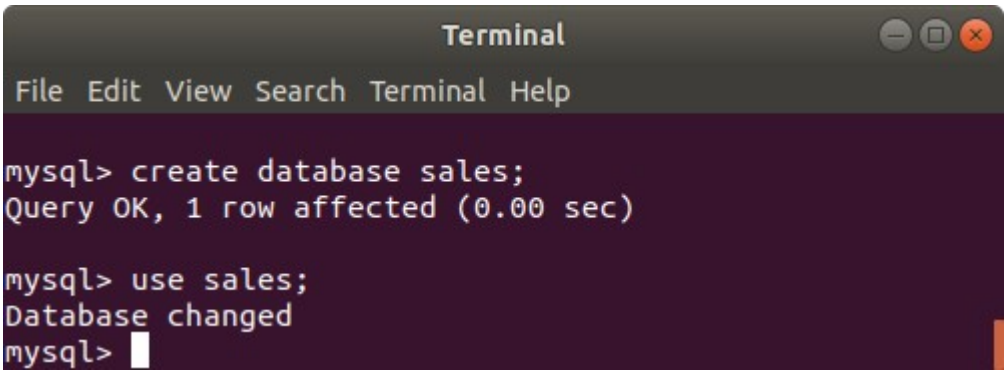
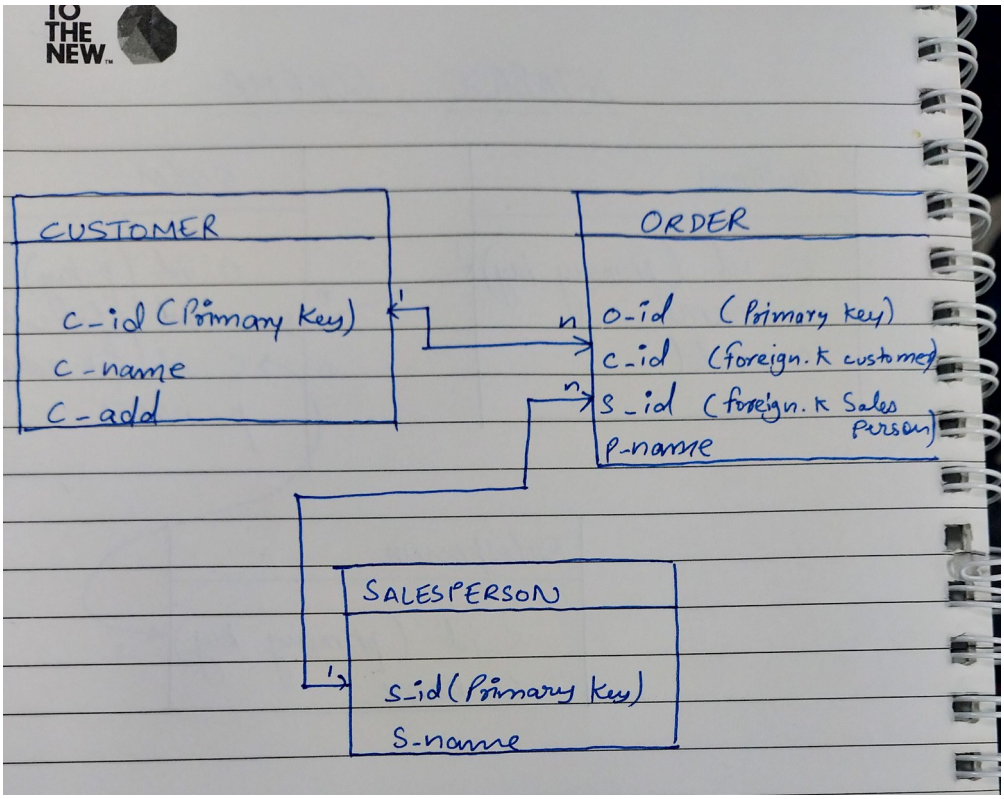
Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers

