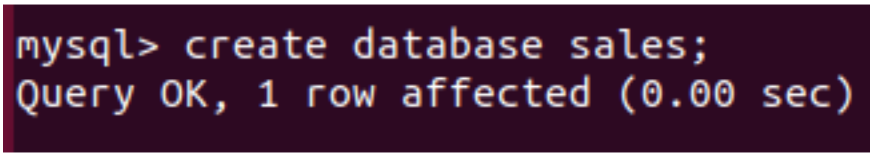
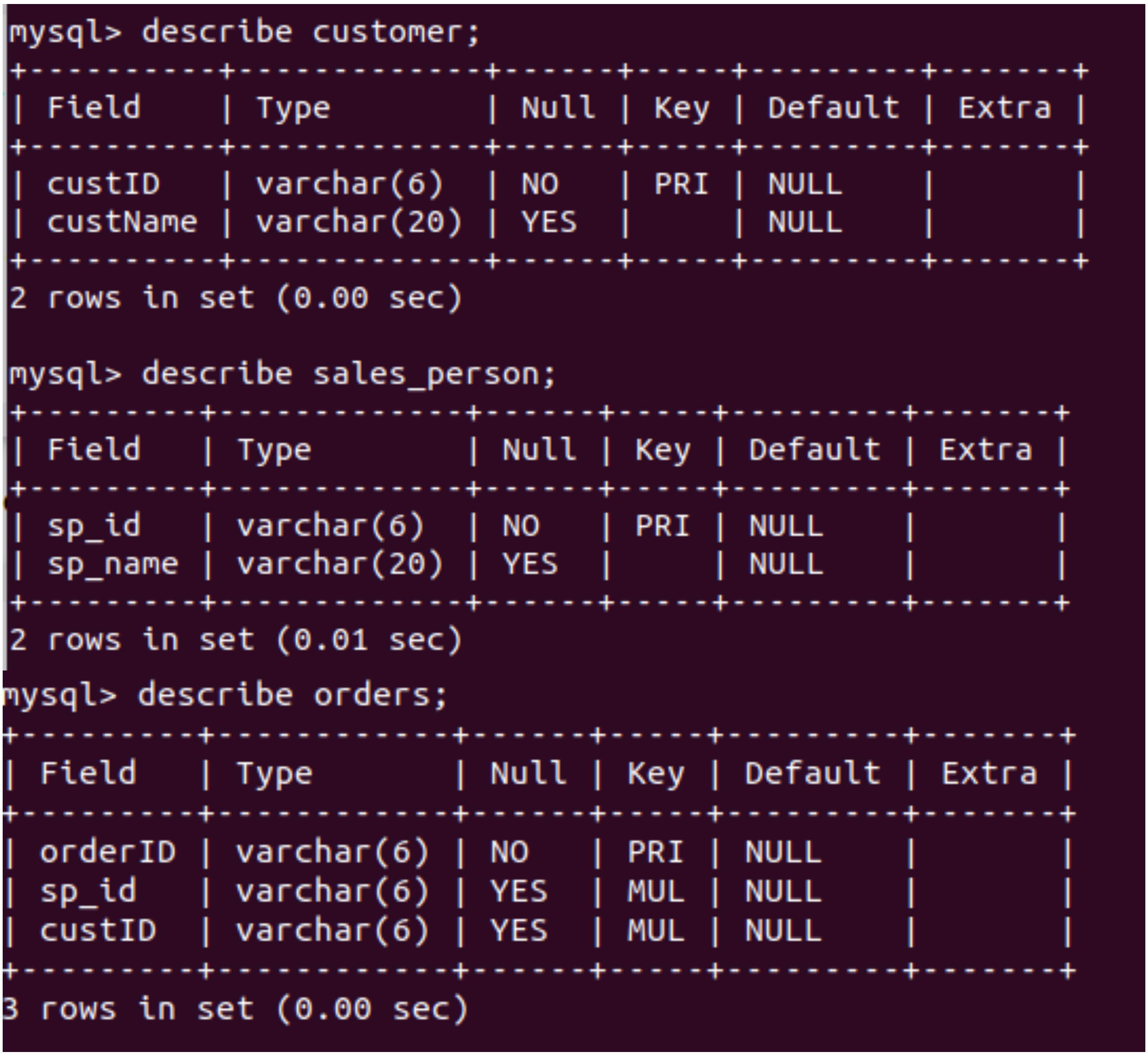
Problem statement : There can be multiple customers, who can place multiple orders in the site. Now a sales person can handle these orders will distribute into multiple sales persons(1 order will be assign to 1 salesperson only). So a sales person can have multiple orders of multiple customers

