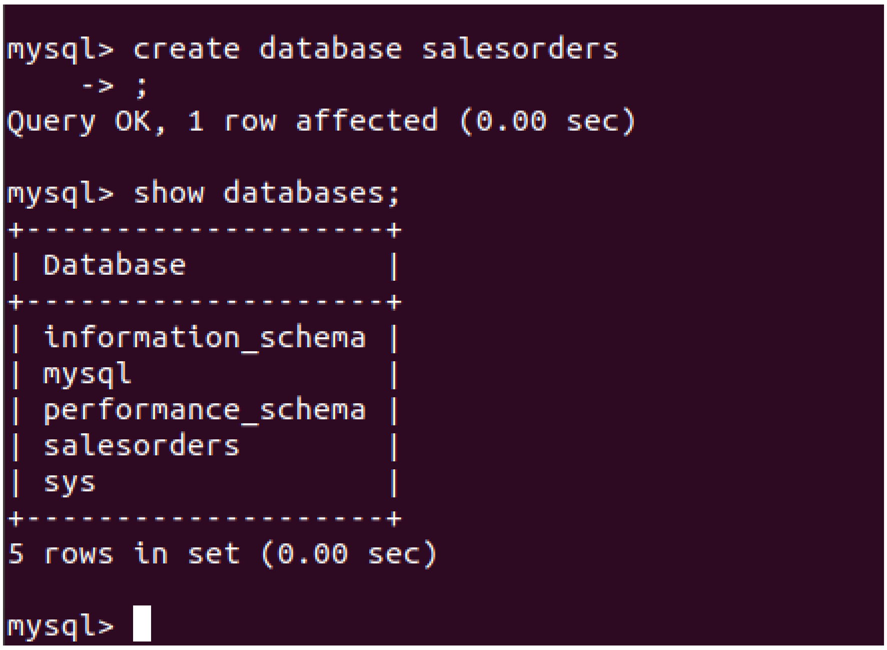
Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers .

1. Create Database?

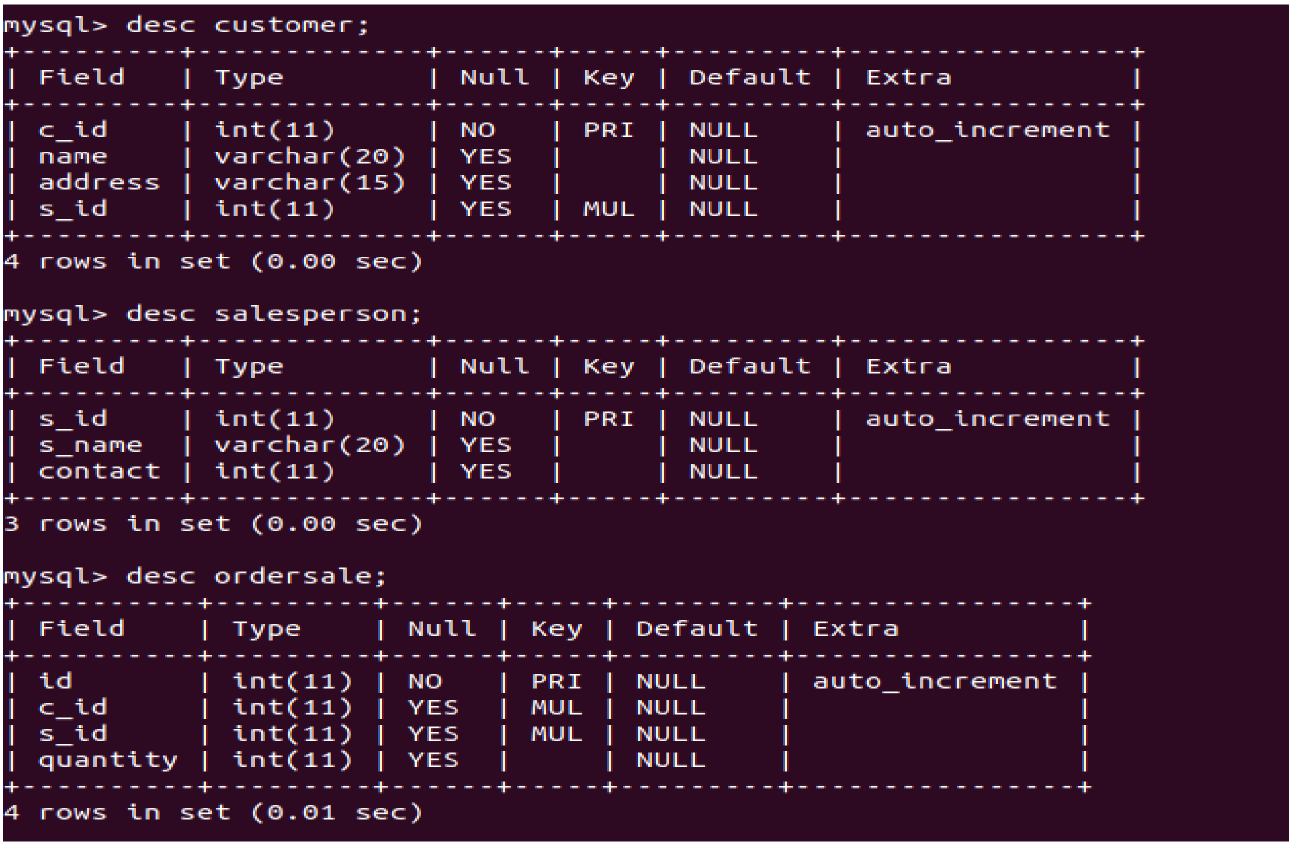
   COMMAND:- create database salesorders;



```
mysql> create database salesorders
    -> ;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| salesorders        |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql> 
```

