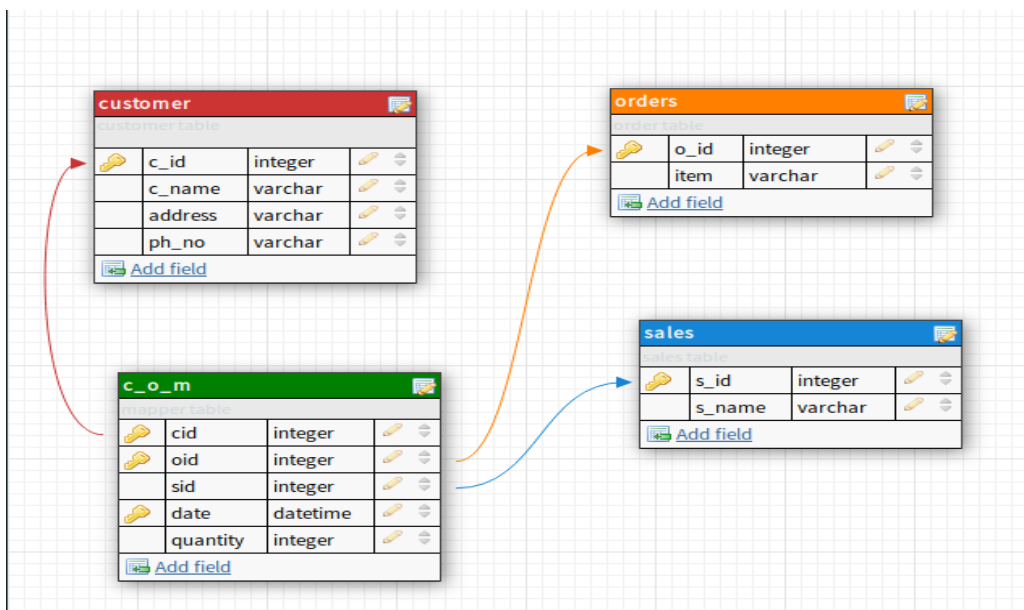Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multile customers

1. Create Database

2.Design Schema

in c_o_m table cid,oid,date will act as a composite primary key for the table.
Command
alter table c_o_m add constraint com_id primary key(cid,oid,date);

3.Create tables


```
ttn@ttn: ~
File  Edit  View  Search  Terminal  Help
mysql> use mydb;
Database changed
mysql> create table if not exists customer(
    -> c_id int not null auto_increment,
    -> c_name varchar(255),
    -> ph_no varchar(255),
    -> address varchar(255),
    -> primary key(c_id)
    -> )
    -> ;
Query OK, 0 rows affected (0.33 sec)

mysql> desc customer
    -> ;
+---------+--------------+------+-----+---------+----------------+
| Field   | Type         | Null | Key | Default | Extra          |
+---------+--------------+------+-----+---------+----------------+
| c_id    | int(11)      | NO   | PRI | NULL    | auto_increment |
| c_name  | varchar(255) | YES  |     | NULL    |                |
| ph_no   | varchar(255) | YES  |     | NULL    |                |
| address | varchar(255) | YES  |     | NULL    |                |
+---------+--------------+------+-----+---------+----------------+
4 rows in set (0.01 sec)
```



```
ttn@ttn: ~
File  Edit  View  Search  Terminal  Help
mysql> use mydb
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> create table if not exists orders(
    -> o_id int not null auto_increment,
    -> item varchar(255),
    -> primary key(o_id));
Query OK, 0 rows affected (0.32 sec)

mysql> desc orders;
+-------+--------------+------+-----+---------+----------------+
| Field | Type         | Null | Key | Default | Extra          |
+-------+--------------+------+-----+---------+----------------+
| o_id  | int(11)      | NO   | PRI | NULL    | auto_increment |
| item  | varchar(255) | YES  |     | NULL    |                |
+-------+--------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)

mysql>
```



```
ttn@ttn: ~
File  Edit  View  Search  Terminal  Help
mysql> create table if not exists sales( s_id int not null, s_name varchar(255),
 primary key(s_id));
Query OK, 0 rows affected (0.41 sec)

mysql> show tables;
+----------------+
| Tables_in_mydb |
+----------------+
| customer       |
| orders         |
| sales          |
+----------------+
3 rows in set (0.01 sec)

mysql> desc sales;
+--------+--------------+------+-----+---------+-------+
| Field  | Type         | Null | Key | Default | Extra |
+--------+--------------+------+-----+---------+-------+
| s_id   | int(11)      | NO   | PRI | NULL    |       |
| s_name | varchar(255) | YES  |     | NULL    |       |
+--------+--------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql>
```

```
mysql> create table if not exists c_o_s(
    -> com_id int not null,
    -> cid int,
    -> sid int,
    -> oid int,
    -> quantity int,
    -> primary key(com_id),
    -> foreign key(sid) references sales(s_id),
    -> foreign key(oid) references orders(o_id),
    -> foreign key(cid) references customer(cid));
Query OK, 0 rows affected (0.50 sec)

mysql> desc c_o_s
    -> ;
+----------+----------+------+-----+---------+-------+
| Field    | Type     | Null | Key | Default | Extra |
+----------+----------+------+-----+---------+-------+
| com_id   | int(11)  | NO   | PRI | NULL    |       |
| cid      | int(11)  | YES  | MUL | NULL    |       |
| sid      | int(11)  | YES  | MUL | NULL    |       |
| oid      | int(11)  | YES  | MUL | NULL    |       |
| quantity | int(11)  | YES  |     | NULL    |       |
+----------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

4.Insert sample data

