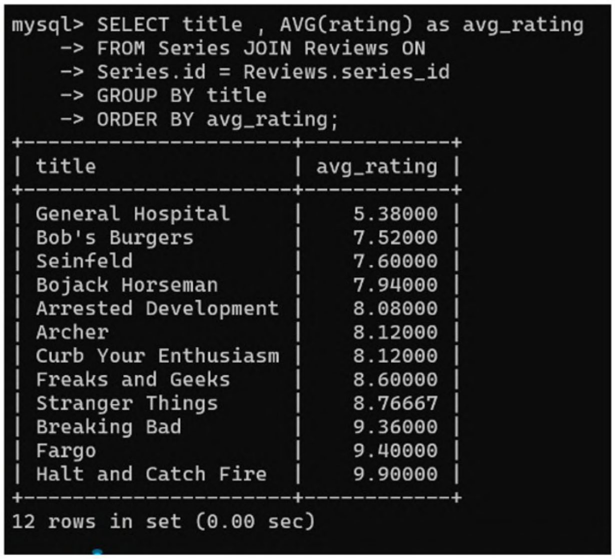
```
| Archer                |     7.7 |
| Archer                |     8.9 |
| Arrested Development  |     8.1 |
| Arrested Development  |     6.0 |
| Arrested Development  |     8.0 |
| Arrested Development  |     8.4 |
| Arrested Development  |     9.9 |
| Bob's Burgers         |     7.0 |
| Bob's Burgers         |     7.5 |
| Bob's Burgers         |     8.0 |
| Bob's Burgers         |     7.1 |
| Bob's Burgers         |     8.0 |
+-----------------------+---------+
```



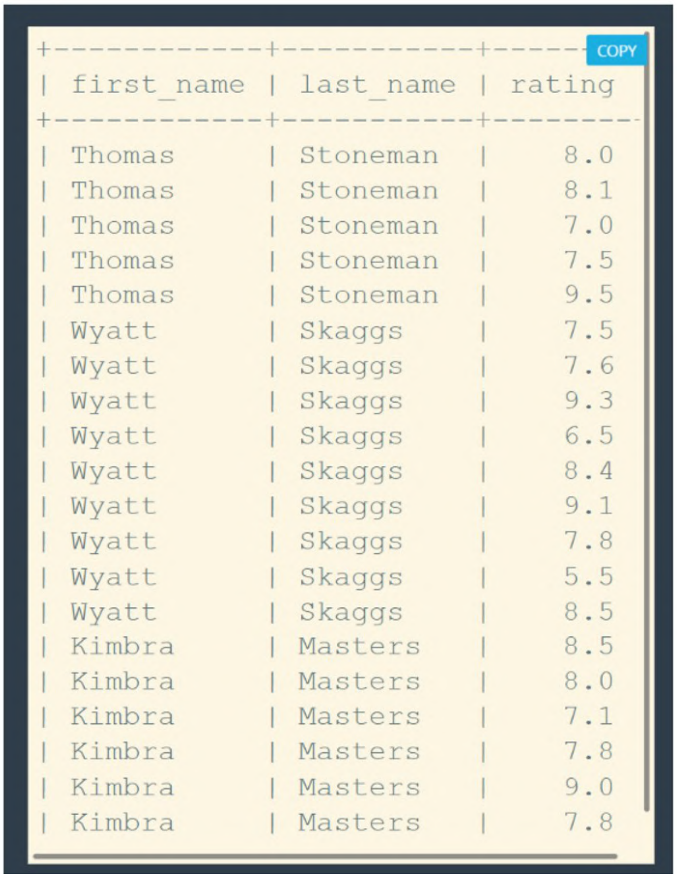
```
| Archer               |    7.7 |
| Archer               |    8.9 |
| Arrested Development |    8.1 |
| Arrested Development |    6.0 |
| Arrested Development |    8.0 |
| Arrested Development |    8.4 |
| Arrested Development |    9.9 |
| Bob's Burgers        |    7.0 |
| Bob's Burgers        |    7.5 |
```



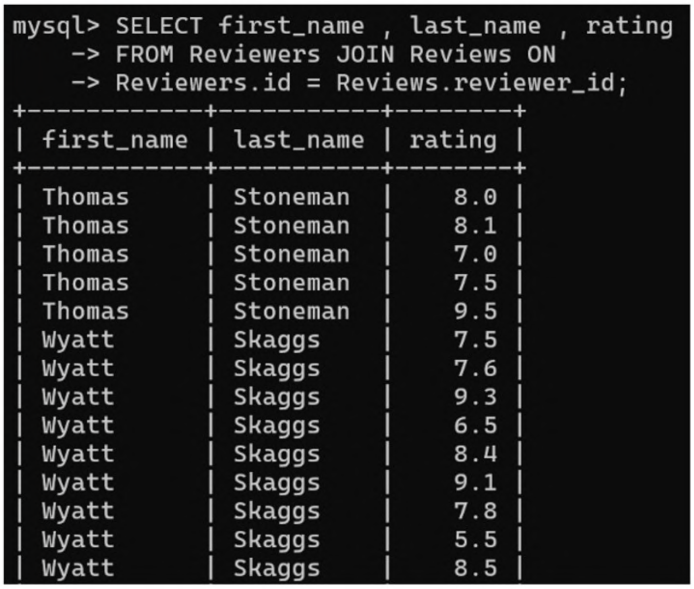
```
+----------------------+------------+
| title                | avg_rating |
+----------------------+------------+
| General Hospital     |    5.38000 |
| Bob's Burgers        |    7.52000 |
| Seinfeld             |    7.60000 |
| Bojack Horseman      |    7.94000 |
| Arrested Development |    8.08000 |
| Curb Your Enthusiasm |    8.12000 |
| Archer               |    8.12000 |
| Freaks and Geeks     |    8.60000 |
| Stranger Things      |    8.76667 |
| Breaking Bad         |    9.36000 |
| Fargo                |    9.40000 |
| Halt and Catch Fire  |    9.90000 |
+----------------------+------------+
```



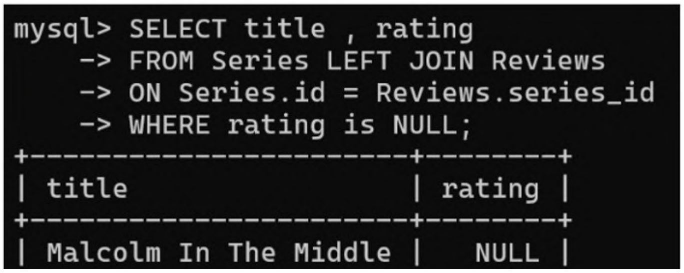
```
mysql> SELECT title , AVG(rating) as avg_rating
    -> FROM Series JOIN Reviews ON
    -> Series.id = Reviews.series_id
    -> GROUP BY title
    -> ORDER BY avg_rating;
+----------------------+------------+
| title                | avg_rating |
+----------------------+------------+
| General Hospital     |    5.38000 |
| Bob's Burgers        |    7.52000 |
| Seinfeld             |    7.60000 |
| Bojack Horseman      |    7.94000 |
| Arrested Development |    8.08000 |
| Archer               |    8.12000 |
| Curb Your Enthusiasm |    8.12000 |
| Freaks and Geeks     |    8.60000 |
| Stranger Things      |    8.76667 |
| Breaking Bad         |    9.36000 |
| Fargo                |    9.40000 |
| Halt and Catch Fire  |    9.90000 |
+----------------------+------------+
12 rows in set (0.00 sec)
```