2. Design Schema?

   COMMAND:-desc customer;
   desc salesperson;
   desc ordersale;



```
mysql> desc customer;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| c_id    | int(11)     | NO   | PRI | NULL    | auto_increment |
| name    | varchar(20) | YES  |     | NULL    |                |
| address | varchar(15) | YES  |     | NULL    |                |
| s_id    | int(11)     | YES  | MUL | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)

mysql> desc salesperson;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| s_id    | int(11)     | NO   | PRI | NULL    | auto_increment |
| s_name  | varchar(20) | YES  |     | NULL    |                |
| contact | int(11)     | YES  |     | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc ordersale;
+----------+---------+------+-----+---------+----------------+
| Field    | Type    | Null | Key | Default | Extra          |
+----------+---------+------+-----+---------+----------------+
| id       | int(11) | NO   | PRI | NULL    | auto_increment |
| c_id     | int(11) | YES  | MUL | NULL    |                |
| s_id     | int(11) | YES  | MUL | NULL    |                |
| quantity | int(11) | YES  |     | NULL    |                |
+----------+---------+------+-----+---------+----------------+
4 rows in set (0.01 sec)
```

3. Create tables?

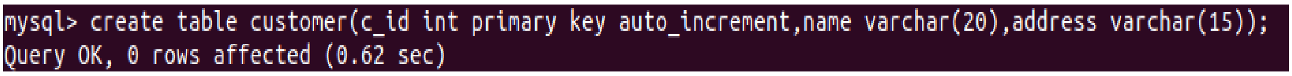
COMMAND:-create table customer(c_id int primary key auto_increment,name varchar(20),address varchar(15));

ALTER TABLE customer ADD s_id int;

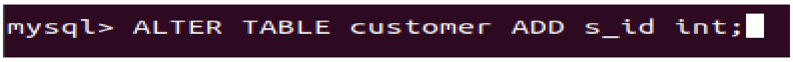
ALTER TABLE customer ADD FOREIGN KEY (s_id) REFERENCES salesperson(s_id);

create table salesperson(s_id int primary key auto_increment,s_name varchar(20),contact int);

create table ordersale(id int primary key auto_increment,c_id int,s_id int,quantity int,foreign key(c_id)references customer(c_id),foreign key(s_id)references salesperson(s_id));

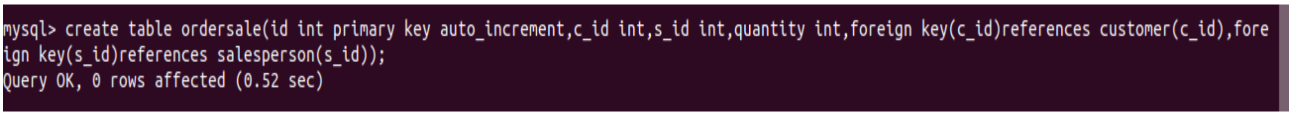


```
mysql> create table customer(c_id int primary key auto_increment,name varchar(20),address varchar(15));
Query OK, 0 rows affected (0.62 sec)
```

