```
Last login: Wed Apr  8 12:11:42 on ttys001
Serhiis-MacBook-Pro:~ serhii$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 19
Server version: 8.0.19 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
mysql>
mysql>
mysql> CREATE DATABASE instagram_clone;
Query OK, 1 row affected (0.01 sec)

mysql> USE instagram_clone;
Database changed
mysql>
mysql> SELECT DATABASE;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
mysql> SELECT database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
mysql> SELECT database();
+-----------------+
| database()      |
+-----------------+
| instagram_clone |
+-----------------+
1 row in set (0.00 sec)

mysql>
mysql>
mysql>
mysql> SELECT DATABASE();
+-----------------+
| DATABASE()      |
+-----------------+
| instagram_clone |
+-----------------+
1 row in set (0.00 sec)

mysql>
mysql>
mysql>
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 (0.02 sec)

mysql>
mysql>
mysql> DESCRIBE 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 (0.00 sec)

mysql>
mysql>
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 (0.01 sec)

mysql>
mysql>
mysql>
mysql> DESCRIBE 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 (0.00 sec)

mysql>
mysql>
mysql>
mysql>
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 (0.02 sec)

mysql>
mysql>
mysql>
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 (0.02 sec)

mysql>
mysql>
mysql>
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 (0.02 sec)

mysql>
mysql>
mysql>
mysql>
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 (0.02 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 (0.02 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql> select * from users;
Empty set (0.01 sec)

mysql>
mysql>
mysql> select * from users;
+----+----------------------+---------------------+
| id | username             | created_at          |
+----+----------------------+---------------------+
|  1 | Kenton_Kirlin        | 2017-02-16 18:22:11 |
|  2 | Andre_Purdy85        | 2017-04-02 17:11:21 |
|  3 | Harley_Lind18        | 2017-02-21 11:12:33 |
```

```
|   4 | Arely_Bogan63         | 2016-08-13 01:28:43 |
|   5 | Aniya_Hackett         | 2016-12-07 01:04:39 |
|   6 | Travon.Waters         | 2017-04-30 13:26:14 |
|   7 | Kasandra_Homenick     | 2016-12-12 06:50:08 |
|   8 | Tabitha_Schamberger11 | 2016-08-20 02:19:46 |
|   9 | Gus93                 | 2016-06-24 19:36:31 |
|  10 | Presley_McClure       | 2016-08-07 16:25:49 |
|  11 | Justina.Gaylord27     | 2017-05-04 16:32:16 |
|  12 | Dereck65              | 2017-01-19 01:34:14 |
|  13 | Alexandro35           | 2017-03-29 17:09:02 |
|  14 | Jaclyn81              | 2017-02-06 23:29:16 |
|  15 | Billy52               | 2016-10-05 14:10:20 |
|  16 | Annalise.McKenzie16   | 2016-08-02 21:32:46 |
|  17 | Norbert_Carroll35     | 2017-02-06 22:05:43 |
|  18 | Odessa2               | 2016-10-21 18:16:56 |
|  19 | Hailee26              | 2017-04-29 18:53:40 |
|  20 | Delpha.Kihn           | 2016-08-31 02:42:30 |
|  21 | Rocio33               | 2017-01-23 11:51:15 |
|  22 | Kenneth64             | 2016-12-27 09:48:17 |
|  23 | Eveline95             | 2017-01-23 23:14:19 |
|  24 | Maxwell.Halvorson     | 2017-04-18 02:32:44 |
|  25 | Tierra.Trantow        | 2016-10-03 12:49:21 |
|  26 | Josianne.Friesen      | 2016-06-07 12:47:01 |
|  27 | Darwin29              | 2017-03-18 03:10:07 |
|  28 | Dario77               | 2016-08-18 07:15:03 |
|  29 | Jaime53               | 2016-09-11 18:51:57 |
|  30 | Kaley9                | 2016-09-23 21:24:20 |
|  31 | Aiyana_Hoeger         | 2016-09-29 20:28:12 |
|  32 | Irwin.Larson          | 2016-08-26 19:36:22 |
|  33 | Yvette.Gottlieb91     | 2016-11-14 12:32:01 |
