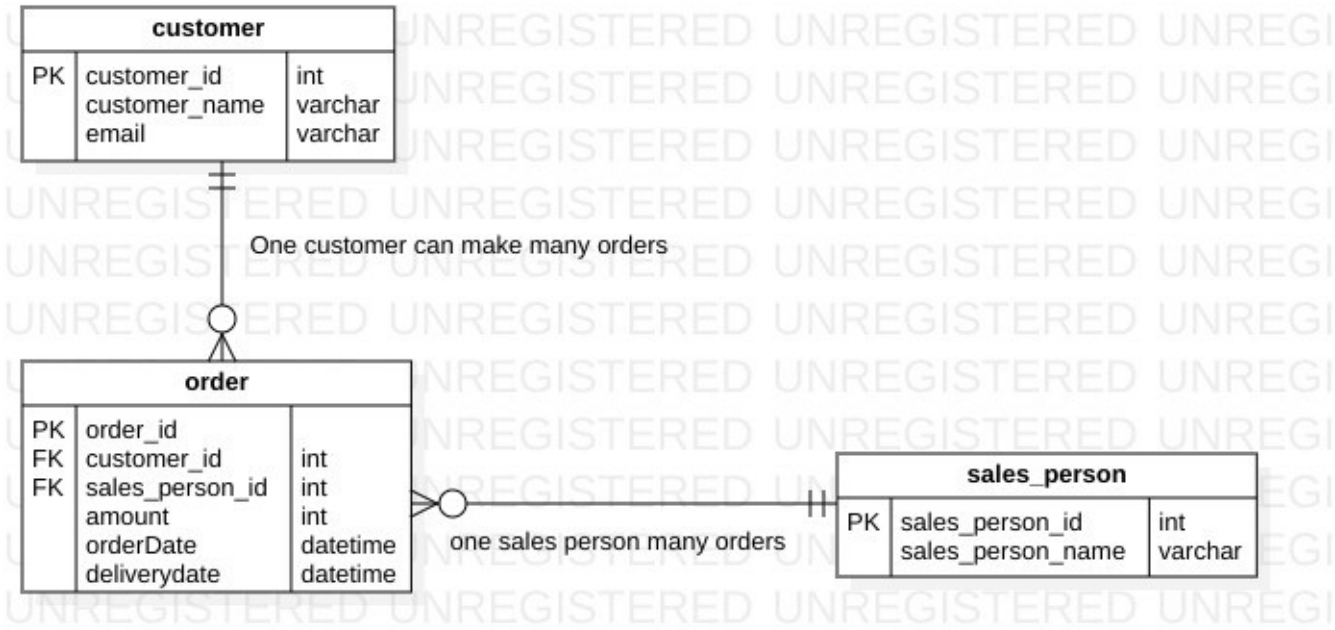
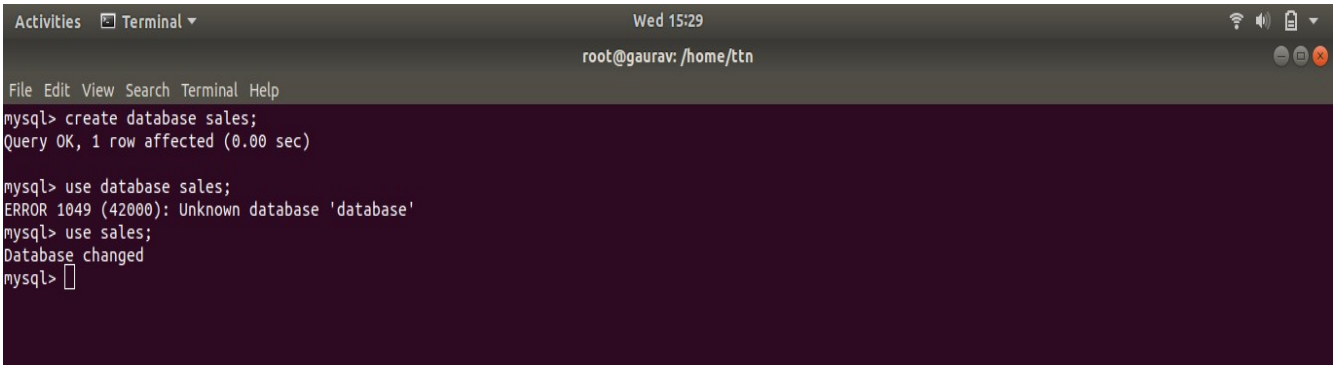
Problem Statement:

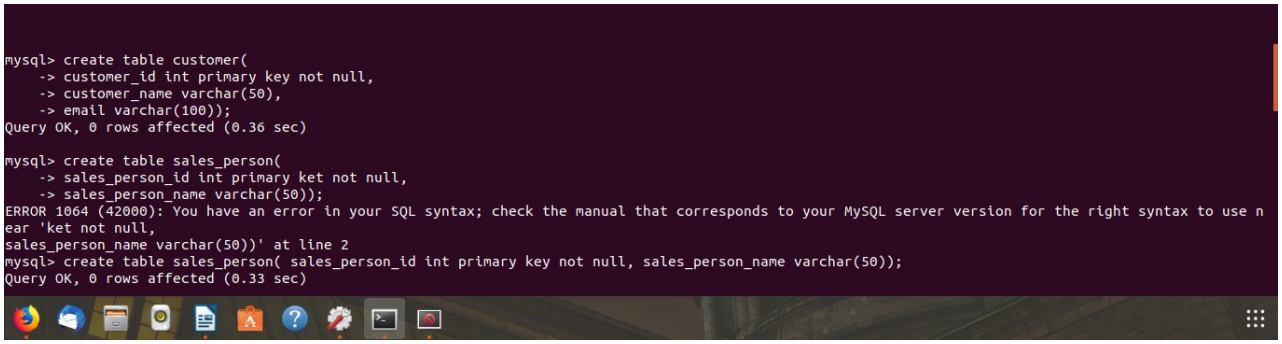
There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers



1. Create Database



2. Design Schema Create tables



```
mysql> create table orders( order_id int primary key not null, customer_id int not null references customer(customer_id), sales_person_id int not null
 references sales_person(sales_person_id), amount int);
Query OK, 0 rows affected (0.41 sec)

mysql> desc sales
sales                         sales_person.sales_person_id   sales_person_id
sales_person                  sales_person.sales_person_name sales_person_name
mysql> desc sales_person
sales_person                  sales_person.sales_person_name sales_person_name
sales_person.sales_person_id  sales_person_id
mysql> desc sales_person;
+-------------------+-------------+------+-----+---------+-------+
| Field             | Type        | Null | Key | Default | Extra |
+-------------------+-------------+------+-----+---------+-------+
| sales_person_id   | int(11)     | NO   | PRI | NULL    |       |
| sales_person_name | varchar(50) | YES  |     | NULL    |       |
+-------------------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)

mysql>
```

3. Insert sample data

```
mysql> insert into customer values (1,'Yatin Ajmani','yatin@tothenew.com')
    -> ;
Query OK, 1 row affected (0.05 sec)

mysql> insert into customer values (2,'Deepika Yadav','deepika.yadav@tothenew.com');
Query OK, 1 row affected (0.04 sec)

mysql> insert into customer values (3,'Vishakha Mishra','vishakha.mishra@tothenew.com');
Query OK, 1 row affected (0.05 sec)

mysql> insert into customer values (4,'Sid Gupta','sid.gupta@tothenew.com');
Query OK, 1 row affected (0.05 sec)

mysql> insert into customer values (5,'Gaurav Gandhi','gaurav.gandhi@tothenew.com');
Query OK, 1 row affected (0.03 sec)

mysql> insert into sales_person values(1,'Shahrukh Khan');
Query OK, 1 row affected (0.05 sec)

mysql> insert into sales_person values(2,'Salman Khan');
Query OK, 1 row affected (0.06 sec)

mysql> insert into sales_person values(3,'Amir Khan');
Query OK, 1 row affected (0.06 sec)

mysql> insert into sales_person values(4,'Saif Ali Khan');
Query OK, 1 row affected (0.05 sec)

mysql> insert into sales_person values(5,'Imraan Ali Khan');
Query OK, 1 row affected (0.05 sec)

mysql>
```

```
mysql> insert into orders values (1,1,1,1000);
Query OK, 1 row affected (0.24 sec)

mysql> insert into orders values (2,1,3,10000);
Query OK, 1 row affected (0.04 sec)

mysql> insert into orders values (3,1,5,10000);
Query OK, 1 row affected (0.06 sec)

mysql> insert into orders values (4,2,5,10000);
Query OK, 1 row affected (0.08 sec)

mysql> insert into orders values (4,2,1,500);
ERROR 1062 (23000): Duplicate entry '4' for key 'PRIMARY'
mysql> insert into orders values (5,2,1,500);
Query OK, 1 row affected (0.05 sec)

mysql> insert into orders values (6,3,2,500);
Query OK, 1 row affected (0.06 sec)

mysql> insert into orders values (7,4,3,500);
Query OK, 1 row affected (0.06 sec)

mysql> insert into orders values (7,4,3,400);
ERROR 1062 (23000): Duplicate entry '7' for key 'PRIMARY'
mysql> insert into orders values (7,4,3,400);
ERROR 1062 (23000): Duplicate entry '7' for key 'PRIMARY'
mysql> insert into orders values (8,4,3,400);
Query OK, 1 row affected (0.06 sec)

mysql> insert into orders values (9,5,5,800);
Query OK, 1 row affected (0.04 sec)

mysql>
```

