Lesson 02 Demo 02

Using Select statement with various Clauses

Objective: To use select statement with various clauses in the database

Tools required: MySQL

Prerequisites: SQL

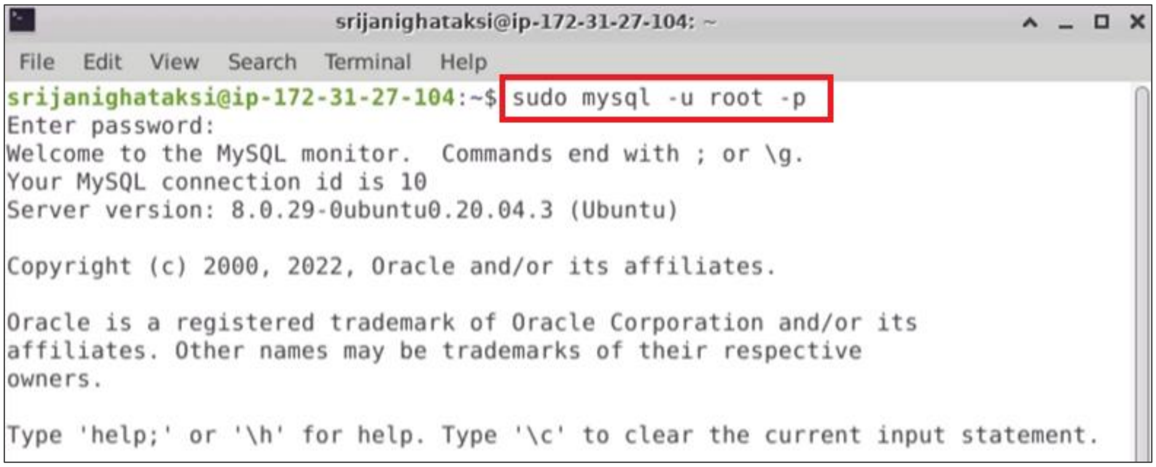
Steps to be followed:

1. Insert records in the table
2. Use select with a single condition
3. Use select where multiple conditions are true
4. Use select where either of the two conditions is true
5. Use select with order by and count conditions
6. Use select with functions

Step 1: Insert records in the table

1.1 Log into the terminal of the lab and type the following command to open the MySQL shell:

sudo mysql -u root -p (password is empty for this root user)



srijanighataksi@ip-172-31-27-104: ~
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```
srijanighataksi@ip-172-31-27-104:~$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.29-0ubuntu0.20.04.3 (Ubuntu)

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owners.

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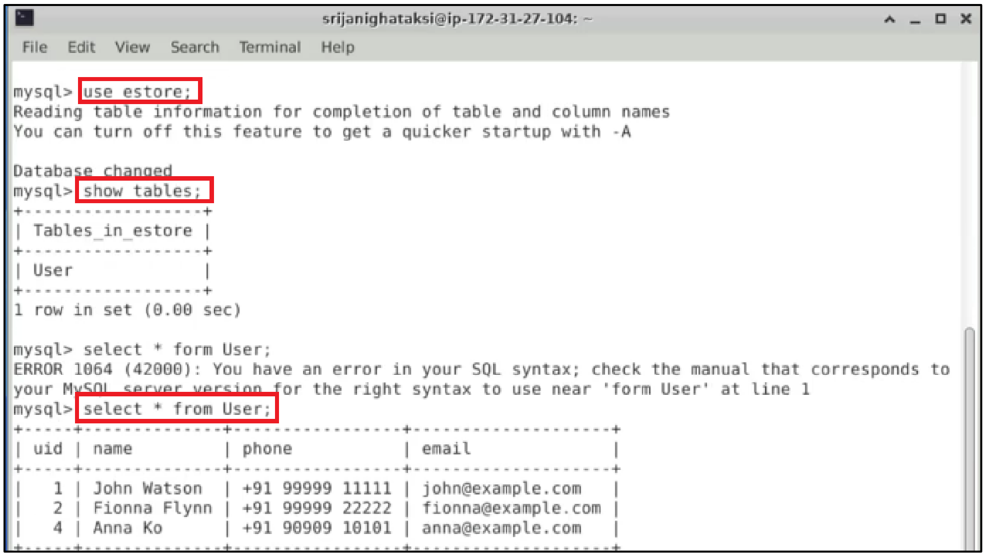