```
                            ttn@ttn: ~                           _  □  ✗
File  Edit  View  Search  Terminal  Help
mysql> desc customer;
+---------+--------------+------+-----+---------+----------------+
| Field   | Type         | Null | Key | Default | Extra          |
+---------+--------------+------+-----+---------+----------------+
| cid     | int(11)      | NO   | PRI | NULL    | auto_increment |
| c_name  | varchar(255) | YES  |     | NULL    |                |
| ph_no   | varchar(255) | YES  |     | NULL    |                |
| adress  | varchar(255) | YES  |     | NULL    |                |
+---------+--------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)

mysql> insert into customer values(
    -> "souvik","1234","gahziabad");
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> insert into customer values(1,"souvik","1234","gahziabad");
Query OK, 1 row affected (0.09 sec)

mysql> insert into customer values("dhruv","2345","sahibabad");
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> insert into customer values(2,"dhruv","2345","sahibabad");
Query OK, 1 row affected (0.05 sec)

mysql> insert into customer values(2,"deepak","3456","gurgaon");
ERROR 1062 (23000): Duplicate entry '2' for key 'PRIMARY'
mysql> insert into customer values(3,"deepak","3456","gurgaon");
Query OK, 1 row affected (0.08 sec)

mysql> insert into customer values(4,"deepika","0456","palam");
Query OK, 1 row affected (0.06 sec)

mysql>
```

```
                            ttn@ttn: ~                           _  □  ✗
File  Edit  View  Search  Terminal  Help
mysql> select * from customer;
+-----+---------+-------+-----------+
| cid | c_name  | ph_no | adress    |
+-----+---------+-------+-----------+
|   1 | souvik  | 1234  | gahziabad |
|   2 | dhruv   | 2345  | sahibabad |
|   3 | deepak  | 3456  | gurgaon   |
|   4 | deepika | 0456  | palam     |
+-----+---------+-------+-----------+
4 rows in set (0.00 sec)

mysql>
```

```
File  Edit  View  Search  Terminal  Help
mysql> desc orders;
+--------+--------------+------+-----+---------+----------------+
| Field  | Type         | Null | Key | Default | Extra          |
+--------+--------------+------+-----+---------+----------------+
| o_id   | int(11)      | NO   | PRI | NULL    | auto_increment |
| item   | varchar(255) | YES  |     | NULL    |                |
+--------+--------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)

