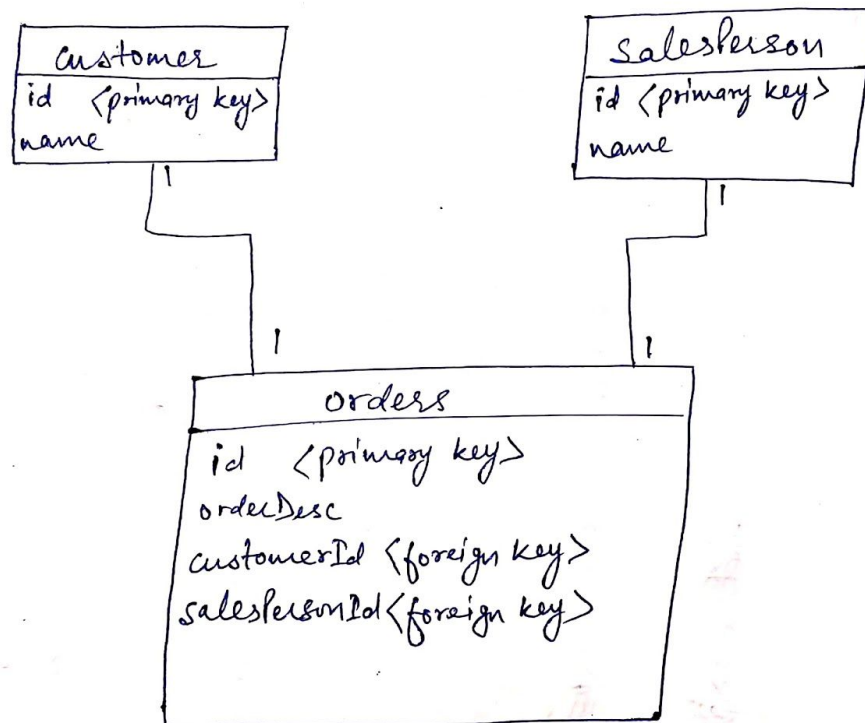


1. Create Database

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> create database sales;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| health |  
| mysql |  
| performance_schema |  
| sales |  
| sys |  
+-----+  
6 rows in set (0.00 sec)
```

2. Design Schema



```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> desc orders;  
+-----+-----+-----+-----+-----+-----+  
| Field          | Type   | Null | Key | Default | Extra           |  
+-----+-----+-----+-----+-----+-----+  
| id             | int(11)| NO   | PRI | NULL    | auto_increment |  
| orderDesc      | text   | YES  |     | NULL    |                 |  
| customerId     | int(11)| NO   | MUL | NULL    |                 |  
| salesPersonId  | int(11)| NO   | MUL | NULL    |                 |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql>
```

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> desc customer;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name  | varchar(20)   | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> 
```

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> desc salesPerson;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name  | varchar(20)   | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> 
```

3. Create tables

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> use sales;  
Database changed  
mysql> create table salesPerson(  
    -> id int primary key auto_increment,  
    -> name varchar(20) not null  
    -> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> create table customer(  
    -> id int primary key auto_increment,  
    -> name varchar(20) not null  
    -> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> █
```

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> create table orders(  
    -> id int primary key auto_increment,  
    -> orderDesc text,  
    -> customerId int not null,  
    -> salesPersonId int not null,  
    -> foreign key(customerId) references customer(id),  
    -> foreign key(salesPersonId) references salesPerson(id)  
    -> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> █
```

4. Insert sample data

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> insert into salesPerson (name) values ("a"), ("b"), ("c");  
Query OK, 3 rows affected (0.01 sec)  
Records: 3 Duplicates: 0 Warnings: 0  
  
mysql> insert into customer (name) values ("d"), ("e"), ("f")  
;  
Query OK, 3 rows affected (0.02 sec)  
Records: 3 Duplicates: 0 Warnings: 0  
  
mysql> █
```

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> insert into salesPerson (name) values ("x");  
Query OK, 1 row affected (0.02 sec)  
  
mysql> insert into orders (orderDesc, customerId, salesPerson  
Id) values ("order7", 2, 4);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> █
```

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> insert into orders (orderDesc, customerId, salesPerson  
Id)  
-> values ("order1", 1, 3),  
-> ("order2", 1, 2),  
-> ("order3", 2, 1),  
-> ("order4", 2, 2),  
-> ("order5", 3, 1),  
-> ("order6", 3, 3)  
-> ;  
Query OK, 6 rows affected (0.01 sec)  
Records: 6 Duplicates: 0 Warnings: 0  
  
mysql> █
```