1. **Create database:**



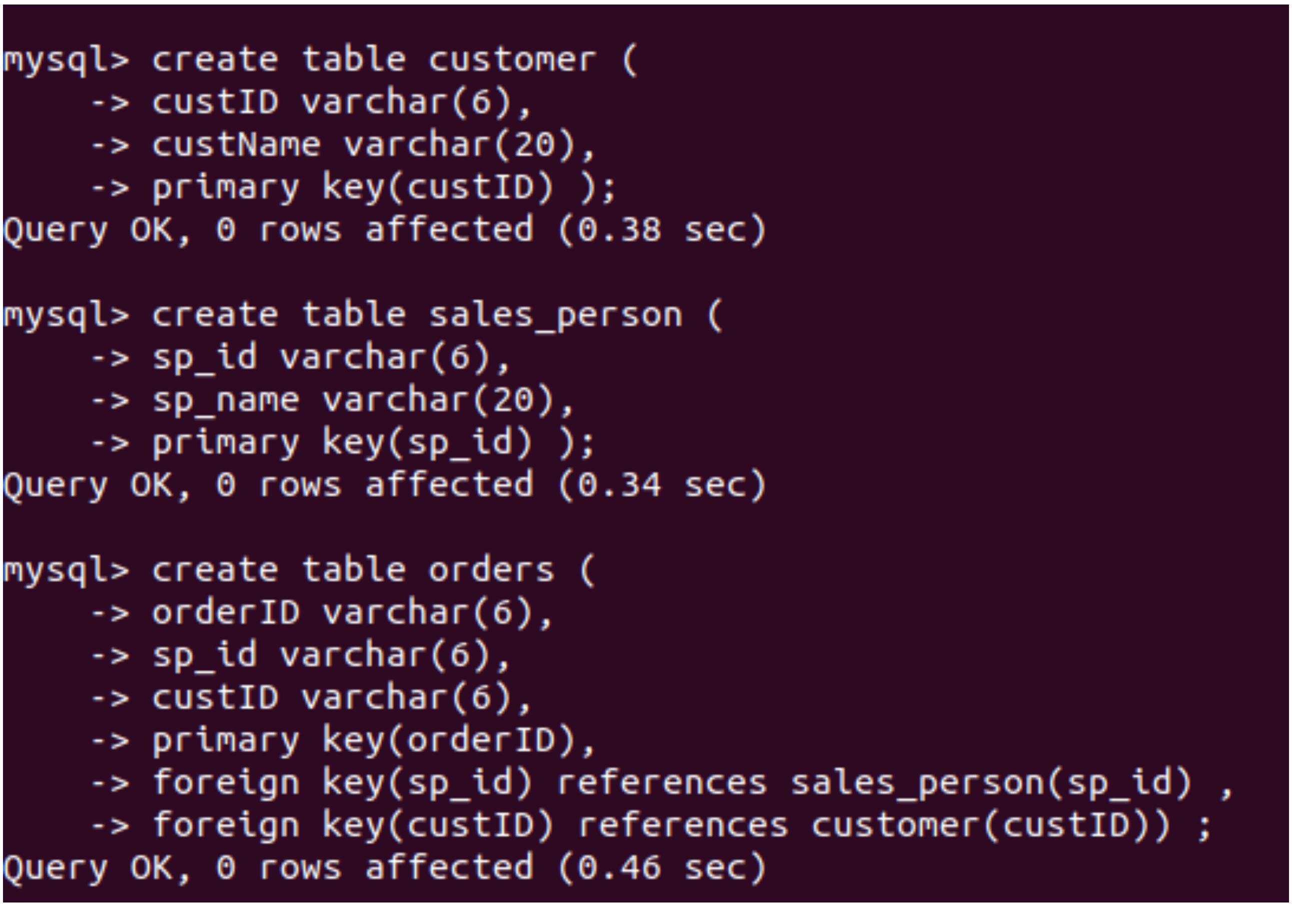
```
mysql> create database sales;
Query OK, 1 row affected (0.00 sec)
```