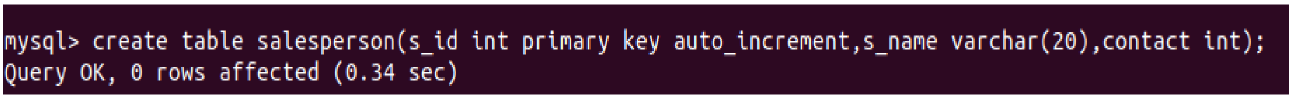


```
mysql> ALTER TABLE customer ADD s_id int;
```

```
mysql> ALTER TABLE customer ADD FOREIGN KEY (s_id) REFERENCES salesperson(s_id);
```



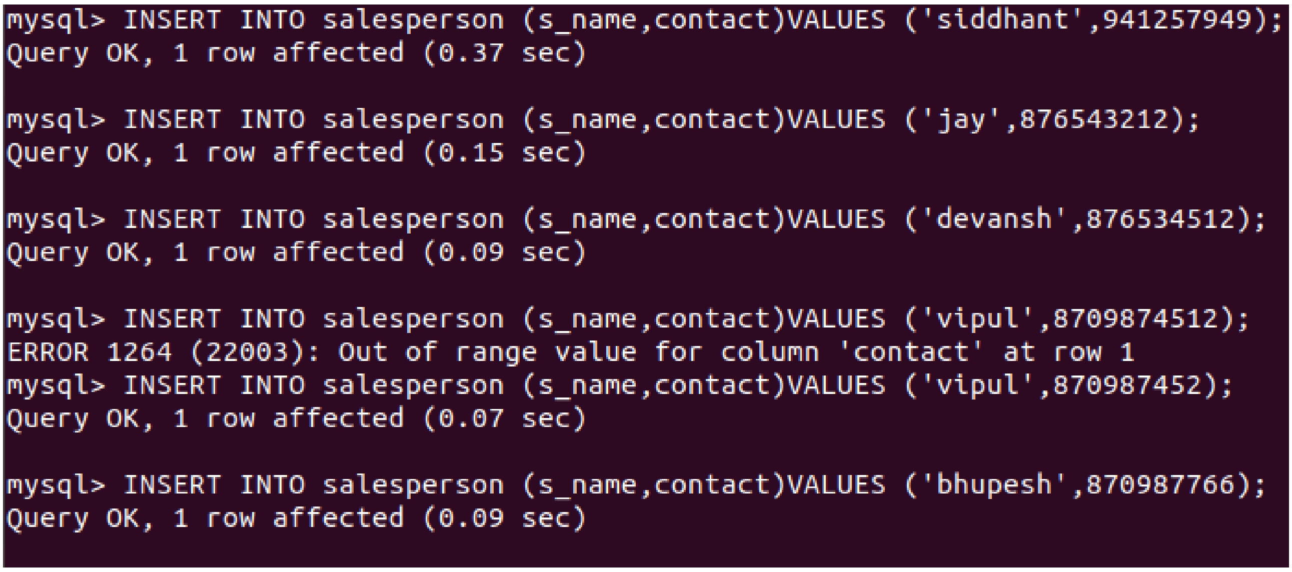
```
mysql> create table ordersale(id int primary key auto_increment,c_id int,s_id int,quantity int,foreign key(c_id)references customer(c_id),fore
ign key(s_id)references salesperson(s_id));
Query OK, 0 rows affected (0.52 sec)
```



```
mysql> create table salesperson(s_id int primary key auto_increment,s_name varchar(20),contact int);
Query OK, 0 rows affected (0.34 sec)
```

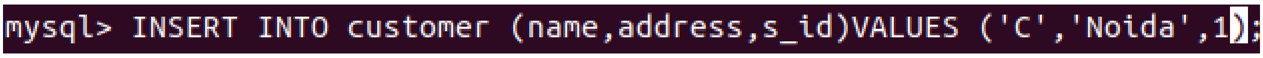
4. Insert sample data?