5. Find the sales person have multiple orders.

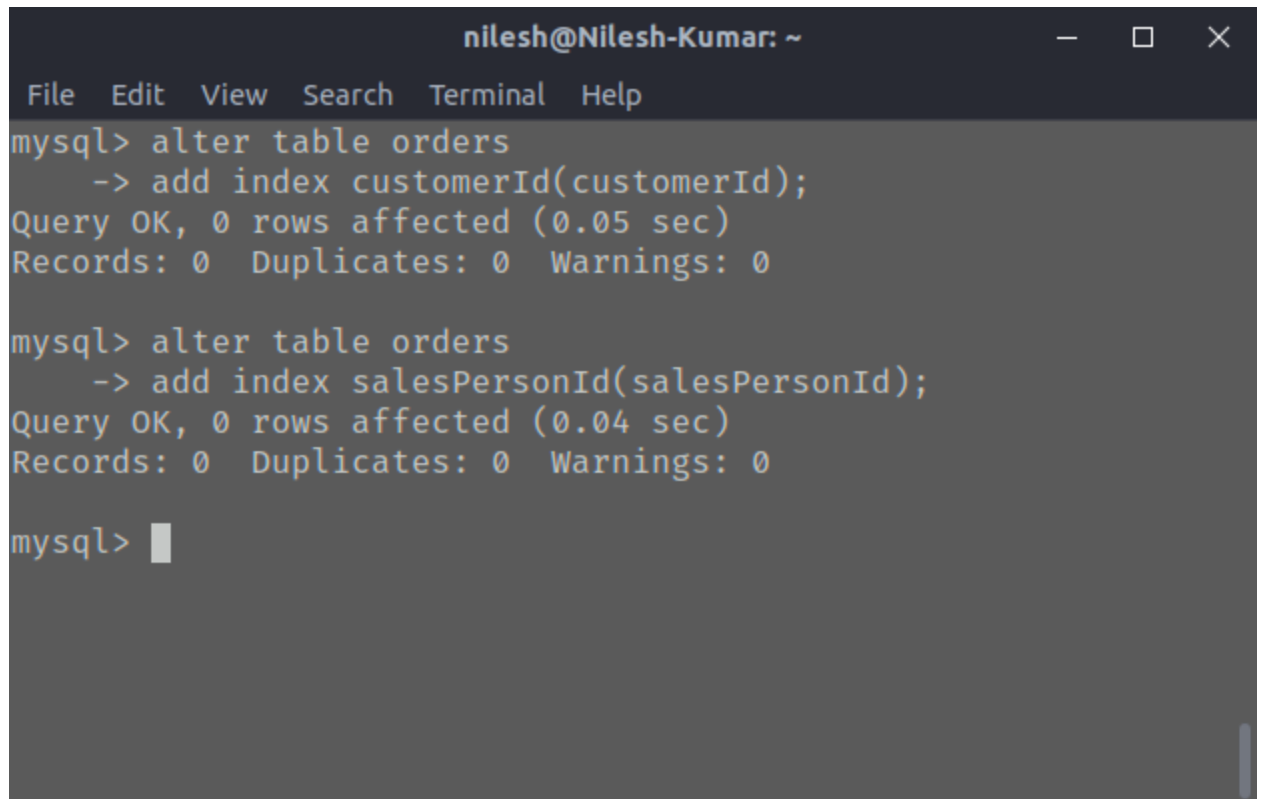
Only salesPerson x has one order, hence not listed.

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> select name from salesPerson  
-> where (  
-> select count(*) from orders  
-> where orders.salesPersonId = salesPerson.id  
-> ) > 1;  
+-----+  
| name |  
+-----+  
| a     |  
| b     |  
| c     |  
+-----+  
3 rows in set (0.00 sec)  
  
mysql> █
```

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

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> select sp.id, ord.id, ord.orderDesc  
-> from salesPerson sp  
-> join orders ord on ord.salesPersonId = sp.id;  
+-----+-----+-----+  
| id | id | orderDesc |  
+-----+-----+-----+  
| 1 | 3 | order3 |  
| 1 | 5 | order5 |  
| 2 | 2 | order2 |  
| 2 | 4 | order4 |  
| 3 | 1 | order1 |  
| 3 | 6 | order6 |  
| 4 | 7 | order7 |  
+-----+-----+-----+  
7 rows in set (0.00 sec)  
  
mysql> _
```

7. Create index



```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> alter table orders  
-> add index customerId(customerId);  
Query OK, 0 rows affected (0.05 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql> alter table orders  
-> add index salesPersonId(salesPersonId);  
Query OK, 0 rows affected (0.04 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql> █
```


8. How to show index on a table

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> show index from orders;  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
| orders | 0 | PRIMARY | 1 | id | A | 6 | NULL | NULL | | BTREE |  
| orders | 1 | customerId | 1 | customerId | A | 3 | NULL | NULL | | BTREE |  
| orders | 1 | salesPersonId | 1 | salesPersonId | A | 4 | NULL | NULL | | BTREE |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3 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

```
nilesh@Nilesh-Kumar: ~  
File Edit View Search Terminal Help  
mysql> select distinct ord.id as orderId,  
-> sp.name as salesPersonName,  
-> cust.name as customerName  
-> from orders ord  
-> join salesPerson sp on sp.id = ord.salesPersonId  
-> join customer cust on cust.id = ord.customerId;  
+-----+-----+-----+  
| orderId | salesPersonName | customerName |  
+-----+-----+-----+  
|      1 | c               | d           |  
|      2 | b               | d           |  
|      3 | a               | e           |  
|      4 | b               | e           |  
|      5 | a               | f           |  
|      6 | c               | f           |  
|      7 | x               | e           |  
+-----+-----+-----+  
7 rows in set (0.00 sec)  
  
mysql> 
```