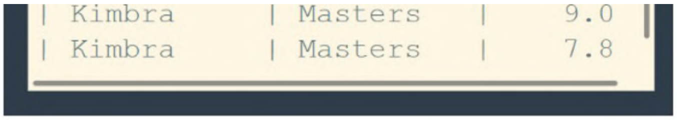
```
+------------+-----------+--------
| first_name | last_name | rating
+------------+-----------+--------
| Thomas     | Stoneman  |    8.0
| Thomas     | Stoneman  |    8.1
| Thomas     | Stoneman  |    7.0
| Thomas     | Stoneman  |    7.5
| Thomas     | Stoneman  |    9.5
| Wyatt      | Skaggs    |    7.5
| Wyatt      | Skaggs    |    7.6
| Wyatt      | Skaggs    |    9.3
| Wyatt      | Skaggs    |    6.5
| Wyatt      | Skaggs    |    8.4
| Wyatt      | Skaggs    |    9.1
| Wyatt      | Skaggs    |    7.8
| Wyatt      | Skaggs    |    5.5
| Wyatt      | Skaggs    |    8.5
| Kimbra     | Masters   |    8.5
| Kimbra     | Masters   |    8.0
| Kimbra     | Masters   |    7.1
| Kimbra     | Masters   |    7.8
| Kimbra     | Masters   |    9.0
| Kimbra     | Masters   |    7.8
```



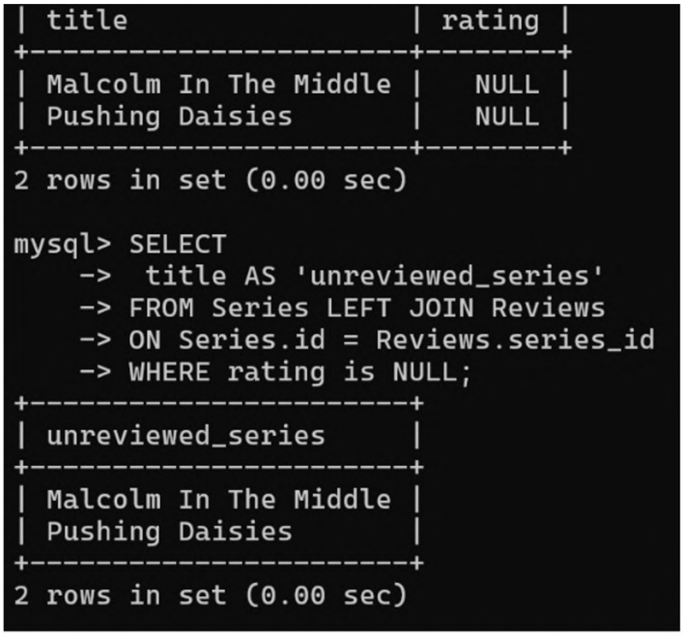
```
mysql> SELECT first_name , last_name , rating
    -> FROM Reviewers JOIN Reviews ON
    -> Reviewers.id = Reviews.reviewer_id;
+------------+-----------+--------+
| first_name | last_name | rating |
+------------+-----------+--------+
| Thomas     | Stoneman  |    8.0 |
| Thomas     | Stoneman  |    8.1 |
| Thomas     | Stoneman  |    7.0 |
| Thomas     | Stoneman  |    7.5 |
| Thomas     | Stoneman  |    9.5 |
| Wyatt      | Skaggs    |    7.5 |
| Wyatt      | Skaggs    |    7.6 |
| Wyatt      | Skaggs    |    9.3 |
| Wyatt      | Skaggs    |    6.5 |
| Wyatt      | Skaggs    |    8.4 |
| Wyatt      | Skaggs    |    9.1 |
| Wyatt      | Skaggs    |    7.8 |
| Wyatt      | Skaggs    |    5.5 |
| Wyatt      | Skaggs    |    8.5 |
```



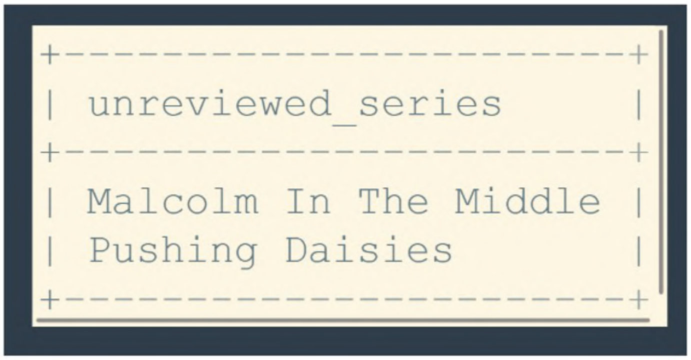
```
mysql> SELECT title , rating
    -> FROM Series LEFT JOIN Reviews
    -> ON Series.id = Reviews.series_id
    -> WHERE rating is NULL;
+-----------------------+--------+
| title                 | rating |
+-----------------------+--------+
| Malcolm In The Middle |   NULL |
```



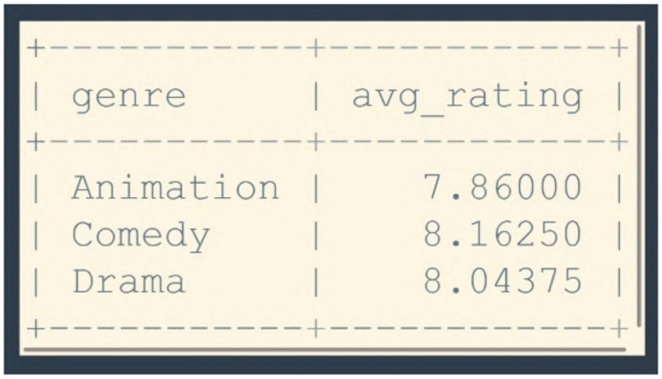
```
| Kimbra        | Masters   |     9.0
| Kimbra        | Masters   |     7.8
```