mysql> insert into orders values(10,"shoe1");
Query OK, 1 row affected (0.07 sec)

mysql> insert into orders values(11,"shoe2");
Query OK, 1 row affected (0.07 sec)

mysql> insert into orders values(12,"shoe3");
Query OK, 1 row affected (0.06 sec)

mysql> insert into orders values(13,"shoe4");
Query OK, 1 row affected (0.06 sec)

mysql> select * from orders;
+------+-------+
| o_id | item  |
+------+-------+
|   10 | shoe1 |
|   11 | shoe2 |
|   12 | shoe3 |
|   13 | shoe4 |
+------+-------+
4 rows in set (0.00 sec)

mysql>
```

```
                                ttn@ttn: ~                          _  □  ✕
File  Edit  View  Search  Terminal  Help
mysql> insert into sales values( 66,"flipkart"),
    -> (67,"amazon"),
    -> (68,"snapdeal");
Query OK, 3 rows affected (0.05 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from sales;
+------+----------+
| s_id | s_name   |
+------+----------+
|   66 | flipkart |
|   67 | amazon   |
|   68 | snapdeal |
+------+----------+
3 rows in set (0.00 sec)

mysql>
```

```
                                    ttn@ttn: ~                          _  □  ×
 File  Edit  View  Search  Terminal  Help
mysql> desc c_o_s;
+----------+----------+------+-----+---------+-------+
| Field    | Type     | Null | Key | Default | Extra |
+----------+----------+------+-----+---------+-------+
| com_id   | int(11)  | NO   | PRI | NULL    |       |
| cid      | int(11)  | YES  | MUL | NULL    |       |
| sid      | int(11)  | YES  | MUL | NULL    |       |
| oid      | int(11)  | YES  | MUL | NULL    |       |
| quantity | int(11)  | YES  |     | NULL    |       |
+----------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> select * from c_o_s;
+----------+-------+-------+-------+----------+
| com_id   | cid   | sid   | oid   | quantity |
+----------+-------+-------+-------+----------+
|     100  |   1   |   66  |   10  |       1  |
|     101  |   2   |   67  |   11  |       2  |
|     102  |   3   |   68  |   12  |       1  |
|     103  |   4   |   66  |   13  |       2  |
|     104  |   1   |   67  |   11  |       1  |
|     105  |   1   |   68  |   12  |       2  |
|     106  |   1   |   66  |   13  |       1  |
|     107  |   2   |   67  |   10  |       2  |
|     108  |   2   |   68  |   12  |       1  |
|     109  |   2   |   66  |   13  |       2  |
+----------+-------+-------+-------+----------+
10 rows in set (0.00 sec)

mysql> []
```

5.Find the sales person have multiple orders.

```
mysql> select c_o_s.sid,count(c_o_s.sid) from sales join c_o_s on sales.s_id=c_o
_s.sid group by c_o_s.sid;
+------+------------------+
| sid  | count(c_o_s.sid) |
+------+------------------+
|   66 |                4 |
|   67 |                4 |
|   68 |                3 |
|   69 |                1 |
+------+------------------+
4 rows in set (0.00 sec)

mysql> select c_o_s.sid,count(c_o_s.sid) from sales join c_o_s on sales.s_id=c_o
_s.sid group by c_o_s.sid having count(c_o_s.sid) > 1;
+------+------------------+
| sid  | count(c_o_s.sid) |
+------+------------------+
|   66 |                4 |
|   67 |                4 |
|   68 |                3 |
+------+------------------+
3 rows in set (0.00 sec)