2. **Design Schema:**



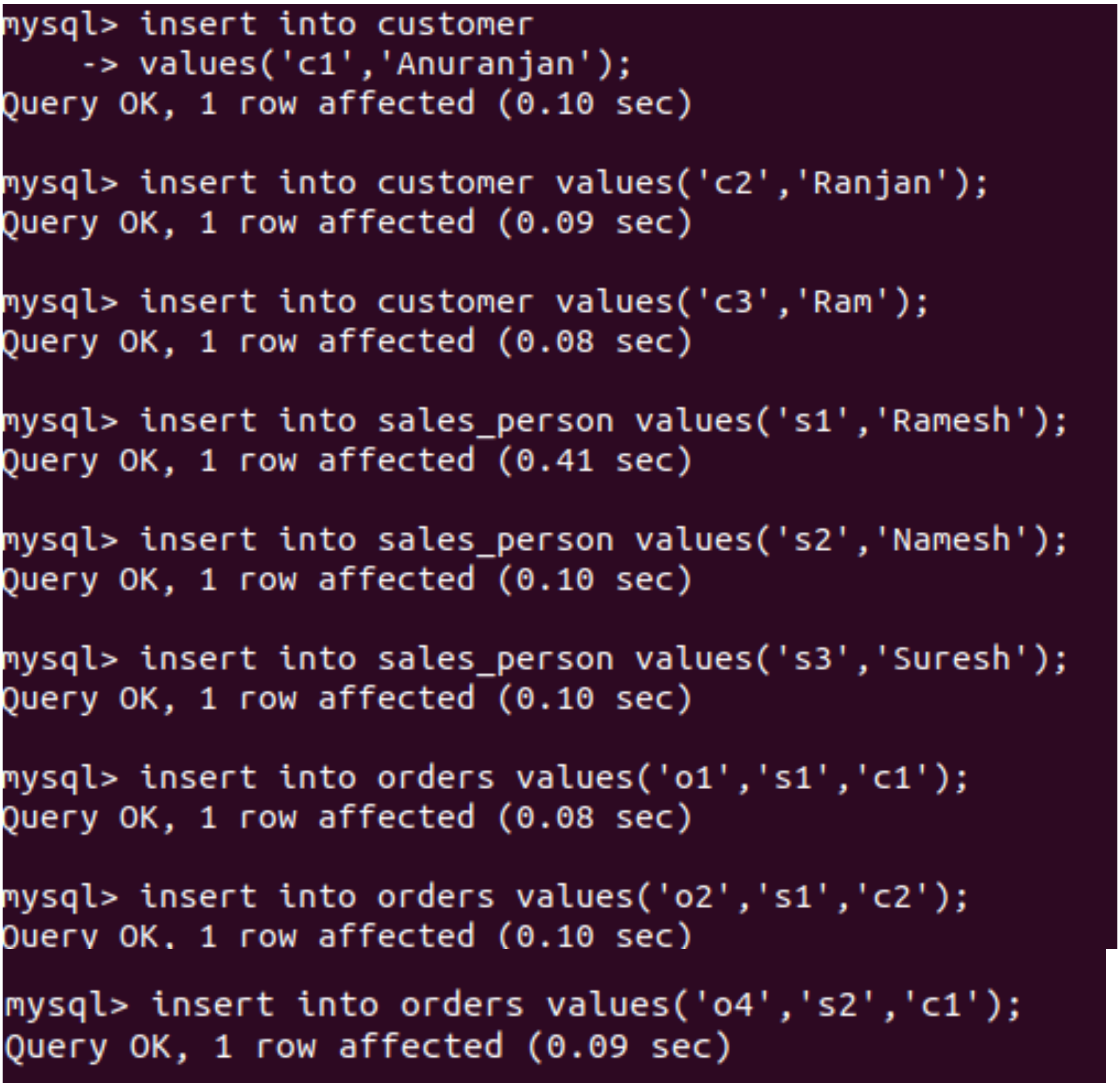
```
mysql> describe customer;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| custID   | varchar(6)  | NO   | PRI | NULL    |       |
| custName | varchar(20) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> describe sales_person;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| sp_id   | varchar(6)  | NO   | PRI | NULL    |       |
| sp_name | varchar(20) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
mysql> describe orders;
+---------+------------+------+-----+---------+-------+
| Field   | Type       | Null | Key | Default | Extra |
+---------+------------+------+-----+---------+-------+
| orderID | varchar(6) | NO   | PRI | NULL    |       |
| sp_id   | varchar(6) | YES  | MUL | NULL    |       |
| custID  | varchar(6) | YES  | MUL | NULL    |       |
+---------+------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

3. **Create Tables:**



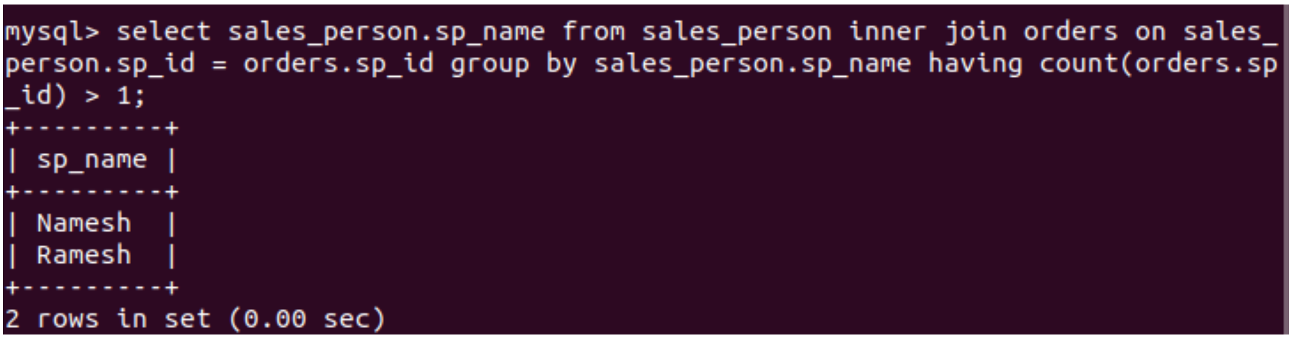
```
mysql> create table customer (
    -> custID varchar(6),
    -> custName varchar(20),
    -> primary key(custID) );
Query OK, 0 rows affected (0.38 sec)