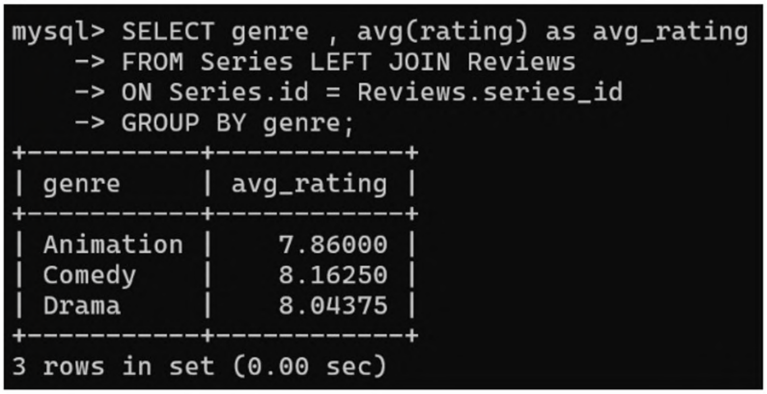
```
| title                  | rating |
+------------------------+--------+
| Malcolm In The Middle  |   NULL |
| Pushing Daisies        |   NULL |
+------------------------+--------+
2 rows in set (0.00 sec)

mysql> SELECT
    ->  title AS 'unreviewed_series'
    -> FROM Series LEFT JOIN Reviews
    -> ON Series.id = Reviews.series_id
    -> WHERE rating is NULL;
+-----------------------+
| unreviewed_series     |
+-----------------------+
| Malcolm In The Middle |
| Pushing Daisies       |
+-----------------------+
2 rows in set (0.00 sec)
```



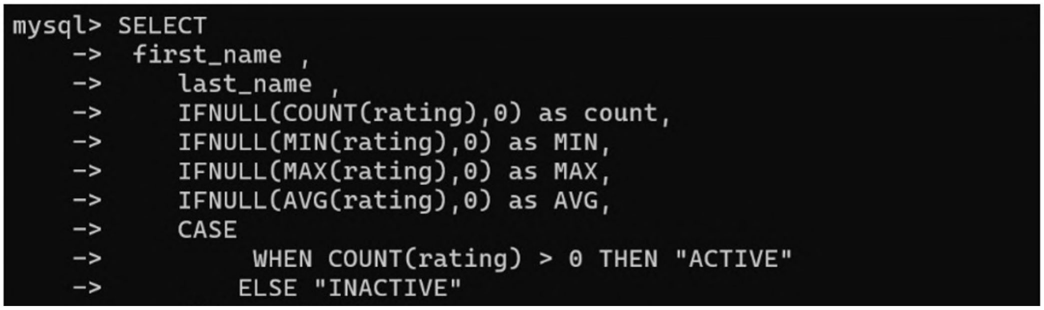
```
+-----------------------+
| unreviewed_series     |
+-----------------------+
| Malcolm In The Middle |
| Pushing Daisies       |
+-----------------------+
```



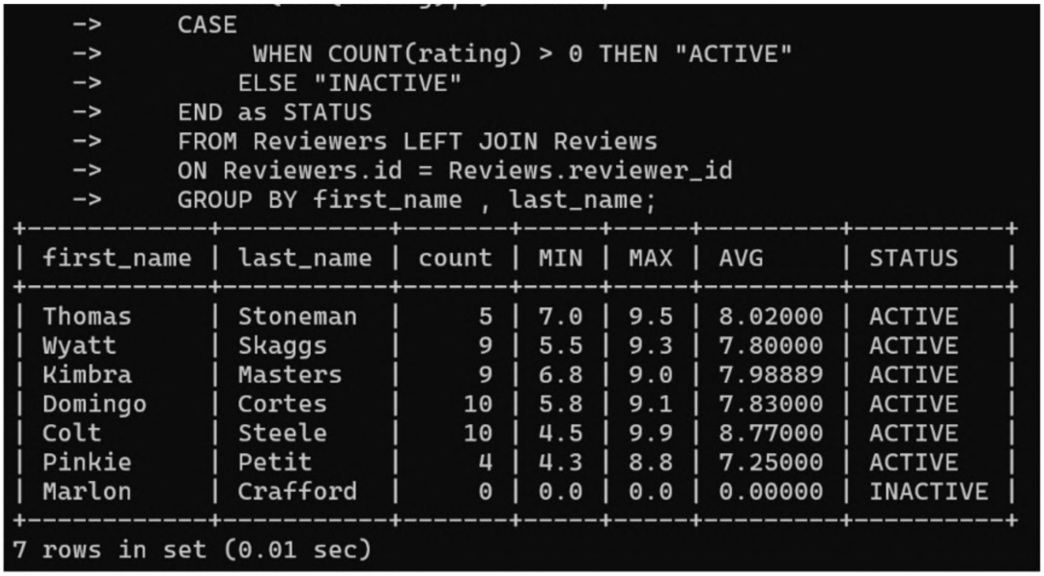
```
+-----------+------------+
| genre     | avg_rating |
+-----------+------------+
| Animation |    7.86000 |
| Comedy    |    8.16250 |
| Drama     |    8.04375 |
+-----------+------------+
```



```
mysql> SELECT genre , avg(rating) as avg_rating
    -> FROM Series LEFT JOIN Reviews
    -> ON Series.id = Reviews.series_id
    -> GROUP BY genre;
+-----------+------------+
| genre     | avg_rating |
+-----------+------------+
| Animation |    7.86000 |
| Comedy    |    8.16250 |
| Drama     |    8.04375 |
+-----------+------------+
3 rows in set (0.00 sec)
```

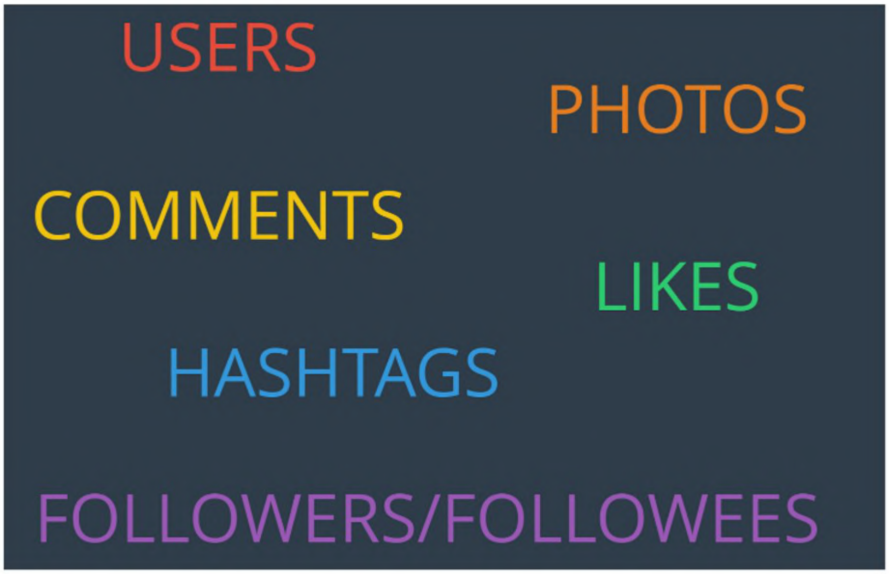


```
mysql> SELECT
    ->  first_name ,
    ->     last_name ,
    ->     IFNULL(COUNT(rating),0) as count,
    ->     IFNULL(MIN(rating),0) as MIN,
    ->     IFNULL(MAX(rating),0) as MAX,
    ->     IFNULL(AVG(rating),0) as AVG,
    ->     CASE
    ->          WHEN COUNT(rating) > 0 THEN "ACTIVE"
    ->         ELSE "INACTIVE"
```



```
    ->     CASE
    ->          WHEN COUNT(rating) > 0 THEN "ACTIVE"
    ->         ELSE "INACTIVE"
    ->     END as STATUS
    ->     FROM Reviewers LEFT JOIN Reviews
    ->     ON Reviewers.id = Reviews.reviewer_id
    ->     GROUP BY first_name , last_name;
+------------+-----------+-------+-----+-----+---------+----------+
| first_name | last_name | count | MIN | MAX | AVG     | STATUS   |
+------------+-----------+-------+-----+-----+---------+----------+
| Thomas     | Stoneman  |     5 | 7.0 | 9.5 | 8.02000 | ACTIVE   |
| Wyatt      | Skaggs    |     9 | 5.5 | 9.3 | 7.80000 | ACTIVE   |
| Kimbra     | Masters   |     9 | 6.8 | 9.0 | 7.98889 | ACTIVE   |
| Domingo    | Cortes    |    10 | 5.8 | 9.1 | 7.83000 | ACTIVE   |
| Colt       | Steele    |    10 | 4.5 | 9.9 | 8.77000 | ACTIVE   |
| Pinkie     | Petit     |     4 | 4.3 | 8.8 | 7.25000 | ACTIVE   |
| Marlon     | Crafford  |     0 | 0.0 | 0.0 | 0.00000 | INACTIVE |
+------------+-----------+-------+-----+-----+---------+----------+
7 rows in set (0.01 sec)
```