|  34 | Pearl7                | 2016-07-08 21:42:01 |
|  35 | Lennie_Hartmann40     | 2017-03-30 03:25:22 |
|  36 | Ollie_Ledner37        | 2016-08-04 15:42:20 |
|  37 | Yazmin_Mills95        | 2016-07-27 00:56:44 |
|  38 | Jordyn.Jacobson2      | 2016-05-14 07:56:26 |
|  39 | Kelsi26               | 2016-06-08 17:48:08 |
|  40 | Rafael.Hickle2        | 2016-05-19 09:51:26 |
|  41 | Mckenna17             | 2016-07-17 17:25:45 |
|  42 | Maya.Farrell          | 2016-12-11 18:04:45 |
|  43 | Janet.Armstrong       | 2016-10-06 07:57:44 |
|  44 | Seth46                | 2016-07-07 11:40:27 |
|  45 | David.Osinski47       | 2017-02-05 21:23:37 |
|  46 | Malinda_Streich       | 2016-07-09 21:37:08 |
|  47 | Harrison.Beatty50     | 2016-09-02 03:48:38 |
|  48 | Granville_Kutch       | 2016-06-26 03:10:22 |
|  49 | Morgan.Kassulke       | 2016-10-30 12:42:31 |
|  50 | Gerard79              | 2016-08-23 19:47:44 |
|  51 | Mariano_Koch3         | 2017-04-17 14:14:46 |
|  52 | Zack_Kemmer93         | 2017-01-01 05:58:22 |
|  53 | Linnea59              | 2017-02-07 07:49:34 |
|  54 | Duane60               | 2016-12-21 04:43:38 |
|  55 | Meggie_Doyle          | 2017-04-04 12:17:34 |
|  56 | Peter.Stehr0          | 2016-08-22 18:05:42 |
|  57 | Julien_Schmidt        | 2017-02-02 23:12:48 |
|  58 | Aurelie71             | 2016-05-31 06:20:57 |
|  59 | Cesar93               | 2016-10-18 16:42:43 |
|  60 | Sam52                 | 2017-03-30 22:03:45 |
|  61 | Jayson65              | 2016-10-14 19:10:53 |
|  62 | Ressie_Stanton46      | 2016-12-20 15:09:09 |
|  63 | Elenor88              | 2016-05-08 01:30:41 |
|  64 | Florence99            | 2016-10-06 23:08:31 |
|  65 | Adelle96              | 2016-10-01 00:37:57 |
|  66 | Mike.Auer39           | 2016-07-01 17:36:15 |
|  67 | Emilio_Bernier52      | 2016-05-06 13:04:30 |
|  68 | Franco_Keebler64      | 2016-11-13 20:09:27 |
|  69 | Karley_Bosco          | 2016-06-24 23:38:52 |
|  70 | Erick5                | 2017-04-05 23:44:47 |
|  71 | Nia_Haag              | 2016-05-14 15:38:50 |
|  72 | Kathryn80             | 2016-10-11 09:01:57 |
|  73 | Jaylan.Lakin          | 2016-06-10 23:58:52 |
|  74 | Hulda.Macejkovic      | 2017-01-25 17:17:28 |
|  75 | Leslie67              | 2016-09-21 05:14:01 |
|  76 | Janelle.Nikolaus81    | 2016-07-21 09:26:09 |
|  77 | Donald.Fritsch        | 2017-01-07 10:05:41 |
|  78 | Colten.Harris76       | 2016-10-10 02:38:53 |
|  79 | Katarina.Dibbert      | 2016-11-03 13:14:11 |
|  80 | Darby_Herzog          | 2016-05-06 00:14:21 |
|  81 | Esther.Zulauf61       | 2017-01-14 17:02:34 |
|  82 | Aracely.Johnston98    | 2016-07-25 18:49:10 |
|  83 | Bartholome.Bernhard   | 2016-11-06 02:31:23 |
|  84 | Alysa22               | 2017-01-01 17:44:43 |
|  85 | Milford_Gleichner42   | 2017-04-30 07:50:51 |
|  86 | Delfina_VonRueden68   | 2017-03-21 12:02:14 |
|  87 | Rick29                | 2017-02-24 11:25:08 |
|  88 | Clint27               | 2016-06-02 21:40:10 |
|  89 | Jessyca_West          | 2016-09-14 23:47:05 |
|  90 | Esmeralda.Mraz57      | 2017-03-03 11:52:27 |
|  91 | Bethany20             | 2016-06-03 23:31:53 |
|  92 | Frederik_Rice         | 2016-07-06 21:56:29 |
|  93 | Willie_Leuschke       | 2017-02-15 01:40:53 |
|  94 | Damon35               | 2016-10-31 14:44:27 |
|  95 | Nicole71              | 2016-05-09 17:30:22 |
|  96 | Keenan.Schamberger60  | 2016-08-28 14:57:28 |
|  97 | Tomas.Beatty93        | 2017-02-11 11:38:55 |
|  98 | Imani_Nicolas17       | 2017-01-31 22:59:34 |
|  99 | Alek_Watsica          | 2016-12-10 07:43:58 |
| 100 | Javonte83             | 2017-03-27 22:06:37 |
+-----+-----------------------+---------------------+