mysql> create table sales_person (
    -> sp_id varchar(6),
    -> sp_name varchar(20),
    -> primary key(sp_id) );
Query OK, 0 rows affected (0.34 sec)

mysql> create table orders (
    -> orderID varchar(6),
    -> sp_id varchar(6),
    -> custID varchar(6),
    -> primary key(orderID),
    -> foreign key(sp_id) references sales_person(sp_id) ,
    -> foreign key(custID) references customer(custID)) ;
Query OK, 0 rows affected (0.46 sec)
```

4. **Insert sample data**



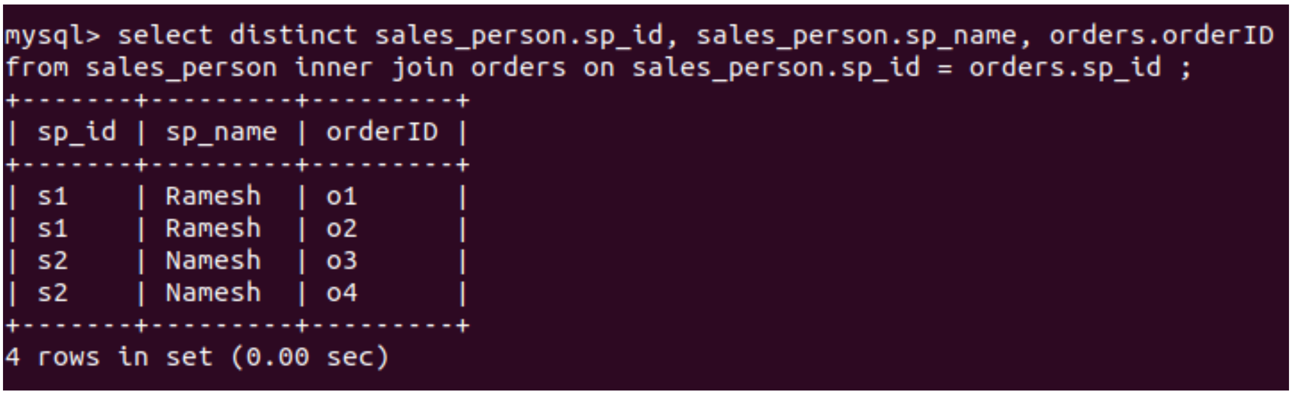
```
mysql> insert into customer
    -> values('c1','Anuranjan');
Query OK, 1 row affected (0.10 sec)

mysql> insert into customer values('c2','Ranjan');
Query OK, 1 row affected (0.09 sec)

mysql> insert into customer values('c3','Ram');
Query OK, 1 row affected (0.08 sec)

mysql> insert into sales_person values('s1','Ramesh');
Query OK, 1 row affected (0.41 sec)