INSTAGRAM PROJECT



USERS

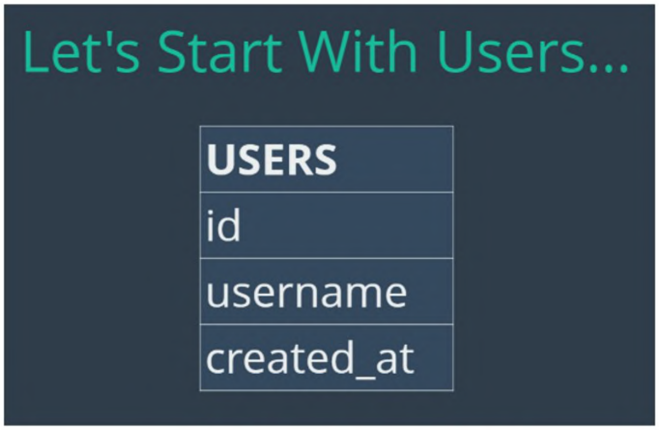
PHOTOS

COMMENTS

LIKES

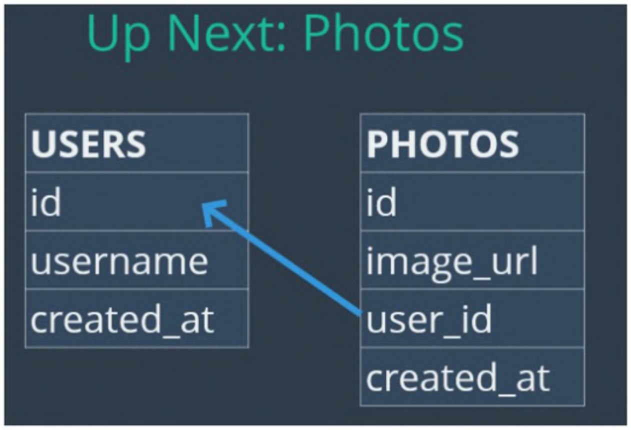
HASHTAGS

FOLLOWERS/FOLLOWEES



Let's Start With Users...