   COMMAND:-
   mysql>INSERT INTO salesperson (s_name,contact)VALUES ('siddhant',941257949);



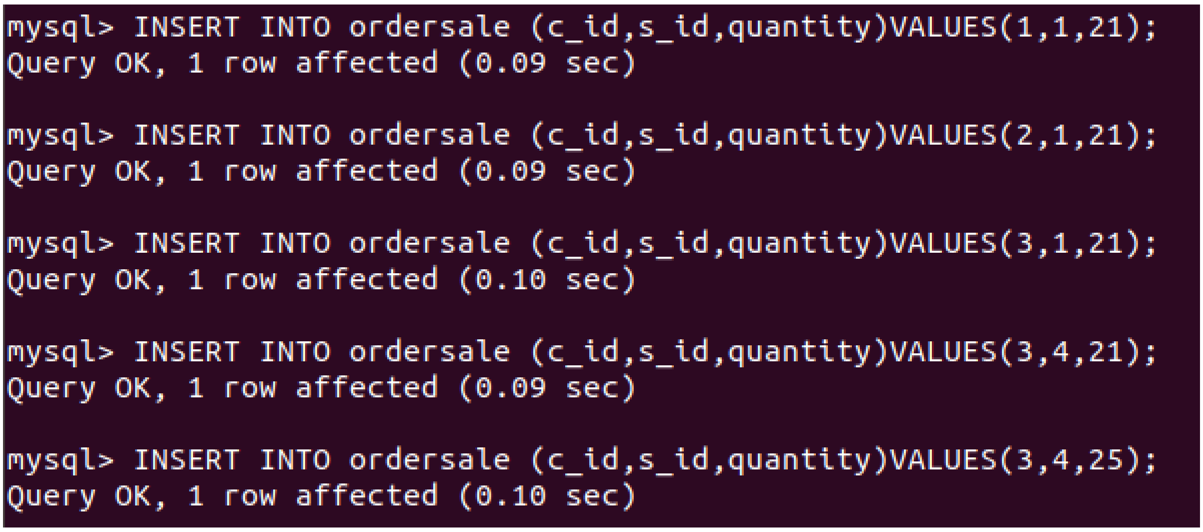
```
mysql> INSERT INTO salesperson (s_name,contact)VALUES ('siddhant',941257949);
Query OK, 1 row affected (0.37 sec)

mysql> INSERT INTO salesperson (s_name,contact)VALUES ('jay',876543212);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO salesperson (s_name,contact)VALUES ('devansh',876534512);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO salesperson (s_name,contact)VALUES ('vipul',8709874512);
ERROR 1264 (22003): Out of range value for column 'contact' at row 1
mysql> INSERT INTO salesperson (s_name,contact)VALUES ('vipul',870987452);
Query OK, 1 row affected (0.07 sec)

mysql> INSERT INTO salesperson (s_name,contact)VALUES ('bhupesh',870987766);
Query OK, 1 row affected (0.09 sec)
```

mysql> INSERT INTO customer (name,address)VALUES ('C’,'Noida',1);



```
mysql> INSERT INTO customer (name,address,s_id)VALUES ('C','Noida',1);
```