1.2 Switch to the estore database and then show all the records in **User** using the below commands:

use estore;
show tables;
select * from User;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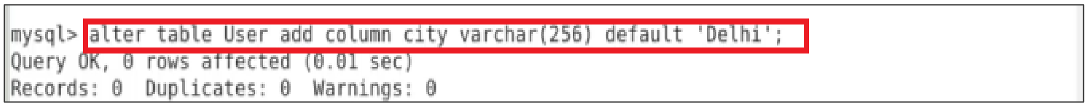
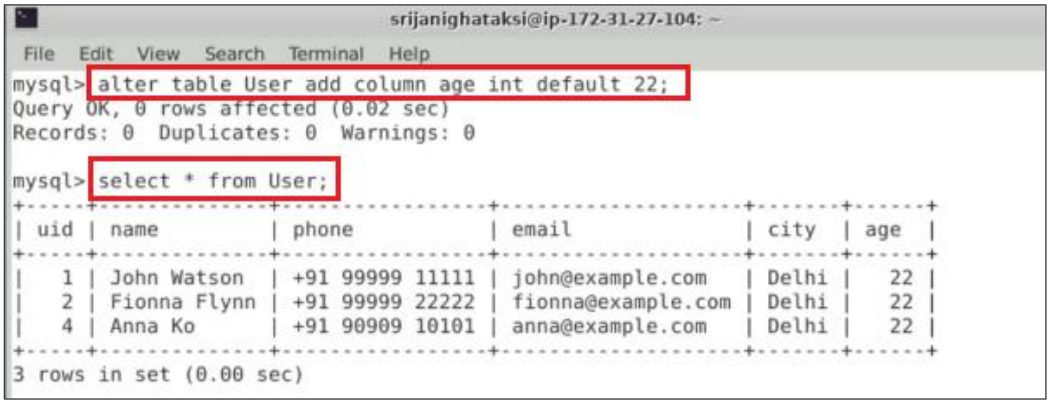
```
mysql> use estore;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----------------+
| Tables_in_estore |
+-----------------+
| User            |
+-----------------+
1 row in set (0.00 sec)

mysql> select * form User;
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 'form User' at line 1
mysql> select * from User;
+-----+--------------+-----------------+-------------------+
| uid | name         | phone           | email             |
+-----+--------------+-----------------+-------------------+
|   1 | John Watson  | +91 99999 11111 | john@example.com  |
|   2 | Fionna Flynn | +91 99999 22222 | fionna@example.com |
|   4 | Anna Ko      | +91 90909 10101 | anna@example.com  |
+-----+--------------+-----------------+-------------------+
```