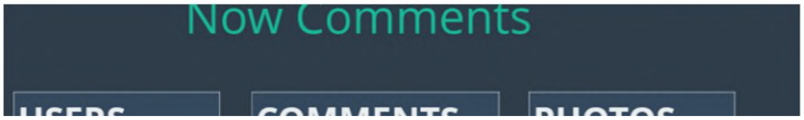
USERS
id
username
created_at



Up Next: Photos

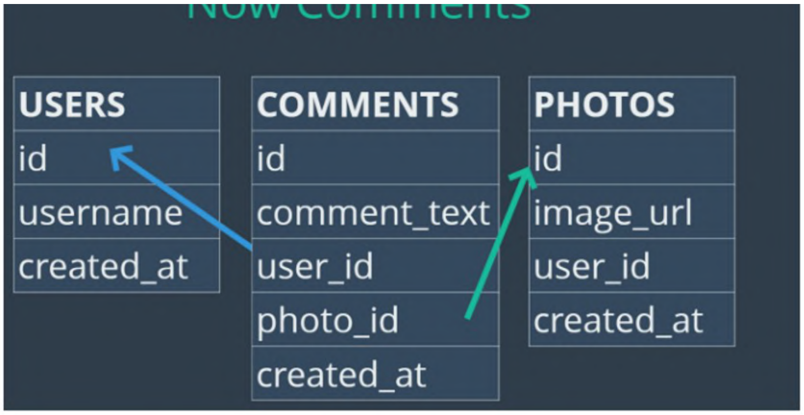
USERS
id
username
created_at

PHOTOS
id
image_url
user_id
created_at



Now Comments

USERS COMMENTS PHOTOS

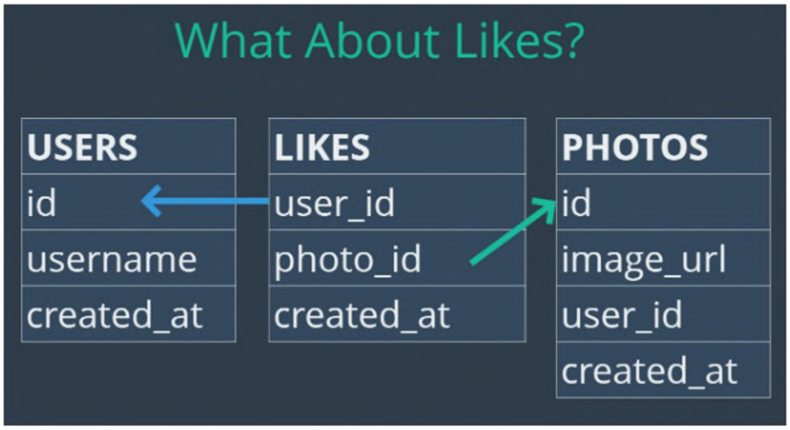


Now Comments

USERS
id
username
created_at

COMMENTS
id
comment_text
user_id
photo_id
created_at

PHOTOS
id
image_url
user_id
created_at

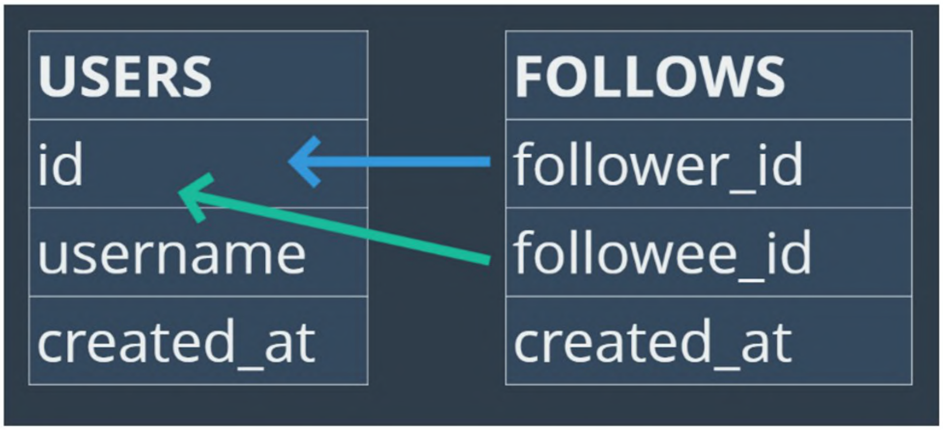


What About Likes?

USERS
id
username
created_at

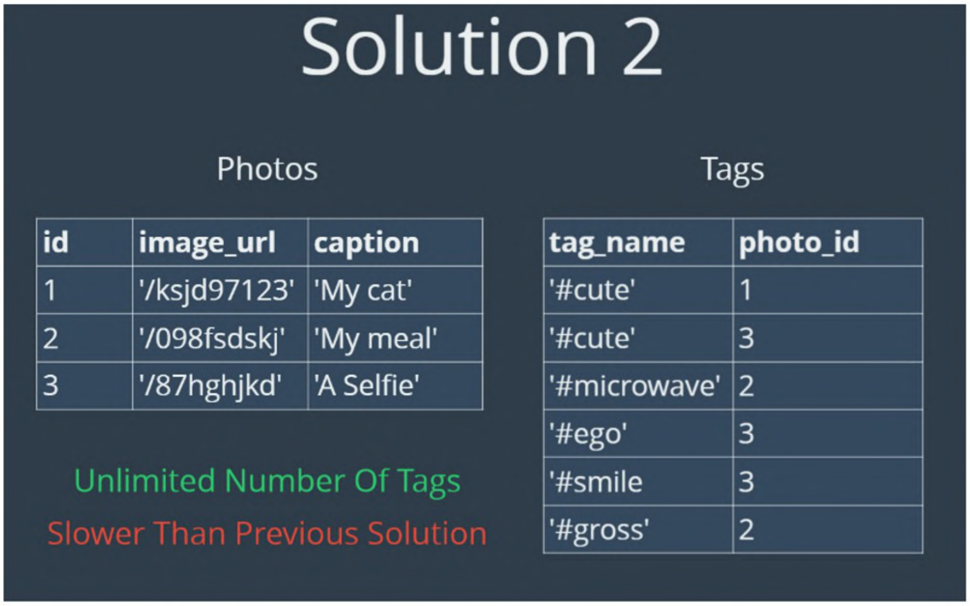
LIKES
user_id
photo_id
created_at

PHOTOS
id
image_url
user_id
created_at



USERS
id
username
created_at

FOLLOWS
follower_id
followee_id
created_at



Solution 2

Photos

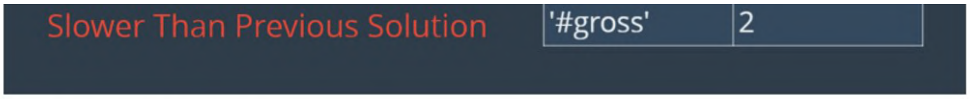
id	image_url	caption
1	'/ksjd97123'	'My cat'
2	'/098fsdskj'	'My meal'
3	'/87hghjkd'	'A Selfie'

Tags

tag_name	photo_id
'#cute'	1
'#cute'	3
'#microwave'	2
'#ego'	3
'#smile	3
'#gross'	2

