Exercise - Introduction to Database

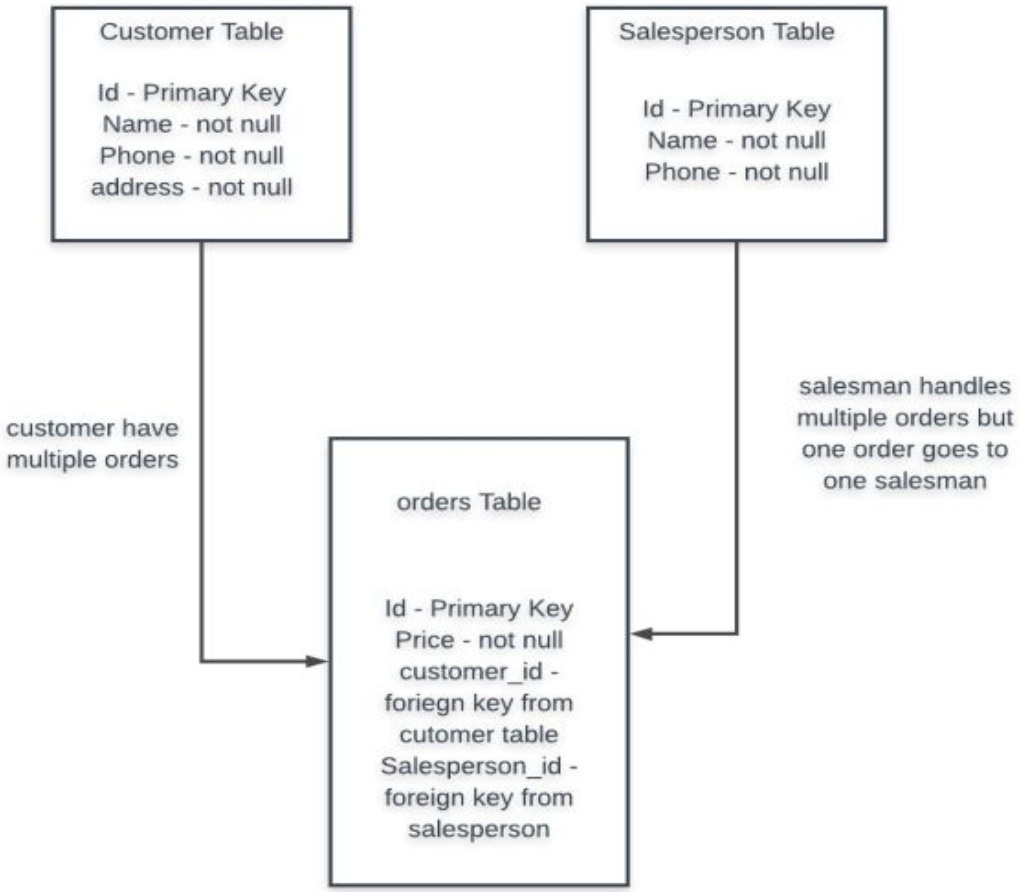
Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers.

1. Create Database

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

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| backup             |
| bootcamp           |
| exercize           |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
7 rows in set (0.00 sec)
```

2. Design Schema.



3. Create tables

```
mysql> create table customer(id int primary key auto_increment, name varchar(20
 not null, phone int not null, address varchar(20) not null);
Query OK, 0 rows affected (0.34 sec)

mysql> show tables;
+--------------------+
| Tables_in_exercize |
+--------------------+
| customer           |
+--------------------+
1 row in set (0.00 sec)

mysql> create table salesperson(id int primary key auto_increment, name varchar
20) not null, phone int not null);
Query OK, 0 rows affected (0.34 sec)

mysql> show tables;
+--------------------+
| Tables_in_exercize |
+--------------------+
| customer           |
| salesperson        |
+--------------------+
2 rows in set (0.01 sec)

mysql> create table orders(id int primary key auto_increment, price int not nul
, customer_id int, salesperson_id int, foreign key customer_order(customer_id)
eferences customer(id), foreign key salesperson_order(salesperson_id) reference
 salesperson(id));
Query OK, 0 rows affected (0.59 sec)
```

4. Insert sample data.

   customer:

```
mysql> insert into customer(name,phone,address) values("rahul",2589,"delhi");
Query OK, 1 row affected (0.10 sec)

mysql> insert into customer(name,phone,address) values("kunark",2591,"kolkata");

Query OK, 1 row affected (0.38 sec)

mysql> insert into customer(name,phone,address) values("ram",2593,"chennai");
Query OK, 1 row affected (0.09 sec)
```

Salesperson:

```
mysql> insert into salesperson(name,phone) values("ram",7896);
Query OK, 1 row affected (0.09 sec)

mysql> insert into salesperson(name,phone) values("shyam",7898);
Query OK, 1 row affected (0.09 sec)

mysql> insert into salesperson(name,phone) values("mahesh",8000);
Query OK, 1 row affected (0.06 sec)
```

Orders:

```
mysql> insert into orders(price, customer_id, salesperson_id) values(1234,1,2);
Query OK, 1 row affected (0.13 sec)

mysql> insert into orders(price, customer_id, salesperson_id) values(1234,2,1);
Query OK, 1 row affected (0.12 sec)

mysql> insert into orders(price, customer_id, salesperson_id) values(1234,3,3);
Query OK, 1 row affected (0.11 sec)
```

```
mysql> update orders set price = "1236" where id = 2;
Query OK, 1 row affected (0.10 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update orders set price = "1240" where id = 3;
Query OK, 1 row affected (0.10 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from orders;
+----+-------+-------------+----------------+
| id | price | customer_id | salesperson_id |
+----+-------+-------------+----------------+
|  1 |  1234 |           1 |              2 |
|  2 |  1236 |           2 |              1 |
|  3 |  1240 |           3 |              3 |
+----+-------+-------------+----------------+
3 rows in set (0.00 sec)

mysql> insert into orders(price, customer_id, salesperson_id) values(1245,3,1);
Query OK, 1 row affected (0.07 sec)

mysql> select * from orders;
+----+-------+-------------+----------------+
| id | price | customer_id | salesperson_id |
+----+-------+-------------+----------------+
|  1 |  1234 |           1 |              2 |
|  2 |  1236 |           2 |              1 |
|  3 |  1240 |           3 |              3 |
|  4 |  1245 |           3 |              1 |
+----+-------+-------------+----------------+
```

5. Find the sales person have multiple orders.

```
mysql> select * from orders where salesperson_id in (select salesperson_id from
orders group by salesperson_id having count(salesperson_id)>1);
+----+-------+-------------+----------------+
| id | price | customer_id | salesperson_id |
+----+-------+-------------+----------------+
|  2 |  1236 |           2 |              1 |
|  4 |  1245 |           3 |              1 |
+----+-------+-------------+----------------+
2 rows in set (0.00 sec)
```

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

```
mysql> select * from salesperson sp inner join orders ord on sp.id = ord.id
    -> ;
+----+--------+-------+----+-------+-------------+----------------+
| id | name   | phone | id | price | customer_id | salesperson_id |
+----+--------+-------+----+-------+-------------+----------------+
|  1 | dinesh |  7896 |  1 |  1234 |           1 |              2 |
|  2 | shyam  |  7898 |  2 |  1236 |           2 |              1 |
|  3 | mahesh |  8000 |  3 |  1240 |           3 |              3 |
+----+--------+-------+----+-------+-------------+----------------+
3 rows in set (0.00 sec)
```

7. Create index

```
mysql> create index sp_index on salesperson(name);
Query OK, 0 rows affected (0.35 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table.

```
mysql> show index from salesperson;
+-------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| Table       | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment
 | Index_comment |
+-------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| salesperson |          0 | PRIMARY  |            1 | id          | A         |           2 |     NULL | NULL   |      | BTREE      |
 |               |
| salesperson |          1 | sp_index |            1 | name        | A         |           3 |     NULL | NULL   |      | BTREE      |
 |               |
+-------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
2 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 cust.name cname, ord.id, sp.name sname from customer cust, orders
ord, salesperson sp where ord.salesperson_id = sp.id and ord.customer_id = cust.
id;
+--------+----+--------+
| cname  | id | sname  |
+--------+----+--------+
| rahul  |  1 | shyam  |
| kunark |  2 | dinesh |
| ram    |  3 | mahesh |
| ram    |  4 | dinesh |
+--------+----+--------+
4 rows in set (0.00 sec)
```