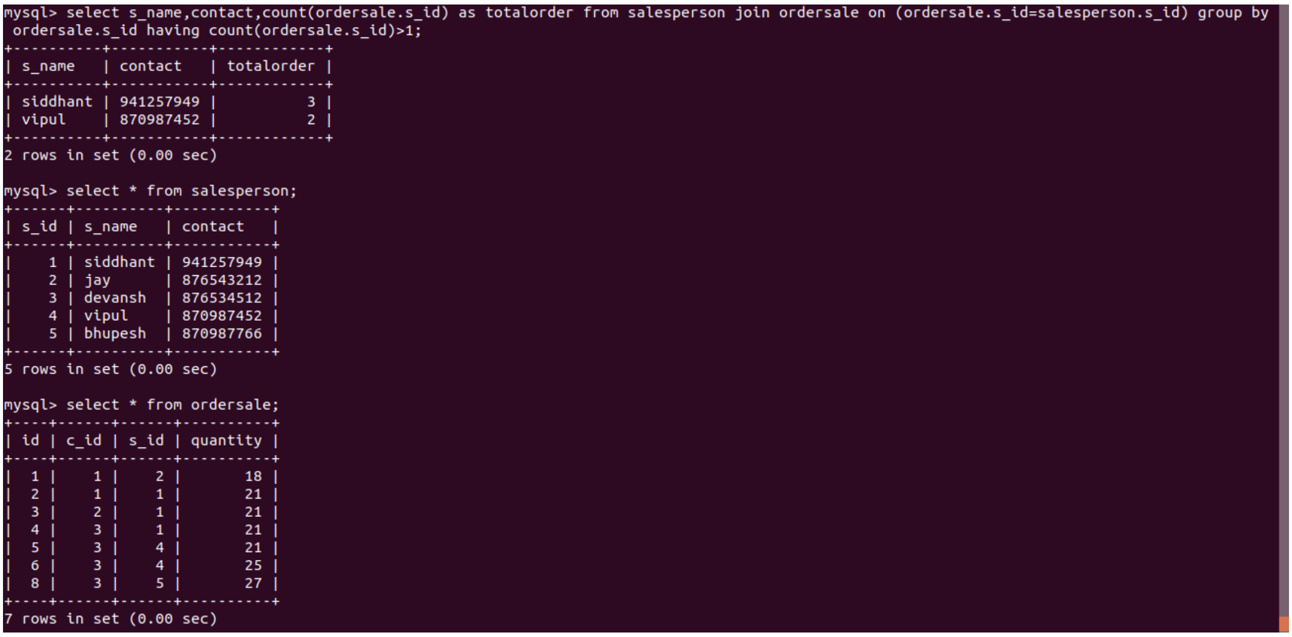
mysql>INSERT INTO ordersale (c_id,s_id,quantity)VALUES(1,2,18);



```
mysql> INSERT INTO ordersale (c_id,s_id,quantity)VALUES(1,1,21);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO ordersale (c_id,s_id,quantity)VALUES(2,1,21);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO ordersale (c_id,s_id,quantity)VALUES(3,1,21);
Query OK, 1 row affected (0.10 sec)

mysql> INSERT INTO ordersale (c_id,s_id,quantity)VALUES(3,4,21);
Query OK, 1 row affected (0.09 sec)

mysql> INSERT INTO ordersale (c_id,s_id,quantity)VALUES(3,4,25);
Query OK, 1 row affected (0.10 sec)
```

5. Find the sales person have multiple orders?

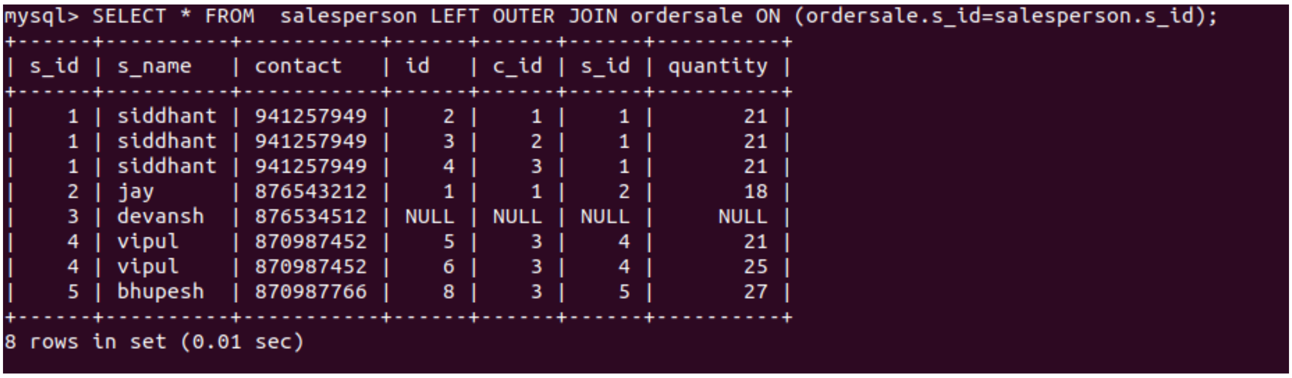
   COMMAND:-select s_name,contact,count(ordersale.s_id) as totalorder from salesperson join ordersale on (ordersale.s_id=salesperson.s_id) group by ordersale.s_id having count(ordersale.s_id)>1;



```
mysql> select s_name,contact,count(ordersale.s_id) as totalorder from salesperson join ordersale on (ordersale.s_id=salesperson.s_id) group by
 ordersale.s_id having count(ordersale.s_id)>1;
+----------+-----------+------------+
| s_name   | contact   | totalorder |
+----------+-----------+------------+
| siddhant | 941257949 |          3 |
| vipul    | 870987452 |          2 |
+----------+-----------+------------+
2 rows in set (0.00 sec)

mysql> select * from salesperson;
+------+----------+-----------+
| s_id | s_name   | contact   |
+------+----------+-----------+
|    1 | siddhant | 941257949 |
|    2 | jay      | 876543212 |
|    3 | devansh  | 876534512 |
|    4 | vipul    | 870987452 |
|    5 | bhupesh  | 870987766 |
+------+----------+-----------+
5 rows in set (0.00 sec)

mysql> select * from ordersale;
+----+------+------+----------+
| id | c_id | s_id | quantity |
+----+------+------+----------+
|  1 |    1 |    2 |       18 |
|  2 |    1 |    1 |       21 |
|  3 |    2 |    1 |       21 |
|  4 |    3 |    1 |       21 |
|  5 |    3 |    4 |       21 |
|  6 |    3 |    4 |       25 |
|  8 |    3 |    5 |       27 |
+----+------+------+----------+
7 rows in set (0.00 sec)
```