1.3 Add columns of city and age in **User** using the following commands:

alter table User add column city varchar(256) default ‘Delhi’;
select * from User;
alter table User add column age int default 22;
select * from User;



```
mysql> alter table User add column city varchar(256) default 'Delhi';
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```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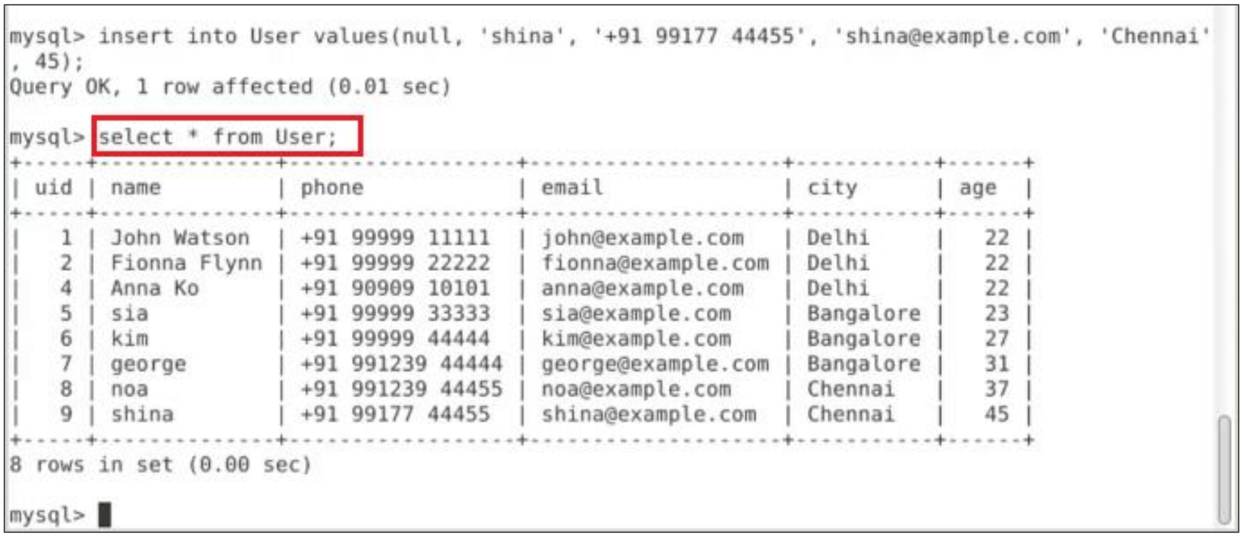
```
mysql> alter table User add column age int default 22;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from User;
+-----+--------------+-----------------+--------------------+-------+------+
| uid | name         | phone           | email              | city  | age  |
+-----+--------------+-----------------+--------------------+-------+------+
|   1 | John Watson  | +91 99999 11111 | john@example.com   | Delhi |   22 |
|   2 | Fionna Flynn | +91 99999 22222 | fionna@example.com | Delhi |   22 |
|   4 | Anna Ko      | +91 90909 10101 | anna@example.com   | Delhi |   22 |
+-----+--------------+-----------------+--------------------+-------+------+
3 rows in set (0.00 sec)
```

1.4 Insert five more records as shown in the screenshot using the commands mentioned below:

insert into User values(null, ’name’, ‘+91 number’, ‘email’);
select * from User;

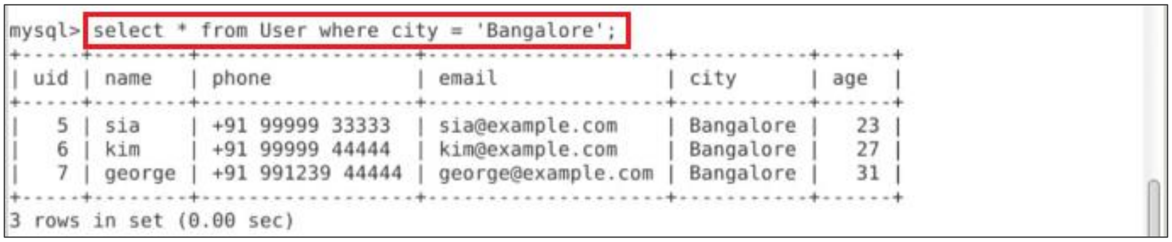


```
mysql> insert into User values(null, 'shina', '+91 99177 44455', 'shina@example.com', 'Chennai'
, 45);
Query OK, 1 row affected (0.01 sec)

mysql> select * from User;
+-----+--------------+-----------------+-------------------+-----------+------+
| uid | name         | phone           | email             | city      | age  |
+-----+--------------+-----------------+-------------------+-----------+------+
|   1 | John Watson  | +91 99999 11111 | john@example.com  | Delhi     |   22 |
|   2 | Fionna Flynn | +91 99999 22222 | fionna@example.com | Delhi    |   22 |
|   4 | Anna Ko      | +91 90909 10101 | anna@example.com  | Delhi     |   22 |
|   5 | sia          | +91 99999 33333 | sia@example.com   | Bangalore |   23 |
|   6 | kim          | +91 99999 44444 | kim@example.com   | Bangalore |   27 |
|   7 | george       | +91 991239 44444 | george@example.com | Bangalore |   31 |
|   8 | noa          | +91 991239 44455 | noa@example.com  | Chennai   |   37 |
|   9 | shina        | +91 99177 44455 | shina@example.com | Chennai   |   45 |
+-----+--------------+-----------------+-------------------+-----------+------+
8 rows in set (0.00 sec)