mysql> insert into sales_person values('s2','Namesh');
Query OK, 1 row affected (0.10 sec)

mysql> insert into sales_person values('s3','Suresh');
Query OK, 1 row affected (0.10 sec)

mysql> insert into orders values('o1','s1','c1');
Query OK, 1 row affected (0.08 sec)

mysql> insert into orders values('o2','s1','c2');
Query OK, 1 row affected (0.10 sec)

mysql> insert into orders values('o4','s2','c1');
Query OK, 1 row affected (0.09 sec)
```

5. Find the sales person having multiple orders



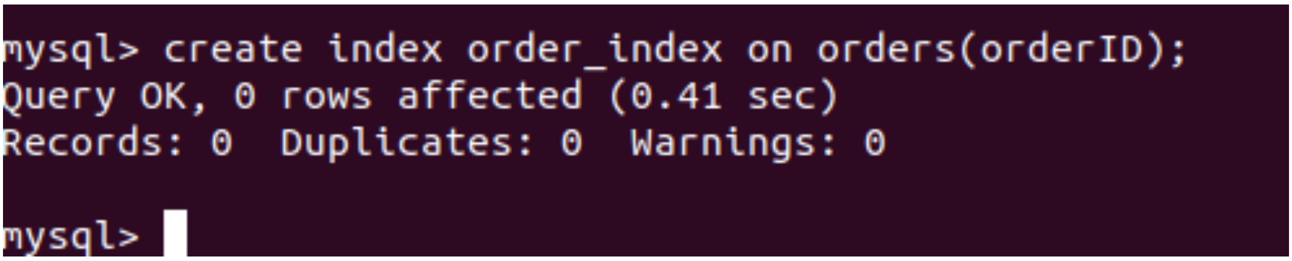
```
mysql> select sales_person.sp_name from sales_person inner join orders on sales_
person.sp_id = orders.sp_id group by sales_person.sp_name having count(orders.sp
_id) > 1;
+---------+
| sp_name |
+---------+
| Namesh  |
| Ramesh  |
+---------+
2 rows in set (0.00 sec)
```

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



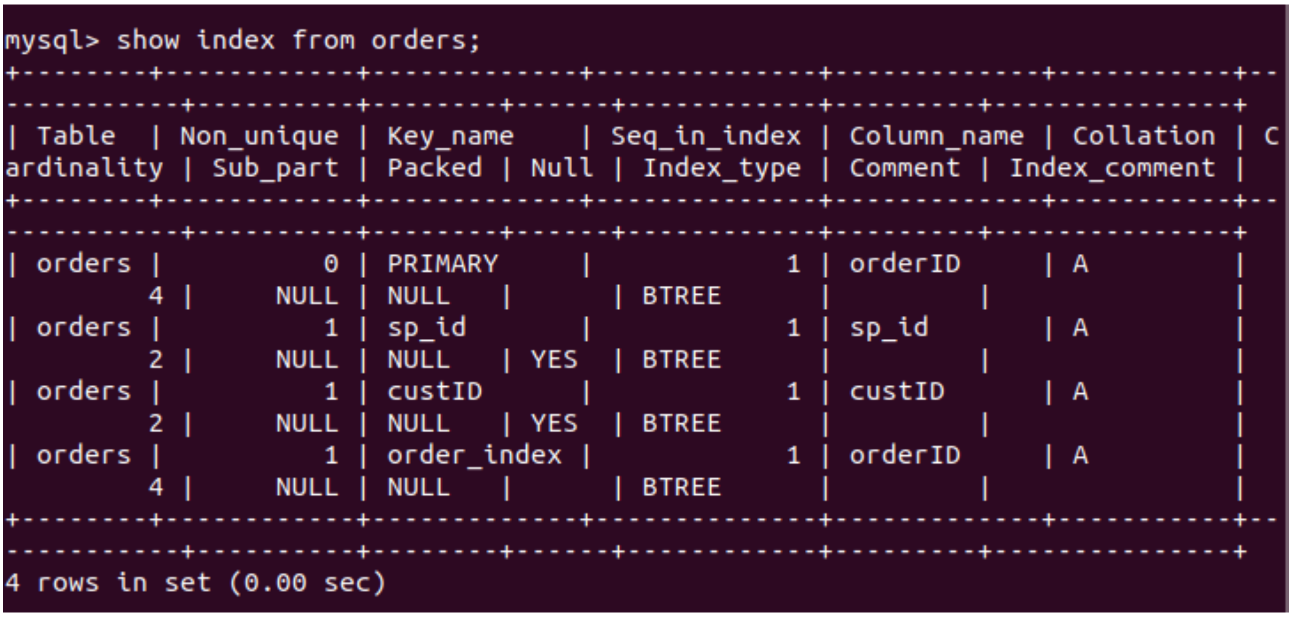
```
mysql> select distinct sales_person.sp_id, sales_person.sp_name, orders.orderID
from sales_person inner join orders on sales_person.sp_id = orders.sp_id ;
+-------+---------+---------+
| sp_id | sp_name | orderID |
+-------+---------+---------+
| s1    | Ramesh  | o1      |
| s1    | Ramesh  | o2      |
| s2    | Namesh  | o3      |
| s2    | Namesh  | o4      |
+-------+---------+---------+
4 rows in set (0.00 sec)
```

7. Create index



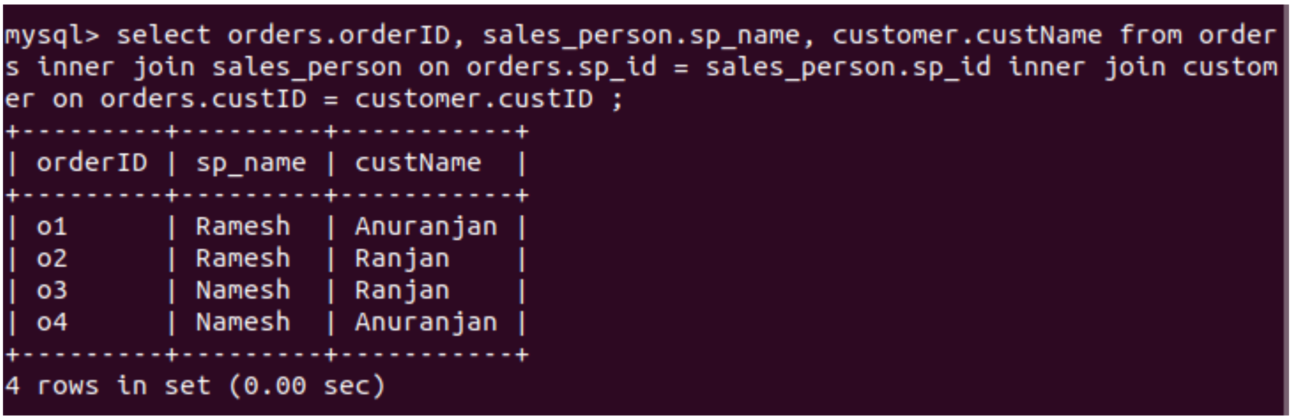
```
mysql> create index order_index on orders(orderID);
Query OK, 0 rows affected (0.41 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> 
```

8. **How to show index on table**