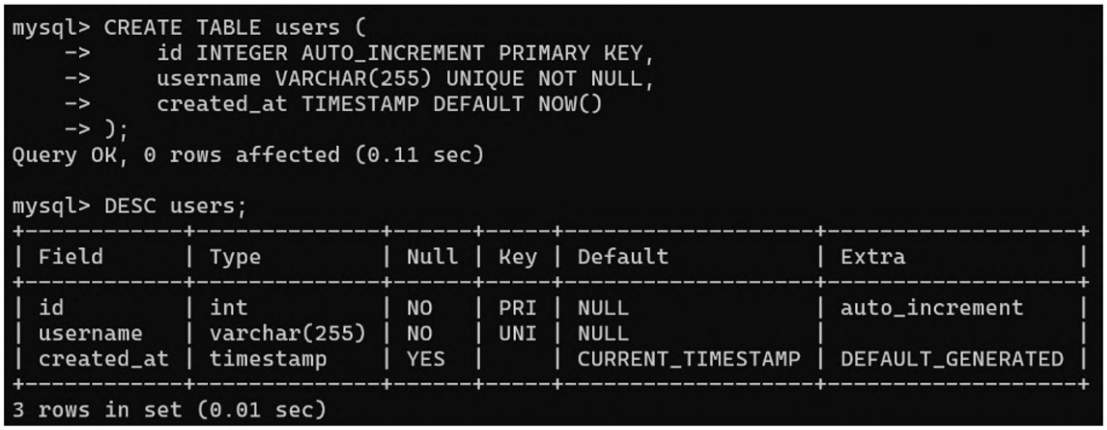
Unlimited Number Of Tags

Slower Than Previous Solution

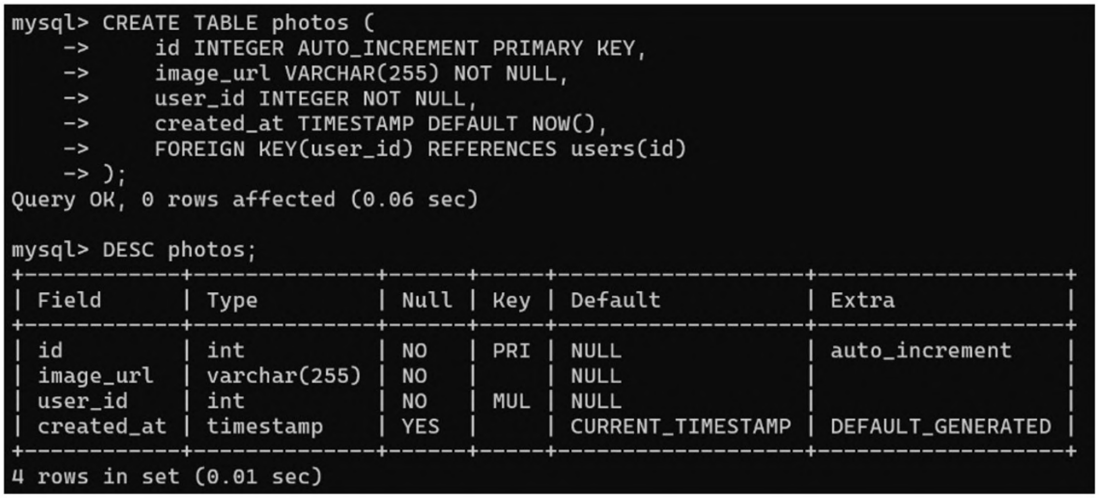


Slower Than Previous Solution

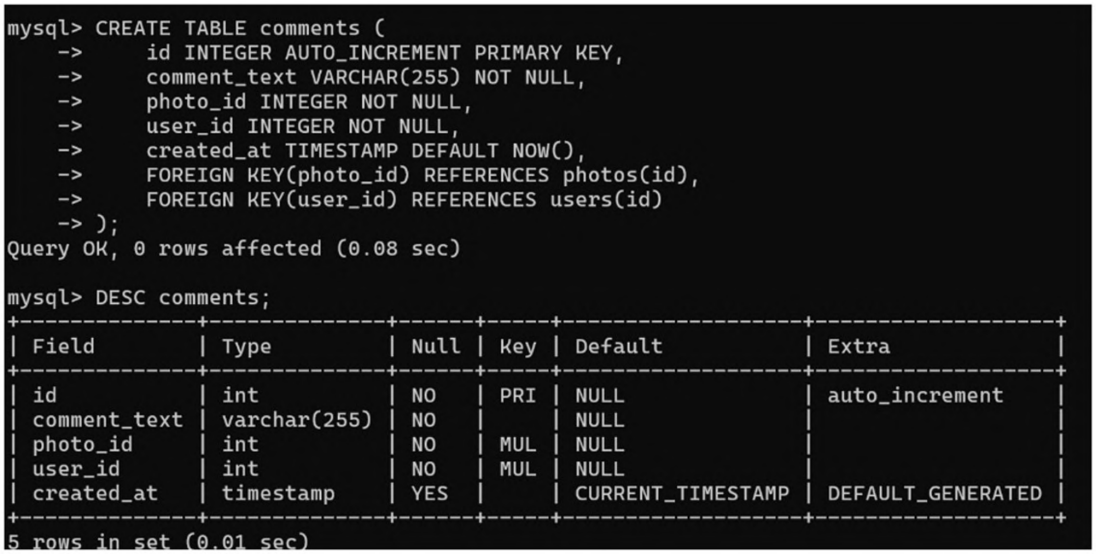
'#gross'	2



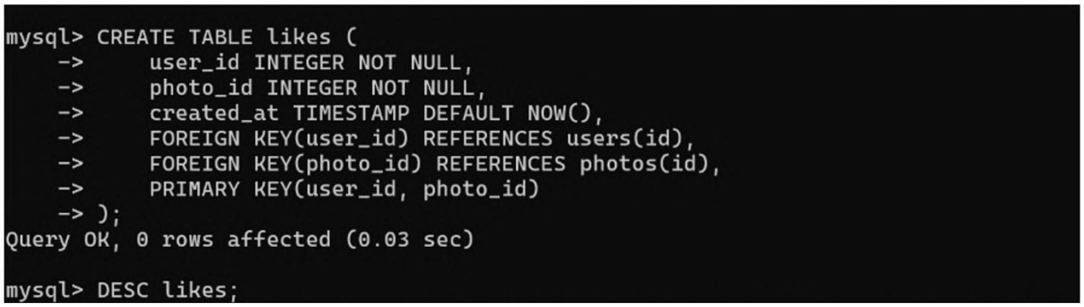
```
mysql> CREATE TABLE users (
    ->     id INTEGER AUTO_INCREMENT PRIMARY KEY,
    ->     username VARCHAR(255) UNIQUE NOT NULL,
    ->     created_at TIMESTAMP DEFAULT NOW()
    -> );
Query OK, 0 rows affected (0.11 sec)

mysql> DESC users;
+------------+--------------+------+-----+-------------------+-------------------+
| Field      | Type         | Null | Key | Default           | Extra             |
+------------+--------------+------+-----+-------------------+-------------------+
| id         | int          | NO   | PRI | NULL              | auto_increment    |
| username   | varchar(255) | NO   | UNI | NULL              |                   |
| created_at | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+------------+--------------+------+-----+-------------------+-------------------+
3 rows in set (0.01 sec)
```



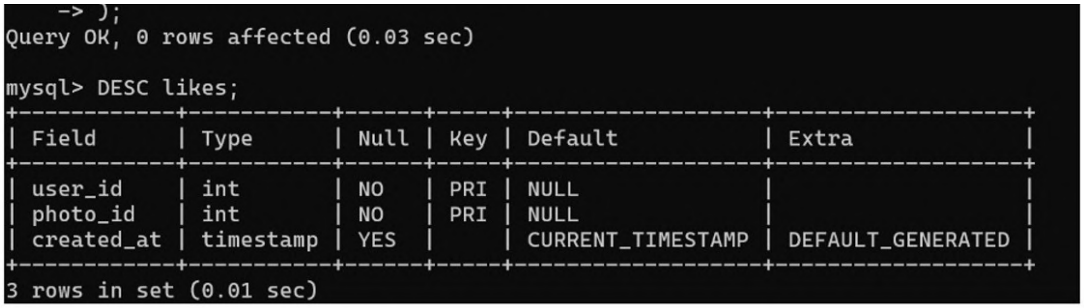
```
mysql> CREATE TABLE photos (
    ->     id INTEGER AUTO_INCREMENT PRIMARY KEY,
    ->     image_url VARCHAR(255) NOT NULL,
    ->     user_id INTEGER NOT NULL,
    ->     created_at TIMESTAMP DEFAULT NOW(),
    ->     FOREIGN KEY(user_id) REFERENCES users(id)
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> DESC photos;
+------------+--------------+------+-----+-------------------+-------------------+
| Field      | Type         | Null | Key | Default           | Extra             |
+------------+--------------+------+-----+-------------------+-------------------+
| id         | int          | NO   | PRI | NULL              | auto_increment    |
| image_url  | varchar(255) | NO   |     | NULL              |                   |
| user_id    | int          | NO   | MUL | NULL              |                   |
| created_at | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+------------+--------------+------+-----+-------------------+-------------------+
4 rows in set (0.01 sec)
```