mysql> 
```

Step 2: Use select with a single condition

2.1 Show all the results where the city is **Bangalore** using the commands given below:

select * from User where city = ‘Bangalore’;

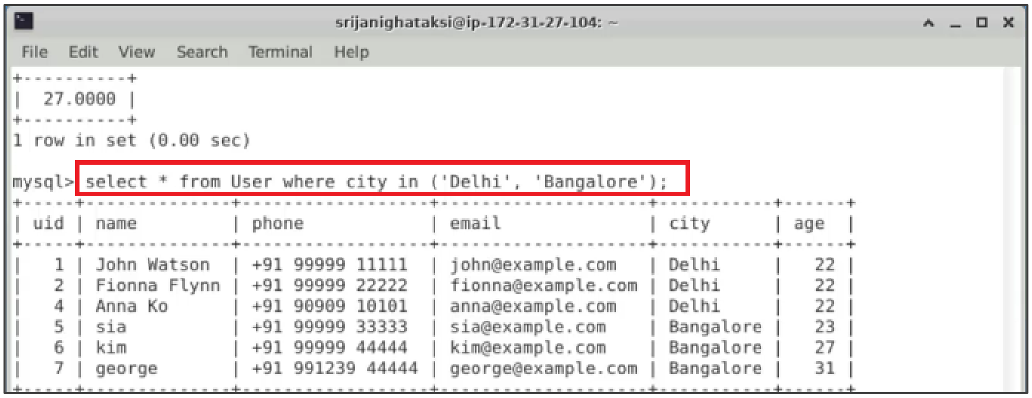


```
mysql> select * from User where city = 'Bangalore';
+-----+--------+------------------+--------------------+-----------+------+
| uid | name   | phone            | email              | city      | age  |
+-----+--------+------------------+--------------------+-----------+------+
|   5 | sia    | +91 99999 33333  | sia@example.com    | Bangalore |   23 |
|   6 | kim    | +91 99999 44444  | kim@example.com    | Bangalore |   27 |
|   7 | george | +91 991239 44444 | george@example.com | Bangalore |   31 |
+-----+--------+------------------+--------------------+-----------+------+
3 rows in set (0.00 sec)
```

Step 3: Use Select where multiple conditions are true

3.1 Show all the results where cities are **Bangalore** and **Delhi** using the following commands:

select * from User where city in (‘Bangalore’, ‘Delhi’);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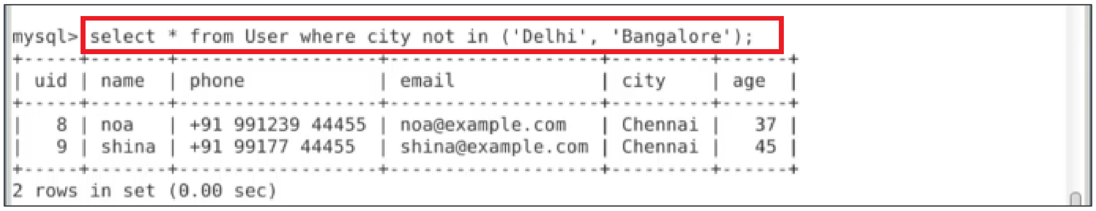
```
+----------+
|  27.0000 |
+----------+
1 row in set (0.00 sec)