6. Find the all sales person details along with order details?

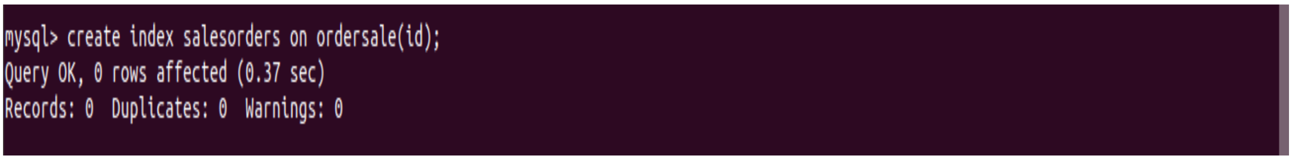
   COMMAND:-SELECT * FROM salesperson LEFT OUTER JOIN ordersale ON (ordersale.s_id=salesperson.s_id);



```
mysql> SELECT * FROM  salesperson LEFT OUTER JOIN ordersale ON (ordersale.s_id=salesperson.s_id);
+------+----------+-----------+------+------+------+----------+
| s_id | s_name   | contact   | id   | c_id | s_id | quantity |
+------+----------+-----------+------+------+------+----------+
|    1 | siddhant | 941257949 |    2 |    1 |    1 |       21 |
|    1 | siddhant | 941257949 |    3 |    2 |    1 |       21 |
|    1 | siddhant | 941257949 |    4 |    3 |    1 |       21 |
|    2 | jay      | 876543212 |    1 |    1 |    2 |       18 |
|    3 | devansh  | 876534512 | NULL | NULL | NULL |     NULL |
|    4 | vipul    | 870987452 |    5 |    3 |    4 |       21 |
|    4 | vipul    | 870987452 |    6 |    3 |    4 |       25 |
|    5 | bhupesh  | 870987766 |    8 |    3 |    5 |       27 |
+------+----------+-----------+------+------+------+----------+
8 rows in set (0.01 sec)
```