1. Create Database



2. Design Schema



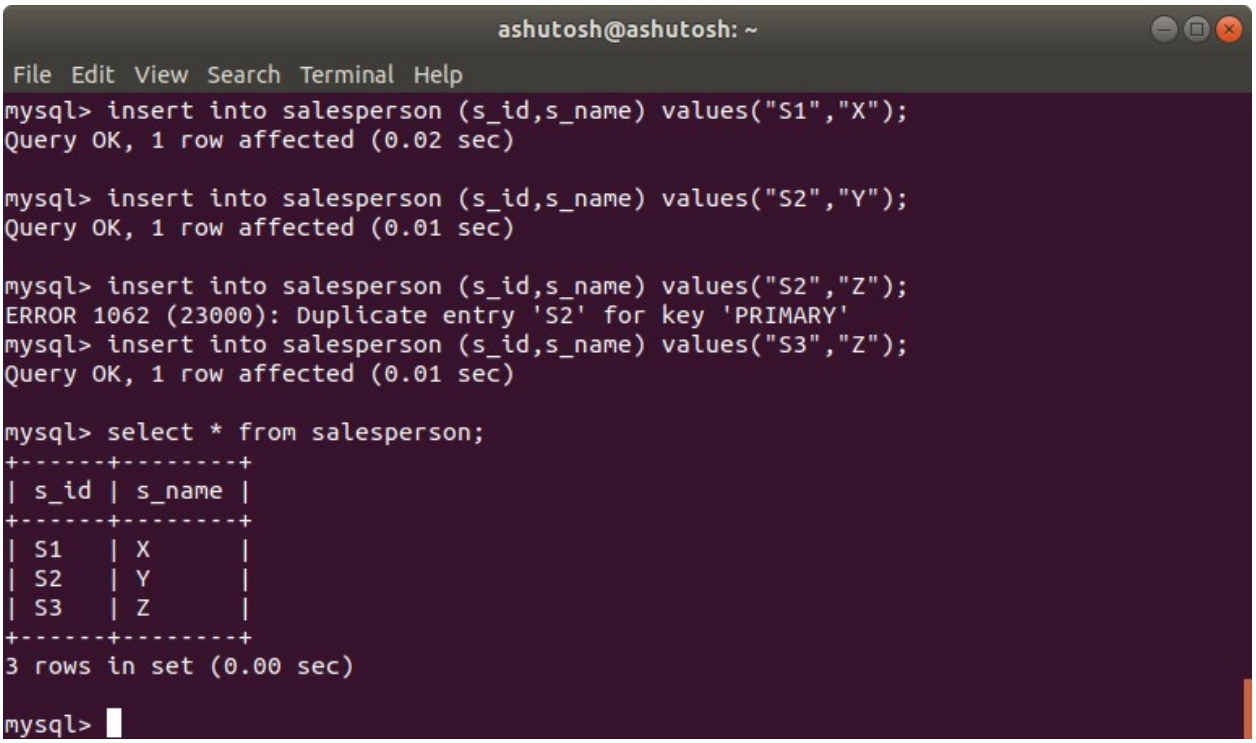
3. Create tables

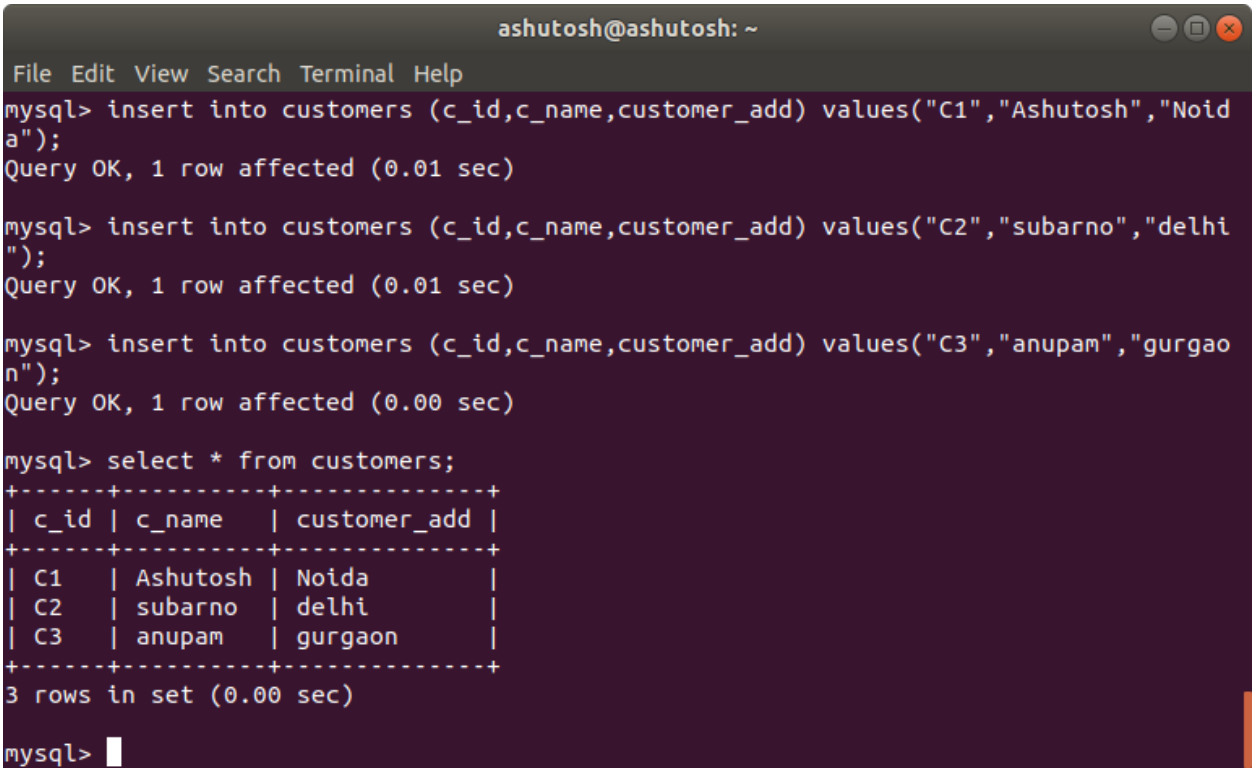
```
mysql> create table customers (c_id varchar(2) primary key,c_name varchar(10), customer_add varchar(10));
Query OK, 0 rows affected (0.03 sec)

mysql> desc customers;
+--------------+------------+------+-----+---------+-------+
| Field        | Type       | Null | Key | Default | Extra |
+--------------+------------+------+-----+---------+-------+
| c_id         | varchar(2)  | NO   | PRI | NULL    |       |
| c_name       | varchar(10) | YES  |     | NULL    |       |
| customer_add | varchar(10) | YES  |     | NULL    |       |
+--------------+------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> create table salesperson (s_id varchar(2) primary key,s_name varchar(10));
Query OK, 0 rows affected (0.03 sec)

mysql> desc salesperson
    -> ;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| s_id   | varchar(2)  | NO   | PRI | NULL    |       |
| s_name | varchar(10) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

```
mysql> desc orders;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| o_id   | varchar(2)  | NO   | PRI | NULL    |       |
| c_id   | varchar(2)  | YES  | MUL | NULL    |       |
| s_id   | varchar(2)  | YES  | MUL | NULL    |       |
| p_name | varchar(10) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

4. Insert sample data


ashutosh@ashutosh: ~
File Edit View Search Terminal Help
mysql> insert into salesperson (s_id,s_name) values("S1","X");
Query OK, 1 row affected (0.02 sec)
mysql> insert into salesperson (s_id,s_name) values("S2","Y");
Query OK, 1 row affected (0.01 sec)
mysql> insert into salesperson (s_id,s_name) values("S2","Z");
ERROR 1062 (23000): Duplicate entry 'S2' for key 'PRIMARY'
mysql> insert into salesperson (s_id,s_name) values("S3","Z");
Query OK, 1 row affected (0.01 sec)
mysql> select * from salesperson;
+------+--------+
| s_id | s_name |
+------+--------+
S1	X
S2	Y
S3	Z
+------+--------+
3 rows in set (0.00 sec)
mysql>