mysql> select * from User where city in ('Delhi', 'Bangalore');
+-----+--------------+------------------+--------------------+-----------+------+
| uid | name         | phone            | email              | city      | age  |
+-----+--------------+------------------+--------------------+-----------+------+
|   1 | John Watson  | +91 99999 11111  | john@example.com   | Delhi     |   22 |
|   2 | Fionna Flynn | +91 99999 22222  | fionna@example.com | Delhi     |   22 |
|   4 | Anna Ko      | +91 90909 10101  | anna@example.com   | Delhi     |   22 |
|   5 | sia          | +91 99999 33333  | sia@example.com    | Bangalore |   23 |
|   6 | kim          | +91 99999 44444  | kim@example.com    | Bangalore |   27 |
|   7 | george       | +91 991239 44444 | george@example.com | Bangalore |   31 |
+-----+--------------+------------------+--------------------+-----------+------+
```

3.2 Show all the results where cities are not **Bangalore** and **Delhi** using the following commands:

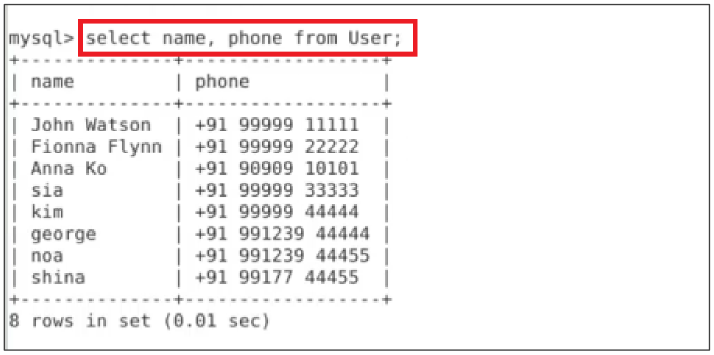
select * from User where city not in (‘Bangalore’, ‘Delhi’);



```
mysql> select * from User where city not in ('Delhi', 'Bangalore');
+-----+-------+--------------------+--------------------+---------+------+
| uid | name  | phone              | email              | city    | age  |
+-----+-------+--------------------+--------------------+---------+------+
|   8 | noa   | +91 991239 44455   | noa@example.com    | Chennai |   37 |
|   9 | shina | +91 99177 44455    | shina@example.com  | Chennai |   45 |
+-----+-------+--------------------+--------------------+---------+------+
2 rows in set (0.00 sec)
```

3.3 Show the name and phone numbers of the users using the following command:

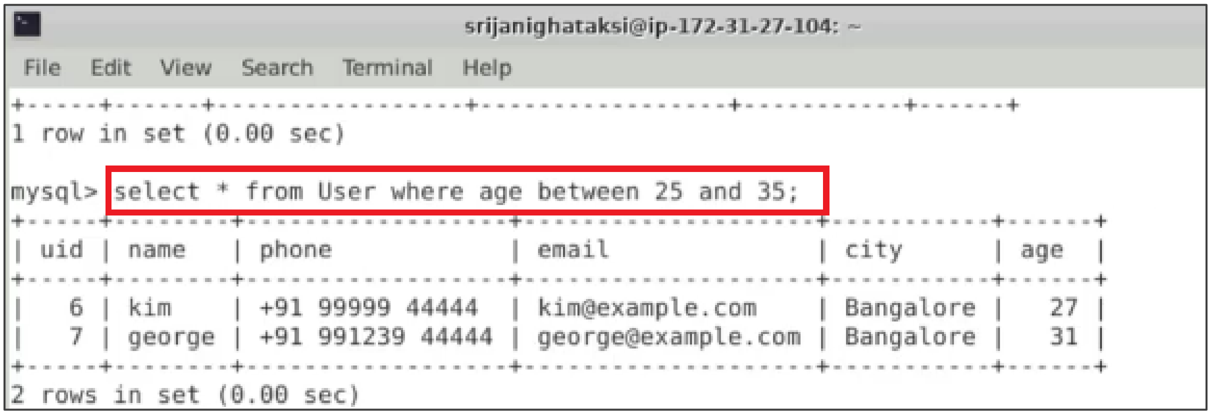
select name, phone from User;