7. Create index ?

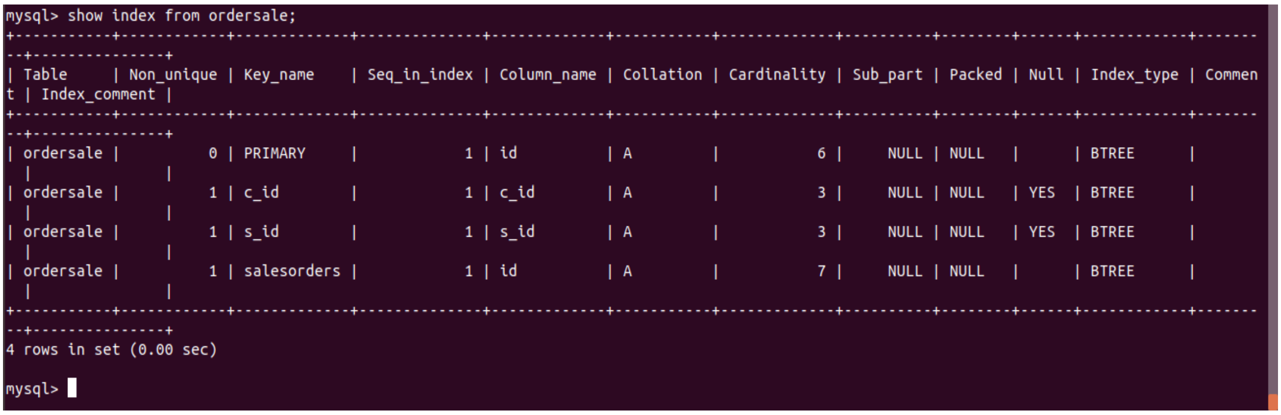
   COMMAND:- create index salesorders on ordersale(id);



```
mysql> create index salesorders on ordersale(id);
Query OK, 0 rows affected (0.37 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table?

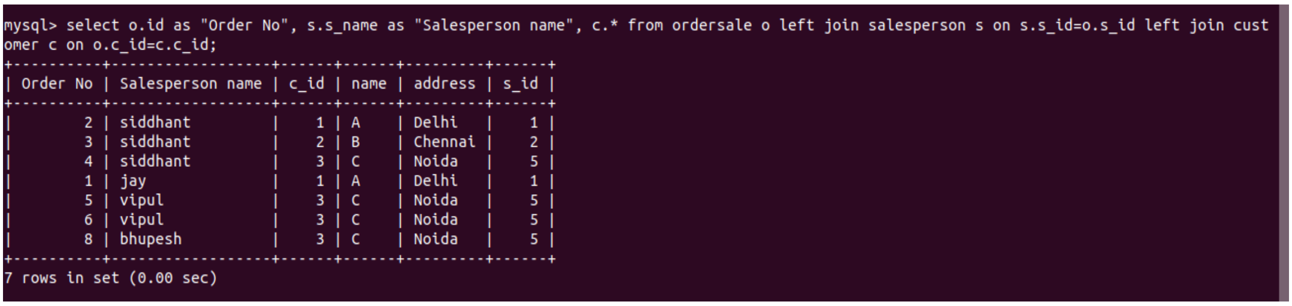
   COMMAND:- show index from ordersale;



```
mysql> show index from ordersale;
+-----------+------------+-------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+-------
--+---------------+
| Table     | Non_unique | Key_name    | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Commen
t | Index_comment |
+-----------+------------+-------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+-------
--+---------------+
| ordersale |          0 | PRIMARY     |            1 | id          | A         |           6 |     NULL | NULL   |      | BTREE      |       
  |               |
| ordersale |          1 | c_id        |            1 | c_id        | A         |           3 |     NULL | NULL   | YES  | BTREE      |       
  |               |
| ordersale |          1 | s_id        |            1 | s_id        | A         |           3 |     NULL | NULL   | YES  | BTREE      |       
  |               |
| ordersale |          1 | salesorders |            1 | id          | A         |           7 |     NULL | NULL   |      | BTREE      |       
  |               |
+-----------+------------+-------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+-------
--+---------------+
4 rows in set (0.00 sec)

mysql> 
```

9. Find the order number, sale person name, along with the customer to whom that order belongs to ?

   COMMAND:-select o.id as "Order No", s.s_name as "Salesperson name", c.* from ordersale o left join salesperson s on s.s_id=o.s_id left join customer c on o.c_id=c.c_id;



```
mysql> select o.id as "Order No", s.s_name as "Salesperson name", c.* from ordersale o left join salesperson s on s.s_id=o.s_id left join cust
omer c on o.c_id=c.c_id;
+----------+------------------+------+------+---------+------+
| Order No | Salesperson name | c_id | name | address | s_id |
+----------+------------------+------+------+---------+------+
|        2 | siddhant         |    1 | A    | Delhi   |    1 |
|        3 | siddhant         |    2 | B    | Chennai |    2 |
|        4 | siddhant         |    3 | C    | Noida   |    5 |
|        1 | jay              |    1 | A    | Delhi   |    1 |
|        5 | vipul            |    3 | C    | Noida   |    5 |
|        6 | vipul            |    3 | C    | Noida   |    5 |
|        8 | bhupesh          |    3 | C    | Noida   |    5 |
+----------+------------------+------+------+---------+------+
7 rows in set (0.00 sec)
```