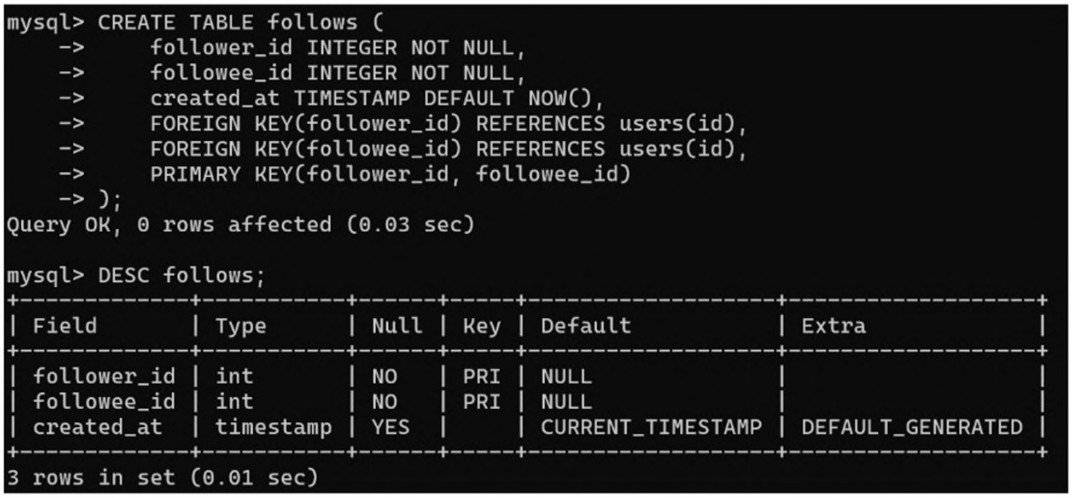
```
mysql> CREATE TABLE comments (
    ->     id INTEGER AUTO_INCREMENT PRIMARY KEY,
    ->     comment_text VARCHAR(255) NOT NULL,
    ->     photo_id INTEGER NOT NULL,
    ->     user_id INTEGER NOT NULL,
    ->     created_at TIMESTAMP DEFAULT NOW(),
    ->     FOREIGN KEY(photo_id) REFERENCES photos(id),
    ->     FOREIGN KEY(user_id) REFERENCES users(id)
    -> );
Query OK, 0 rows affected (0.08 sec)

mysql> DESC comments;
+--------------+--------------+------+-----+-------------------+-------------------+
| Field        | Type         | Null | Key | Default           | Extra             |
+--------------+--------------+------+-----+-------------------+-------------------+
| id           | int          | NO   | PRI | NULL              | auto_increment    |
| comment_text | varchar(255) | NO   |     | NULL              |                   |
| photo_id     | int          | NO   | MUL | NULL              |                   |
| user_id      | int          | NO   | MUL | NULL              |                   |
| created_at   | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+--------------+--------------+------+-----+-------------------+-------------------+
5 rows in set (0.01 sec)
```



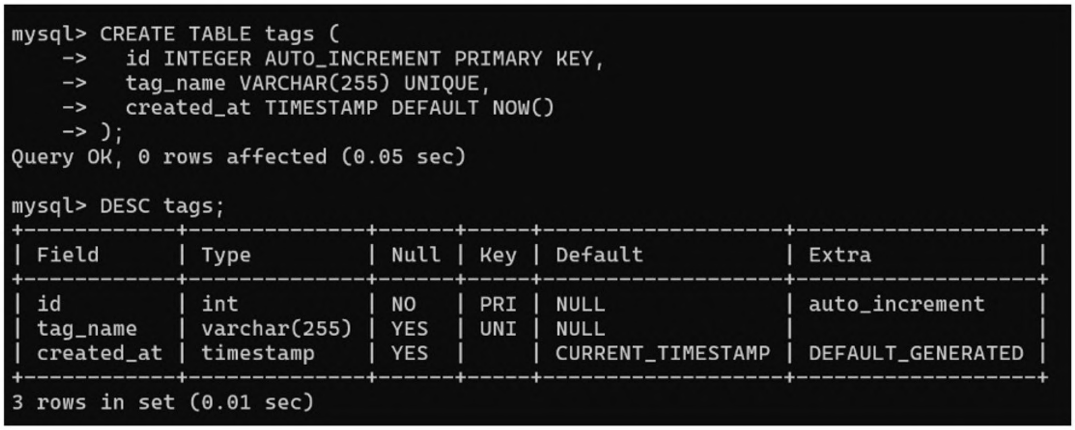
```
mysql> CREATE TABLE likes (
    ->     user_id INTEGER NOT NULL,
    ->     photo_id INTEGER NOT NULL,
    ->     created_at TIMESTAMP DEFAULT NOW(),
    ->     FOREIGN KEY(user_id) REFERENCES users(id),
    ->     FOREIGN KEY(photo_id) REFERENCES photos(id),
    ->     PRIMARY KEY(user_id, photo_id)
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> DESC likes;
```



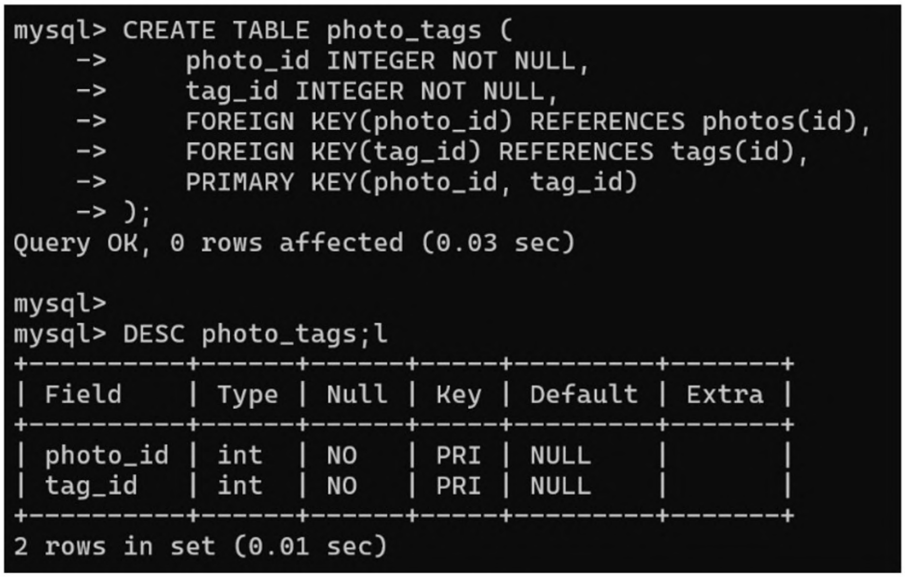
```
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> DESC likes;
+------------+-----------+------+-----+-------------------+-------------------+
| Field      | Type      | Null | Key | Default           | Extra             |
+------------+-----------+------+-----+-------------------+-------------------+
| user_id    | int       | NO   | PRI | NULL              |                   |
| photo_id   | int       | NO   | PRI | NULL              |                   |
| created_at | timestamp | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+------------+-----------+------+-----+-------------------+-------------------+
3 rows in set (0.01 sec)
```