```
mysql> select name, phone from User;
+--------------+------------------+
| name         | phone            |
+--------------+------------------+
| John Watson  | +91 99999 11111  |
| Fionna Flynn | +91 99999 22222  |
| Anna Ko      | +91 90909 10101  |
| sia          | +91 99999 33333  |
| kim          | +91 99999 44444  |
| george       | +91 991239 44444 |
| noa          | +91 991239 44455 |
| shina        | +91 99177 44455  |
+--------------+------------------+
8 rows in set (0.01 sec)
```

3.4 Show all the results for the users whose age is between 25 and 35 using the following command:

select * from User where age between 25 and 35;


srijanighataksi@ip-172-31-27-104: ~
File Edit View Search Terminal Help

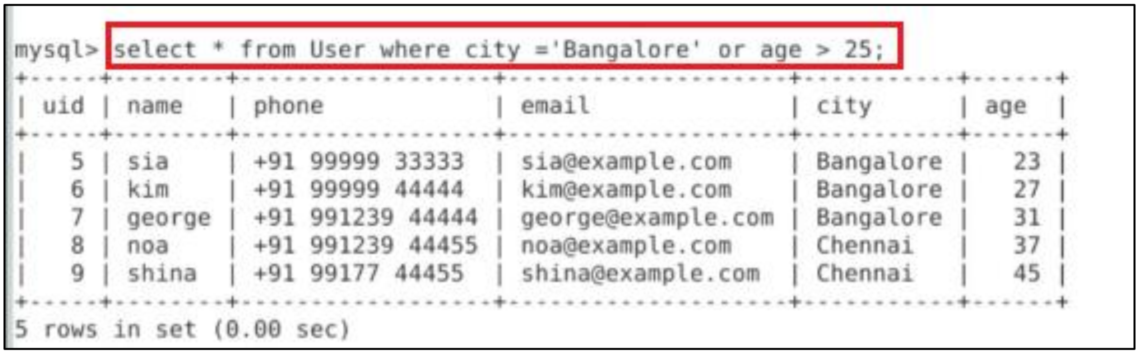
```
+-----+------+-----------------+-----------------+----------+------+
1 row in set (0.00 sec)

mysql> select * from User where age between 25 and 35;
+-----+--------+------------------+---------------------+-----------+------+
| uid | name   | phone            | email               | city      | age  |
+-----+--------+------------------+---------------------+-----------+------+
|   6 | kim    | +91 99999 44444  | kim@example.com     | Bangalore |   27 |
|   7 | george | +91 991239 44444 | george@example.com  | Bangalore |   31 |
+-----+--------+------------------+---------------------+-----------+------+
2 rows in set (0.00 sec)
```

Step 4: Use select where either of the two conditions is true

4.1 Show all the results where the city is **Bangalore** or the age is greater than 25 by using the following command:

select * from User where city = ‘Bangalore’ or age > ‘25’;

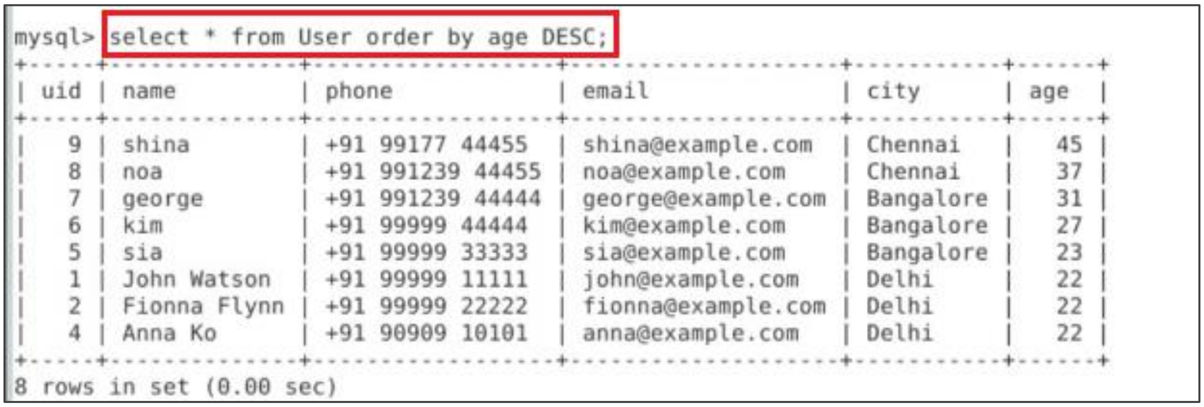


