ASSIGNMENT-3

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 assignment3db;
Query OK, 1 row affected (0.00 sec)

mysql>
```

2. Design Schema

```
mysql> show tables;
+-------------------------+
| Tables_in_assignment3db |
+-------------------------+
| customer                |
| orders                  |
| salesperson             |
+-------------------------+
3 rows in set (0.00 sec)

mysql> desc customer;
+----------+-------------+------+-----+---------+----------------+
| Field    | Type        | Null | Key | Default | Extra          |
+----------+-------------+------+-----+---------+----------------+
| cus_id   | bigint(20)  | NO   | PRI | NULL    | auto_increment |
| cus_name | varchar(50) | NO   |     | NULL    |                |
+----------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)

mysql> desc orders;
+----------+------------+------+-----+---------+----------------+
| Field    | Type       | Null | Key | Default | Extra          |
+----------+------------+------+-----+---------+----------------+
| order_id | bigint(20) | NO   | PRI | NULL    | auto_increment |
| s_id     | bigint(20) | YES  | MUL | NULL    |                |
| cus_id   | bigint(20) | YES  | MUL | NULL    |                |
+----------+------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

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

3. Create tables

```
mysql> create table customer (cus_id bigint auto_increment,
    -> cus_name varchar(50) not null,
    -> primary key(cus_id)
    -> );
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> create table salesperson( s_id bigint auto_increment,
    -> s_name varchar(50) not null,
    -> primary key(s_id)
    -> );
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> create table orders(
    -> order_id bigint auto_increment,
    -> s_id bigint,
    -> cus_id bigint,
    -> primary key(order_id),
    -> foreign key(s_id) references salesperson(s_id),
    -> foreign key(cus_id) references customer(cus_id)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql>
```

4. Insert sample data

```
mysql> insert into customer(cus_name) values ("cus1");
Query OK, 1 row affected (0.02 sec)

mysql> insert into customer(cus_name) values ("cus2");
Query OK, 1 row affected (0.04 sec)

mysql> insert into customer(cus_name) values ("cus3");
Query OK, 1 row affected (0.04 sec)

mysql> insert into customer(cus_name) values ("cus4");
Query OK, 1 row affected (0.03 sec)

mysql> insert into customer(cus_name) values ("cus5");
Query OK, 1 row affected (0.03 sec)

mysql> select * from customer;
+--------+----------+
| cus_id | cus_name |
+--------+----------+
|      1 | cus1     |
|      2 | cus2     |
|      3 | cus3     |
|      4 | cus4     |
|      5 | cus5     |
+--------+----------+
5 rows in set (0.00 sec)
```

```
mysql> insert into salesperson(s_name) values ("sal1");
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesperson(s_name) values ("sal2");
Query OK, 1 row affected (0.03 sec)

mysql> insert into salesperson(s_name) values ("sal3");
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesperson(s_name) values ("sal4");
Query OK, 1 row affected (0.03 sec)

mysql> select *  from salesperson;
+------+--------+
| s_id | s_name |
+------+--------+
|    1 | sal1   |
|    2 | sal2   |
|    3 | sal3   |
|    4 | sal4   |
+------+--------+
4 rows in set (0.00 sec)
```

```
mysql> insert into orders(cus_id,s_id) values(2,2);
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(cus_id,s_id) values(2,1);
Query OK, 1 row affected (0.03 sec)

mysql> insert into orders(cus_id,s_id) values(5,3);
Query OK, 1 row affected (0.04 sec)

mysql> insert into orders(cus_id,s_id) values(3,1);
Query OK, 1 row affected (0.03 sec)

mysql> insert into orders(cus_id,s_id) values(4,2);
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(cus_id,s_id) values(5,4);
Query OK, 1 row affected (0.03 sec)

mysql> insert into orders(cus_id,s_id) values(4,4);
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+----------+------+--------+
| order_id | s_id | cus_id |
+----------+------+--------+
|        1 |    2 |      1 |
|        2 |    2 |      2 |
|        3 |    1 |      2 |
|        4 |    3 |      5 |
|        5 |    1 |      3 |
|        6 |    2 |      4 |
|        7 |    4 |      5 |
|        8 |    4 |      4 |
+----------+------+--------+
8 rows in set (0.00 sec)
```

5. Find the sales person have multiple orders.

```
mysql> select * from salesperson where s_id in
    -> (select s_id from orders group by s_id having
    -> count(s_id)>1
    -> );
+------+--------+
| s_id | s_name |
+------+--------+
|    1 | sal1   |
|    2 | sal2   |
|    4 | sal4   |
+------+--------+
3 rows in set (0.00 sec)
```

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

```
mysql> select * from salesperson join orders on salesperson.s_id=orders.s_id;
+------+--------+----------+------+--------+
| s_id | s_name | order_id | s_id | cus_id |
+------+--------+----------+------+--------+
|    1 | sal1   |        3 |    1 |      2 |
|    1 | sal1   |        5 |    1 |      3 |
|    2 | sal2   |        1 |    2 |      1 |
|    2 | sal2   |        2 |    2 |      2 |
|    2 | sal2   |        6 |    2 |      4 |
|    3 | sal3   |        4 |    3 |      5 |
|    4 | sal4   |        7 |    4 |      5 |
|    4 | sal4   |        8 |    4 |      4 |
+------+--------+----------+------+--------+
8 rows in set (0.00 sec)
```

7. Create index

```
mysql> alter table orders add index s_id(s_id);
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table

```
mysql> show index from orders;
+--------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---
------------+
| Table  | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | In
dex_comment |
+--------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---
------------+
| orders |          0 | PRIMARY  |            1 | order_id    | A         |           8 |     NULL | NULL   |      | BTREE      |         |
            |
| orders |          1 | cus_id   |            1 | cus_id      | A         |           5 |     NULL | NULL   | YES  | BTREE      |         |
            |
| orders |          1 | s_id     |            1 | s_id        | A         |           4 |     NULL | NULL   | YES  | BTREE      |         |
            |
+--------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---
------------+
3 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 order_id, s_name, cus_name from salesperson join orders on salesperson.s_id=orders.s_id join customer on orders.cus_id=customer.
cus_id;
+----------+--------+----------+
| order_id | s_name | cus_name |
+----------+--------+----------+
|        1 | sal2   | cus1     |
|        2 | sal2   | cus2     |
|        3 | sal1   | cus2     |
|        4 | sal3   | cus5     |
|        5 | sal1   | cus3     |
|        6 | sal2   | cus4     |
|        7 | sal4   | cus5     |
|        8 | sal4   | cus4     |
+----------+--------+----------+
8 rows in set (0.00 sec)
```