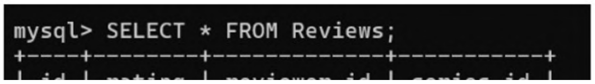
```
mysql> CREATE TABLE follows (
    ->     follower_id INTEGER NOT NULL,
    ->     followee_id INTEGER NOT NULL,
    ->     created_at TIMESTAMP DEFAULT NOW(),
    ->     FOREIGN KEY(follower_id) REFERENCES users(id),
    ->     FOREIGN KEY(followee_id) REFERENCES users(id),
    ->     PRIMARY KEY(follower_id, followee_id)
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> DESC follows;
+-------------+-----------+------+-----+-------------------+-------------------+
| Field       | Type      | Null | Key | Default           | Extra             |
+-------------+-----------+------+-----+-------------------+-------------------+
| follower_id | int       | NO   | PRI | NULL              |                   |
| followee_id | int       | NO   | PRI | NULL              |                   |
| created_at  | timestamp | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-------------+-----------+------+-----+-------------------+-------------------+
3 rows in set (0.01 sec)
```



```
mysql> CREATE TABLE tags (
    ->   id INTEGER AUTO_INCREMENT PRIMARY KEY,
    ->   tag_name VARCHAR(255) UNIQUE,
    ->   created_at TIMESTAMP DEFAULT NOW()
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESC tags;
+------------+--------------+------+-----+-------------------+-------------------+
| Field      | Type         | Null | Key | Default           | Extra             |
+------------+--------------+------+-----+-------------------+-------------------+
| id         | int          | NO   | PRI | NULL              | auto_increment    |
| tag_name   | varchar(255) | YES  | UNI | NULL              |                   |
| created_at | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+------------+--------------+------+-----+-------------------+-------------------+
3 rows in set (0.01 sec)
```

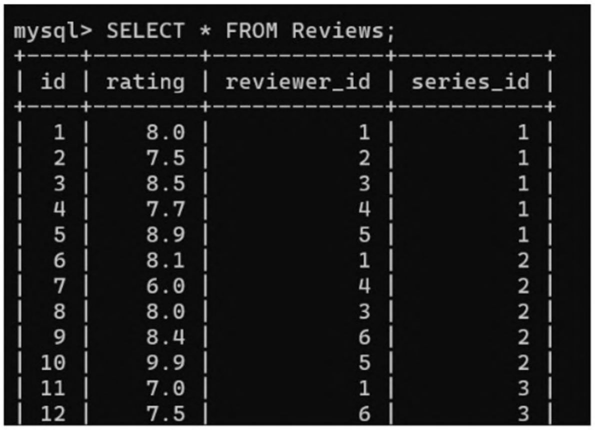


```
mysql> CREATE TABLE photo_tags (
    ->     photo_id INTEGER NOT NULL,
    ->     tag_id INTEGER NOT NULL,
    ->     FOREIGN KEY(photo_id) REFERENCES photos(id),
    ->     FOREIGN KEY(tag_id) REFERENCES tags(id),
    ->     PRIMARY KEY(photo_id, tag_id)
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> DESC photo_tags;l
+----------+------+------+-----+---------+-------+
| Field    | Type | Null | Key | Default | Extra |
+----------+------+------+-----+---------+-------+
| photo_id | int  | NO   | PRI | NULL    |       |
| tag_id   | int  | NO   | PRI | NULL    |       |
+----------+------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

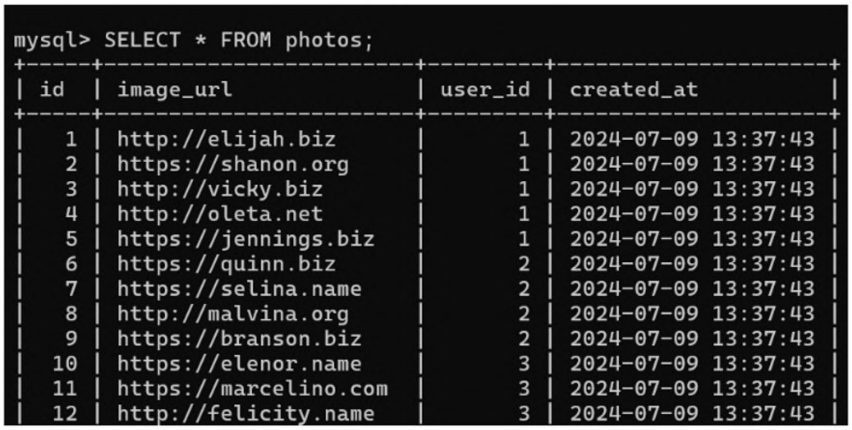


```
mysql> SELECT * FROM Reviews;
+----+--------+-------------+-----------+
| id | rating | reviewer_id | series_id |
```

```
mysql> SELECT * FROM photos;
+-----+-----------------------+---------+--------------------+
```



```
mysql> SELECT * FROM Reviews;
+----+--------+-------------+-----------+
| id | rating | reviewer_id | series_id |
+----+--------+-------------+-----------+
|  1 |    8.0 |           1 |         1 |
|  2 |    7.5 |           2 |         1 |
|  3 |    8.5 |           3 |         1 |
|  4 |    7.7 |           4 |         1 |
|  5 |    8.9 |           5 |         1 |
|  6 |    8.1 |           1 |         2 |
|  7 |    6.0 |           4 |         2 |
|  8 |    8.0 |           3 |         2 |
|  9 |    8.4 |           6 |         2 |
| 10 |    9.9 |           5 |         2 |
| 11 |    7.0 |           1 |         3 |
| 12 |    7.5 |           6 |         3 |
```



```
mysql> SELECT * FROM photos;
+-----+-------------------------+---------+---------------------+
| id  | image_url               | user_id | created_at          |
+-----+-------------------------+---------+---------------------+
|   1 | http://elijah.biz       |       1 | 2024-07-09 13:37:43 |
|   2 | https://shanon.org      |       1 | 2024-07-09 13:37:43 |
|   3 | http://vicky.biz        |       1 | 2024-07-09 13:37:43 |
|   4 | http://oleta.net        |       1 | 2024-07-09 13:37:43 |
|   5 | https://jennings.biz    |       1 | 2024-07-09 13:37:43 |
|   6 | https://quinn.biz       |       2 | 2024-07-09 13:37:43 |
|   7 | https://selina.name     |       2 | 2024-07-09 13:37:43 |
|   8 | http://malvina.org      |       2 | 2024-07-09 13:37:43 |
|   9 | https://branson.biz     |       2 | 2024-07-09 13:37:43 |
|  10 | https://elenor.name     |       3 | 2024-07-09 13:37:43 |
|  11 | https://marcelino.com   |       3 | 2024-07-09 13:37:43 |
|  12 | http://felicity.name    |       3 | 2024-07-09 13:37:43 |
```

Challenge :

Find the 5 oldest users.

What day of the week do most users register on?

Find the users who have never posted a photo

How many times does the average user post?

What are the top 5 most commonly used hashtags?

commonly used hashtags.

Find users who have liked every single photo on the site

Find users who have never commented on a photo

Find the percentage of our users who have either never commented on a photo or have commented on every photo