```
mysql> select * from User where city ='Bangalore' or age > 25;
+-----+--------+------------------+--------------------+-----------+------+
| uid | name   | phone            | email              | city      | age  |
+-----+--------+------------------+--------------------+-----------+------+
|   5 | sia    | +91 99999 33333  | sia@example.com    | Bangalore |   23 |
|   6 | kim    | +91 99999 44444  | kim@example.com    | Bangalore |   27 |
|   7 | george | +91 991239 44444 | george@example.com | Bangalore |   31 |
|   8 | noa    | +91 991239 44455 | noa@example.com    | Chennai   |   37 |
|   9 | shina  | +91 99177 44455  | shina@example.com  | Chennai   |   45 |
+-----+--------+------------------+--------------------+-----------+------+
5 rows in set (0.00 sec)
```

Step 5: Use select with order by and count conditions

5.1 Show all the results where the records are in descending order of **age** using the following command:

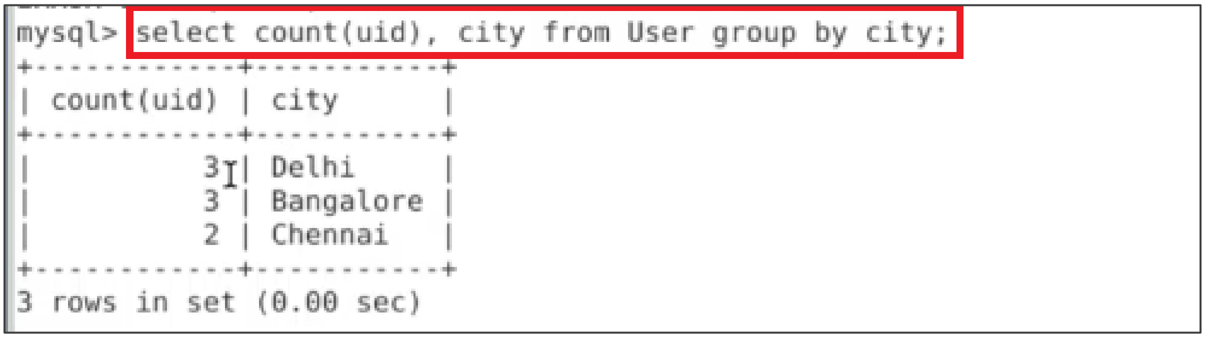
select * from User order by age DESC;



```
mysql> select * from User order by age DESC;
+-----+--------------+----------------+-------------------+-----------+-----+
| uid | name         | phone          | email             | city      | age |
+-----+--------------+----------------+-------------------+-----------+-----+
|   9 | shina        | +91 99177 44455 | shina@example.com | Chennai   |  45 |
|   8 | noa          | +91 991239 44455 | noa@example.com   | Chennai   |  37 |
|   7 | george       | +91 991239 44444 | george@example.com | Bangalore |  31 |
|   6 | kim          | +91 99999 44444 | kim@example.com   | Bangalore |  27 |
|   5 | sia          | +91 99999 33333 | sia@example.com   | Bangalore |  23 |
|   1 | John Watson  | +91 99999 11111 | john@example.com  | Delhi     |  22 |
|   2 | Fionna Flynn | +91 99999 22222 | fionna@example.com | Delhi     |  22 |
|   4 | Anna Ko      | +91 90909 10101 | anna@example.com  | Delhi     |  22 |
+-----+--------------+----------------+-------------------+-----------+-----+
8 rows in set (0.00 sec)
```

5.2 Show all the results of the count of **uid** for all the cities using the following command:

select * from User order by age DESC;

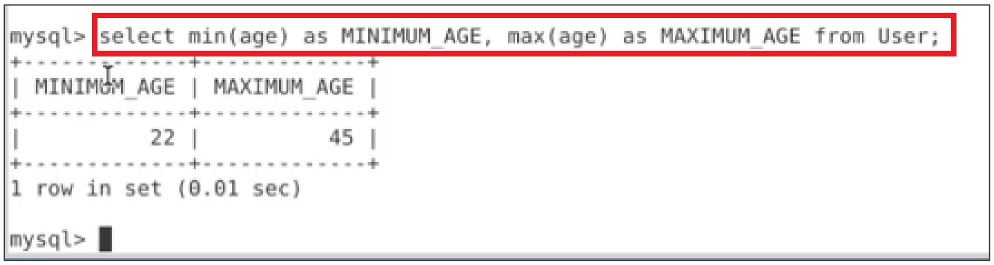