```
mysql> show index from orders;
+--------+------------+-------------+--------------+-------------+-----------+--
-----------+----------+--------+------+------------+---------+---------------+
| Table  | Non_unique | Key_name    | Seq_in_index | Column_name | Collation | C
ardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+--------+------------+-------------+--------------+-------------+-----------+--
-----------+----------+--------+------+------------+---------+---------------+
| orders |          0 | PRIMARY     |            1 | orderID     | A         |
         4 |     NULL | NULL   |      | BTREE      |         |               |
| orders |          1 | sp_id       |            1 | sp_id       | A         |
         2 |     NULL | NULL   | YES  | BTREE      |         |               |
| orders |          1 | custID      |            1 | custID      | A         |
         2 |     NULL | NULL   | YES  | BTREE      |         |               |
| orders |          1 | order_index |            1 | orderID     | A         |
         4 |     NULL | NULL   |      | BTREE      |         |               |
+--------+------------+-------------+--------------+-------------+-----------+--
-----------+----------+--------+------+------------+---------+---------------+
4 rows in set (0.00 sec)
```

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



```
mysql> select orders.orderID, sales_person.sp_name, customer.custName from order
s inner join sales_person on orders.sp_id = sales_person.sp_id inner join custom
er on orders.custID = customer.custID ;
+---------+---------+-----------+
| orderID | sp_name | custName  |
+---------+---------+-----------+
| o1      | Ramesh  | Anuranjan |
| o2      | Ramesh  | Ranjan    |
| o3      | Namesh  | Ranjan    |
| o4      | Namesh  | Anuranjan |
+---------+---------+-----------+
4 rows in set (0.00 sec)
```