ashutosh@ashutosh: ~
File Edit View Search Terminal Help
mysql> insert into customers (c_id,c_name,customer_add) values("C1","Ashutosh","Noid
a");
Query OK, 1 row affected (0.01 sec)
mysql> insert into customers (c_id,c_name,customer_add) values("C2","subarno","delhi
");
Query OK, 1 row affected (0.01 sec)
mysql> insert into customers (c_id,c_name,customer_add) values("C3","anupam","gurgao
n");
Query OK, 1 row affected (0.00 sec)
mysql> select * from customers;
+------+----------+--------------+
| c_id | c_name | customer_add |
+------+----------+--------------+
C1	Ashutosh	Noida
C2	subarno	delhi
C3	anupam	gurgaon
+------+----------+--------------+
3 rows in set (0.00 sec)
mysql>

```
ashutosh@ashutosh: ~
File  Edit  View  Search  Terminal  Help
| s_id   | varchar(2)  | YES  | MUL | NULL    |       |
| p_name | varchar(10) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> insert into orders (o_id,c_id,s_id,p_name) values("O1","C3","S2","car");
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders (o_id,c_id,s_id,p_name) values("O2","C1","S2","pencil");
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders (o_id,c_id,s_id,p_name) values("O3","C2","S1","phone");
Query OK, 1 row affected (0.02 sec)

mysql>
mysql> insert into orders (o_id,c_id,s_id,p_name) values("O4","C1","S3","pen");
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders (o_id,c_id,s_id,p_name) values("O5","C2","S3","pen");
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders (o_id,c_id,s_id,p_name) values("O6","C2","S2","pant");
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+------+------+------+--------+
| o_id | c_id | s_id | p_name |
+------+------+------+--------+
| O1   | C3   | S2   | car    |
| O2   | C1   | S2   | pencil |
| O3   | C2   | S1   | phone  |
| O4   | C1   | S3   | pen    |
| O5   | C2   | S3   | pen    |
| O6   | C2   | S2   | pant   |
+------+------+------+--------+
6 rows in set (0.00 sec)

mysql>
```

5. Find the sales person have multiple orders.

```
Terminal
File  Edit  View  Search  Terminal  Help

mysql> select s.s_id,s.s_name from salesperson s left join orders o on s.s_id = o.
s_id group by s.s_id having count(*) > 1;
+------+--------+
| s_id | s_name |
+------+--------+
| S2   | Y      |
| S3   | Z      |
+------+--------+
2 rows in set (0.00 sec)

mysql>
```

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

```
Terminal
File  Edit  View  Search  Terminal  Help
mysql> select s.s_id,s.s_name,o.o_id,o.c_id,o.p_name from salesperson s inner join
 orders o on s.s_id = o.s_id;
+------+--------+------+------+--------+
| s_id | s_name | o_id | c_id | p_name |
+------+--------+------+------+--------+
| S2   | Y      | O1   | C3   | car    |
| S2   | Y      | O2   | C1   | pencil |
| S1   | X      | O3   | C2   | phone  |
| S3   | Z      | O4   | C1   | pen    |
| S3   | Z      | O5   | C2   | pen    |
| S2   | Y      | O6   | C2   | pant   |
+------+--------+------+------+--------+
6 rows in set (0.01 sec)

mysql>
```

7. Create index

```
mysql> alter table customers add index customer(c_name);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table

```
mysql> mysql> show index from customers;
+-----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------
-------+
| Table     | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_c
omment |
+-----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------
-------+
| customers |          0 | PRIMARY  |            1 | c_id        | A         |           2 |     NULL | NULL   |      | BTREE      |         |
       |
| customers |          1 | customer |            1 | c_name      | A         |           2 |     NULL | NULL   | YES  | 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 o_id , s_name, c_name from customers c inner join orders o o
n c.c_id = o.c_id inner join salesperson s on o.s_id = s.s_id;
+------+--------+----------+
| o_id | s_name | c_name   |
+------+--------+----------+
| 03   | X      | subarno  |
| 01   | Y      | anupam   |
| 02   | Y      | Ashutosh |
| 06   | Y      | subarno  |
| 04   | Z      | Ashutosh |
| 05   | Z      | subarno  |
+------+--------+----------+
6 rows in set (0.01 sec)
```