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

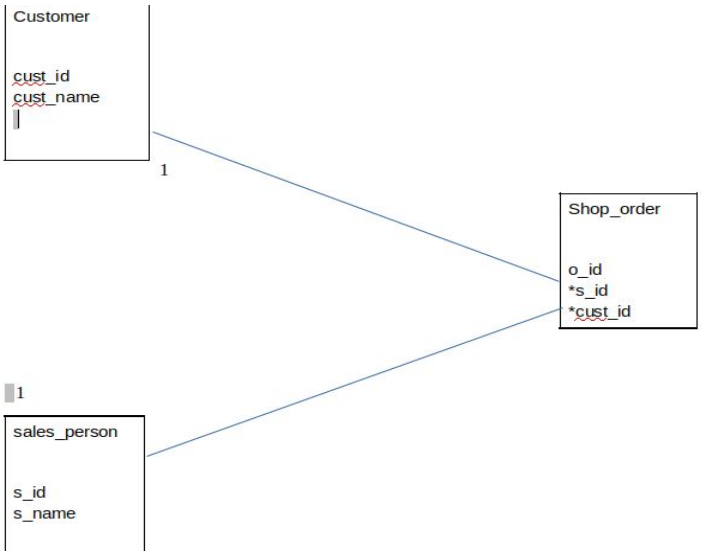
1. Create Database

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

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| d                  |
| mysql              |
| performance_schema |
| sale               |
| sys                |
+--------------------+
6 rows in set (0.00 sec)

mysql>
```

2. Design Schema



3. Create tables

Customer

```
mysql> create table customer (cust_id integer primary key,cust_name varchar(20)
;
Query OK, 0 rows affected (0.47 sec)

mysql> desc customer;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| cust_id   | int(11)     | NO   | PRI | NULL    |       |
| cust_name | varchar(20) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

Salesperson

```
mysql> create table sales_person (s_id integer primary key,s_name varchar(20));
Query OK, 0 rows affected (0.32 sec)

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

Shop_order

```
mysql> create table shop_order (o_id integer primary key, cust_id integer, s_id
integer, foreign key (cust_id) references customer (cust_id), foreign key (s_id)
 references sales_person (s_id));
Query OK, 0 rows affected (0.40 sec)

mysql> desc shop_order;
+---------+---------+------+-----+---------+-------+
| Field   | Type    | Null | Key | Default | Extra |
+---------+---------+------+-----+---------+-------+
| o_id    | int(11) | NO   | PRI | NULL    |       |
| cust_id | int(11) | YES  | MUL | NULL    |       |
| s_id    | int(11) | YES  | MUL | NULL    |       |
+---------+---------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

4. Insert sample data

Data in Customer Table

```
mysql> insert into customer values
    -> (1001, "Ranjeet Sharma"),
    -> (1002, "Tejasvi Arora"),
    -> (1003, "Swaraj Nair");
Query OK, 3 rows affected (0.08 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

Data in sales_person table

```
mysql> insert into sales_person values (1001, "Rakshit Paul"), (1002, "Shikhar A
rora"), (1003, "Mitali Nag");
Query OK, 3 rows affected (0.05 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

Data in shop_order

```
mysql> insert into shop_order values
    -> (1001, 1001, 1001),
    -> (1002, 1001, 1002),
    -> (1003, 1002, 1001),
    -> (1004, 1003, 1001);
Query OK, 4 rows affected (0.05 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

5. Find the sales person have multiple orders.

```
mysql> select s.*, count(sh.o_id) from sales_person s inner join shop_order sh o
n sh.s_id = s.s_id group by sh.s_id having count(sh.o_id) > 1;
+------+--------------+----------------+
| s_id | s_name       | count(sh.o_id) |
+------+--------------+----------------+
| 1001 | Rakshit Paul |              3 |
+------+--------------+----------------+
1 row in set (0.02 sec)
```

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

```
mysql> select sp.*, sh.o_id, sh.cust_id from sales_person sp left join shop_orde
r sh on sp.s_id = sh.s_id;
+------+--------------+------+---------+
| s_id | s_name       | o_id | cust_id |
+------+--------------+------+---------+
| 1001 | Rakshit Paul | 1001 |    1001 |
| 1002 | Shikhar Arora | 1002 |    1001 |
| 1001 | Rakshit Paul | 1003 |    1002 |
| 1001 | Rakshit Paul | 1004 |    1003 |
| 1003 | Mitali Nag   | NULL |    NULL |
+------+--------------+------+---------+
5 rows in set (0.00 sec)
```

7. Create index.

```
mysql> create index ord on shop_order(o_id);
Query OK, 0 rows affected (0.38 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. Show index on a table.

```
mysql> show index from shop_order;
+------------+------------+----------+--------------+-------------+-----------+-
-------------+----------+--------+------+------------+---------+---------------+
| Table      | Non_unique | Key_name | Seq_in_index | Column_name | Collation |
Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+------------+------------+----------+--------------+-------------+-----------+-
-------------+----------+--------+------+------------+---------+---------------+
| shop_order |          0 | PRIMARY  |            1 | o_id        | A         |
          4 |     NULL | NULL   |      | BTREE      |         |               |
| shop_order |          1 | cust_id  |            1 | cust_id     | A         |
          3 |     NULL | NULL   | YES  | BTREE      |         |               |
| shop_order |          1 | s_id     |            1 | s_id        | A         |
          2 |     NULL | NULL   | YES  | BTREE      |         |               |
| shop_order |          1 | ord      |            1 | o_id        | A         |
          4 |     NULL | NULL   |      | BTREE      |         |               |
+------------+------------+----------+--------------+-------------+-----------+-
-------------+----------+--------+------+------------+---------+---------------+
4 rows in set (0.01 sec)
```

9. Find the order number, salesperson name, along with the customer to whom that order belongs to.

```
mysql> select sh.o_id, sp.s_name, cu.cust_name from sales_person sp inner join s
hop_order sh inner join customer cu on sh.s_id = sp.s_id and sh.cust_id = cu.cus
t_id;
+------+--------------+----------------+
| o_id | s_name       | cust_name      |
+------+--------------+----------------+
| 1001 | Rakshit Paul | Ranjeet Sharma |
| 1002 | Shikhar Arora | Ranjeet Sharma |
| 1003 | Rakshit Paul | Tejasvi Arora  |
| 1004 | Rakshit Paul | Swaraj Nair    |
+------+--------------+----------------+
4 rows in set (0.00 sec)
```