```
mysql> select count(uid), city from User group by city;
+------------+-----------+
| count(uid) | city      |
+------------+-----------+
|          3 | Delhi     |
|          3 | Bangalore |
|          2 | Chennai   |
+------------+-----------+
3 rows in set (0.00 sec)
```

Step 6: Use select with functions

6.1 Show the results of the minimum and maximum ages using the following commands:

select min(age) as MINIMUM_AGE, max (age) as MAXIMUM_AGE from USER;

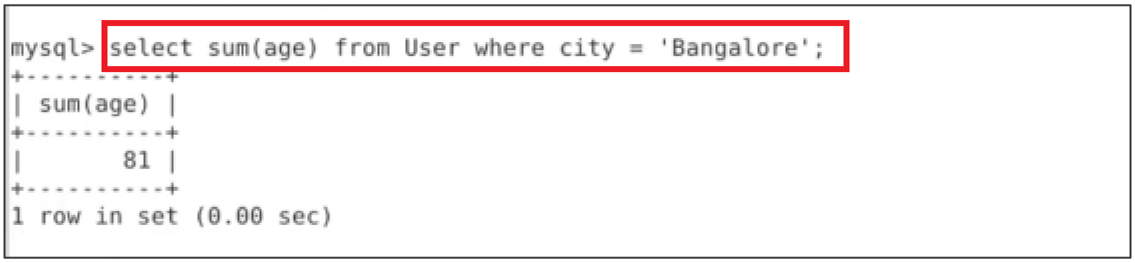


```
mysql> select min(age) as MINIMUM_AGE, max(age) as MAXIMUM_AGE from User;
+-------------+-------------+
| MINIMUM_AGE | MAXIMUM_AGE |
+-------------+-------------+
|          22 |          45 |
+-------------+-------------+
1 row in set (0.01 sec)

mysql> 
```

6.2 Show the result of the sum of the age of all the users from **Bangalore** using the following commands:

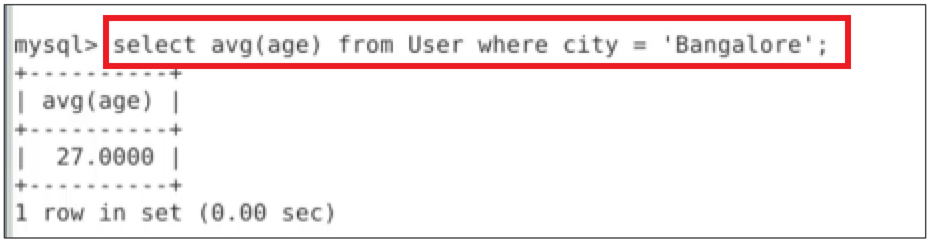
select sum(age) from User where city = ‘Bangalore’;



```
mysql> select sum(age) from User where city = 'Bangalore';
+----------+
| sum(age) |
+----------+
|       81 |
+----------+
1 row in set (0.00 sec)
```

6.3 Show the result of the average of the age of all the users from **Bangalore** using the following commands:

select avg(age) from User where city = ‘Bangalore’;



```
mysql> select avg(age) from User where city = 'Bangalore';
+----------+
| avg(age) |
+----------+
|  27.0000 |
+----------+
1 row in set (0.00 sec)
```