DATABASES EXERCISE,NISHANT VERMA

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> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| db_session         |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

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

2.Design Schema

```
mysql> describe customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| c_id    | bigint(20)  | NO   | PRI | NULL    |       |
| name    | varchar(50) | YES  |     | NULL    |       |
| pincode | int(20)     | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> describe salesperson;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| s_id   | bigint(20)  | NO   | PRI | NULL    |       |
| s_name | varchar(50) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> describe orders;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| c_id  | bigint(20)  | NO   | MUL | NULL    |       |
| s_id  | bigint(20)  | NO   | MUL | NULL    |       |
| o_id  | bigint(20)  | NO   | PRI | NULL    |       |
| item  | varchar(40) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

3.Create tables

```
mysql> create table customer(c_id bigint(20) NOT NULL, name varchar(50), pincode int(20),primary key(c_id));
Query OK, 0 rows affected (0.04 sec)

mysql> create table salesperson(s_id bigint(20) NOT NULL, s_name varchar(50),primary key(s_id));
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> create table orders(c_id bigint(20) NOT NULL,s_id bigint(20) NOT NULL,o_id bigint(20) NOT NULL,item varchar(40),primary key(o_id));
Query OK, 0 rows affected (0.05 sec)

mysql> ALTER TABLE orders add foreign key(s_id) references salesperson(s_id);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE orders add foreign key(c_id) references customer(c_id);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

4.Insert sample data

```
mysql> insert into customer values(1,'nishant',110075);
Query OK, 1 row affected (0.04 sec)

mysql> insert into customer values(2,'nikhil',110018);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3,'nehal',110023);
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesperson values(1,'nehal');
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesperson values(2,'vishal');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson values(3,'harsh');
Query OK, 1 row affected (0.01 sec)
```

5.Find the sales person have multiple orders.

```
mysql> select * from orders as o1 inner join orders as o2 on o1.s_id = o2.s_id and o1.o_id <> o2.o_id;
+------+------+------+---------+------+------+------+---------+
| c_id | s_id | o_id | item    | c_id | s_id | o_id | item    |
+------+------+------+---------+------+------+------+---------+
|    1 |    2 |    4 | toy     |    2 |    2 |    2 | banana  |
|    2 |    2 |    2 | banana  |    1 |    2 |    4 | toy     |
+------+------+------+---------+------+------+------+---------+
2 rows in set (0.00 sec)
```

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

```
ERROR 1146 (42S02): Table  'ecommerce.border'  doesn't exist
mysql> select * from salesperson LEFT OUTER JOIN orders on salesperson.s_id = orders.s_id;
+------+----------+------+------+------+---------+
| s_id | s_name   | c_id | s_id | o_id | item    |
+------+----------+------+------+------+---------+
|    3 | harsh    |    1 |    3 |    1 | apple   |
|    2 | vishal   |    2 |    2 |    2 | banana  |
|    1 | nehal    |    3 |    1 |    3 | orange  |
|    2 | vishal   |    1 |    2 |    4 | toy     |
+------+----------+------+------+------+---------+
4 rows in set (0.00 sec)
```

7.Create index

```
mysql> CREATE INDEX i1 on customer(c_id);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show indexes from customer;
+----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| 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 | c_id        | A         |           2 |     NULL | NULL   |      | BTREE      |         |               |
| customer |          1 | i1       |            1 | c_id        | A         |           3 |     NULL | NULL   |      | BTREE      |         |               |
+----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.01 sec)
```

8.How to show index on a table

```
mysql> CREATE INDEX i1 on customer(c_id);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show indexes from customer;
+----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| 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 | c_id        | A         |           2 |     NULL | NULL   |      | BTREE      |         |               |
| customer |          1 | i1       |            1 | c_id        | A         |           3 |     NULL | NULL   |      | BTREE      |         |               |
+----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.01 sec)
```

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

```
mysql> select orders.o_id,salesperson.s_name,customer.name from customer natural join orders natural join salesperson;
+------+--------+---------+
| o_id | s_name | name    |
+------+--------+---------+
|    1 | harsh  | nishant |
|    2 | vishal | nikhil  |
|    3 | nehal  | nehal   |
|    4 | vishal | nishant |
+------+--------+---------+
4 rows in set (0.00 sec)
```