100 rows in set (0.00 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT *
    -> FROM users
    -> ORDER BY created_at
    -> LIMIT 5;
+----+------------------+---------------------+
| 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 |
+----+------------------+---------------------+
5 rows in set (0.00 sec)

mysql>
mysql>
mysql> SELECT
    ->     DAYNAME(created_at) AS day,
    ->     COUNT(*) AS total
    -> FROM users
    -> GROUP BY day
    -> ORDER BY total DESC
    -> LIMIT 2;
+----------+-------+
| day      | total |
+----------+-------+
| Thursday |    16 |
| Sunday   |    16 |
+----------+-------+
2 rows in set (0.01 sec)

mysql>
mysql>
mysql> SELECT username
    -> FROM users
    -> LEFT JOIN photos
    ->     ON users.id = photos.user_id
    -> WHERE photos.id IS NULL;
+---------------------+
| username            |
+---------------------+
| Aniya_Hackett       |
| Bartholome.Bernhard |
| Bethany20           |
| Darby_Herzog        |
| David.Osinski47     |
| Duane60             |
| Esmeralda.Mraz57    |
| Esther.Zulauf61     |
| Franco_Keebler64    |
| Hulda.Macejkovic    |
| Jaclyn81            |
| Janelle.Nikolaus81  |
| Jessyca_West        |
| Julien_Schmidt      |
| Kasandra_Homenick   |
| Leslie67            |
| Linnea59            |
| Maxwell.Halvorson   |
| Mckenna17           |
| Mike.Auer39         |
| Morgan.Kassulke     |
| Nia_Haag            |
| Ollie_Ledner37      |
| Pearl7              |
```

```
| Rocio33           |
| Tierra.Trantow    |
+-------------------+
26 rows in set (0.00 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT
    ->     username,
    ->     photos.id,
    ->     photos.image_url,
    ->     COUNT(*) AS total
    -> FROM photos
    -> INNER JOIN likes
    ->     ON likes.photo_id = photos.id
    -> INNER JOIN users
    ->     ON photos.user_id = users.id
    -> GROUP BY photos.id
    -> ORDER BY total DESC
    -> LIMIT 1;
+--------------+-----+----------------------+-------+
| username     | id  | image_url            | total |
+--------------+-----+----------------------+-------+
| Zack_Kemmer93 | 145 | https://jarret.name |    48 |
+--------------+-----+----------------------+-------+
1 row in set (0.01 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT (SELECT Count(*)
    ->         FROM   photos) / (SELECT Count(*)
    ->                           FROM   users) AS avg;
+--------+
| avg    |
+--------+
| 2.5700 |
+--------+
1 row in set (0.01 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT tags.tag_name,
    ->        Count(*) AS total
    -> FROM   photo_tags
    ->        JOIN tags
    ->          ON photo_tags.tag_id = tags.id
    -> GROUP  BY tags.id
    -> ORDER  BY total DESC
    -> LIMIT  5;
+----------+-------+
| tag_name | total |
+----------+-------+
| smile    |    59 |
| beach    |    42 |
| party    |    39 |
| fun      |    38 |
| concert  |    24 |
+----------+-------+
5 rows in set (0.01 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT username,
    ->        Count(*) AS num_likes
    -> FROM   users
    ->        INNER JOIN likes
    ->               ON users.id = likes.user_id
    -> GROUP  BY likes.user_id
    -> HAVING num_likes = (SELECT Count(*)
    ->                     FROM   photos);
+--------------------+-----------+
| username           | num_likes |
+--------------------+-----------+
| Aniya_Hackett      |       257 |
| Bethany20          |       257 |
| Duane60            |       257 |
| Jaclyn81           |       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 |
+--------------------+-----------+
13 rows in set (0.01 sec)

mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
```