4. Find the sales person have multiple orders.

```
mysql> select s.sales_person_id,s.sales_person_name from orders o inner join sales_person s where o.sales_person_id = s.sales_person_id group by s.sal
es_person_id having count(*)>1;
+----------------+------------------+
| sales_person_id | sales_person_name |
+----------------+------------------+
|              1 | Shahrukh Khan    |
|              3 | Amir Khan        |
|              5 | Imraan Ali Khan  |
+----------------+------------------+
3 rows in set (0.00 sec)

mysql>
```

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

```
mysql> select * from sales_person s inner join orders o where s.sales_person_id = o.sales_person_id ;
+----------------+------------------+----------+------------+----------------+--------+
| sales_person_id | sales_person_name | order_id | customer_id | sales_person_id | amount |
+----------------+------------------+----------+------------+----------------+--------+
|              1 | Shahrukh Khan    |        1 |          1 |              1 |   1000 |
|              3 | Amir Khan        |        2 |          1 |              3 |  10000 |
|              5 | Imraan Ali Khan  |        3 |          1 |              5 |  10000 |
|              5 | Imraan Ali Khan  |        4 |          2 |              5 |  10000 |
|              1 | Shahrukh Khan    |        5 |          2 |              1 |    500 |
|              2 | Salman Khan      |        6 |          3 |              2 |    500 |
|              3 | Amir Khan        |        7 |          4 |              3 |    500 |
|              3 | Amir Khan        |        8 |          4 |              3 |    400 |
|              5 | Imraan Ali Khan  |        9 |          5 |              5 |    800 |
+----------------+------------------+----------+------------+----------------+--------+
9 rows in set (0.00 sec)

mysql>
```

6. Create index

```
mysql> create index customer_email_index on customer(customer_name);
Query OK, 0 rows affected (0.30 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> create index sales_person_name_index on sales_person(sales_person_name);
Query OK, 0 rows affected (0.38 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
```

7. How to show index on a table

```
mysql> show index from customer from sales;
+----------+------------+---------------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table    | Non_unique | Key_name            | Seq_in_index | Column_name   | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+----------+------------+---------------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| customer |          0 | PRIMARY             |            1 | customer_id   | A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
| customer |          1 | customer_email_index |            1 | customer_name | A         |           5 |     NULL | NULL   | YES  | BTREE      |         |               |
+----------+------------+---------------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)

mysql> show index from sales_person from sales;
+--------------+------------+-------------------------+--------------+------------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table        | Non_unique | Key_name                | Seq_in_index | Column_name      | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+--------------+------------+-------------------------+--------------+------------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| sales_person |          0 | PRIMARY                 |            1 | sales_person_id  | A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
| sales_person |          1 | sales_person_name_index |            1 | sales_person_name | A         |           5 |     NULL | NULL   | YES  | BTREE      |         |               |
+--------------+------------+-------------------------+--------------+------------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)

mysql>
```

8. Find the order number, sale person name, along with the customer to whom that order belongs to

```
mysql> select * from customer c inner join  orders o inner join  sales_person s where c.customer_id = o.customer_id and  o.sales_person_id = s.sales_person_id;
+-------------+---------------+-----------------------------+----------+-------------+----------------+--------+----------------+----------------+
| customer_id | customer_name | email                       | order_id | customer_id | sales_person_id | amount | sales_person_id | sales_person_name |
+-------------+---------------+-----------------------------+----------+-------------+----------------+--------+----------------+----------------+
|           1 | Yatin Ajmani  | yatin@tothenew.com          |        1 |           1 |               1 |   1000 |               1 | Shahrukh Khan  |
|           1 | Yatin Ajmani  | yatin@tothenew.com          |        2 |           1 |               3 |  10000 |               3 | Amir Khan      |
|           1 | Yatin Ajmani  | yatin@tothenew.com          |        3 |           1 |               5 |  10000 |               5 | Imraan Ali Khan |
|           2 | Deepika Yadav | deepika.yadav@tothenew.com  |        4 |           2 |               5 |  10000 |               5 | Imraan Ali Khan |
|           2 | Deepika Yadav | deepika.yadav@tothenew.com  |        5 |           2 |               1 |    500 |               1 | Shahrukh Khan  |
|           3 | Vishakha Mishra | vishakha.mishra@tothenew.com |        6 |           3 |               2 |    500 |               2 | Salman Khan    |
|           4 | Sid Gupta     | sid.gupta@tothenew.com      |        7 |           4 |               3 |    500 |               3 | Amir Khan      |
|           4 | Sid Gupta     | sid.gupta@tothenew.com      |        8 |           4 |               3 |    400 |               3 | Amir Khan      |
|           5 | Gaurav Gandhi | gaurav.gandhi@tothenew.com  |        9 |           5 |               5 |    800 |               5 | Imraan Ali Khan |
+-------------+---------------+-----------------------------+----------+-------------+----------------+--------+----------------+----------------+
9 rows in set (0.00 sec)

mysql>
```