mysql> []
```

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

```
                                    ttn@ttn: ~                          _  □  ×
 File  Edit  View  Search  Terminal  Help
mysql> select sales.s_name,orders.item,c_o_s.quantity from c_o_s join sales on s
ales.s_id join orders on orders.o_id=c_o_s.oid;
+----------+-------+----------+
| s_name   | item  | quantity |
+----------+-------+----------+
| flipkart | shoe1 |        1 |
| amazon   | shoe1 |        1 |
| snapdeal | shoe1 |        1 |
| ebay     | shoe1 |        1 |
| flipkart | shoe2 |        2 |
| amazon   | shoe2 |        2 |
| snapdeal | shoe2 |        2 |
| ebay     | shoe2 |        2 |
| flipkart | shoe3 |        1 |
| amazon   | shoe3 |        1 |
| snapdeal | shoe3 |        1 |
| ebay     | shoe3 |        1 |
| flipkart | shoe4 |        2 |
| amazon   | shoe4 |        2 |
| snapdeal | shoe4 |        2 |
| ebay     | shoe4 |        2 |
| flipkart | shoe2 |        1 |
| amazon   | shoe2 |        1 |
| snapdeal | shoe2 |        1 |
```

7.Create index

8.show index

```
                              ttn@ttn: ~                    _  □  ×

 File  Edit  View  Search  Terminal  Help
 mysql> alter table customer add index c_name(c_name);
 Query OK, 0 rows affected (0.33 sec)
 Records: 0  Duplicates: 0  Warnings: 0

 mysql> show index customer;
 ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
 corresponds to your MySQL server version for the right syntax to use near 'custo
 mer' at line 1
 mysql> show index from customer;
 +----------+------------+----------+--------------+-------------+-------------+---
 ----------+------------+----------+------+-------------+-------------+
 | Table    | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Ca
 rdinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
 +----------+------------+----------+--------------+-------------+-------------+---
 ----------+------------+----------+------+-------------+-------------+
 | customer |          0 | PRIMARY  |            1 | cid         | A         |
        4 |    NULL | NULL   |      | BTREE      |         |               |
 | customer |          1 | c_name   |            1 | c_name      | A         |
        4 |    NULL | NULL   | YES  | BTREE      |         |               |
 +----------+------------+----------+--------------+-------------+-------------+---
 ----------+------------+----------+------+-------------+-------------+
 2 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

```
                              ttn@ttn: ~                    _  □  ×

 File  Edit  View  Search  Terminal  Help

 mysql> select c_o_s.com_id,customer.c_name,customer.ph_no,customer.adress,orders
 .o_id,orders.item,sales.s_name from c_o_s  join customer on c_o_s.cid=customer.c
 id                                         join orders on c_o_s.oid=orders.o_id
                                            join sales on c_o_s.sid=sales.s_id ;
 +--------+---------+-------+-----------+------+-------+----------+
 | com_id | c_name  | ph_no | adress    | o_id | item  | s_name   |
 +--------+---------+-------+-----------+------+-------+----------+
 |    100 | souvik  | 1234  | gahziabad |   10 | shoe1 | flipkart |
 |    101 | dhruv   | 2345  | sahibabad |   11 | shoe2 | amazon   |
 |    102 | deepak  | 3456  | gurgaon   |   12 | shoe3 | snapdeal |
 |    103 | deepika | 0456  | palam     |   13 | shoe4 | flipkart |
 |    104 | souvik  | 1234  | gahziabad |   11 | shoe2 | amazon   |
 |    105 | souvik  | 1234  | gahziabad |   12 | shoe3 | snapdeal |
 |    106 | souvik  | 1234  | gahziabad |   13 | shoe4 | flipkart |
 |    107 | dhruv   | 2345  | sahibabad |   10 | shoe1 | amazon   |
 |    108 | dhruv   | 2345  | sahibabad |   12 | shoe3 | snapdeal |
 |    109 | dhruv   | 2345  | sahibabad |   13 | shoe4 | flipkart |
 |    110 | deepika | 0456  | palam     |   10 | shoe1 | amazon   |
 |    111 | deepika | 0456  | palam     |   13 | shoe4 | ebay     |
 +--------+---------+-------+-----------+------+-------+----------+
 12 rows in set (0.00 sec)

 mysql> ▯
```