Assignment:Introduction to Databases

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 assignment
    -> ;
Query OK, 1 row affected (0.00 sec)
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| assignment         |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.01 sec)
```

2. Design Schema

```
mysql> desc salesperson;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| s_id    | int         | NO   | PRI | NULL    | auto_increment |
| s_name  | varchar(20) | YES  |     | NULL    |                |
| contact | int         | YES  |     | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
3 rows in set (0.02 sec)

mysql> desc customer;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| c_id    | int         | NO   | PRI | NULL    | auto_increment |
| c_name  | varchar(20) | YES  |     | NULL    |                |
| address | varchar(20) | YES  |     | NULL    |                |
| s_id    | int         | YES  | MUL | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
4 rows in set (0.01 sec)

mysql> desc orders;
+----------------+------+------+-----+---------+----------------+
| Field          | Type | Null | Key | Default | Extra          |
+----------------+------+------+-----+---------+----------------+
| id             | int  | NO   | PRI | NULL    | auto_increment |
| c_id           | int  | YES  | MUL | NULL    |                |
| s_id           | int  | YES  | MUL | NULL    |                |
| order_quantity | int  | YES  |     | NULL    |                |
+----------------+------+------+-----+---------+----------------+
4 rows in set (0.01 sec)
```

3. Create tables

```
mysql> create table salesperson(s_id int primary key auto_increment,s_name varchar(20),contact int);
Query OK, 0 rows affected (0.12 sec)

mysql> create table customer(c_id int primary key auto_increment,c_name varchar(20),address varchar(20),s_id int,forei
gn key(s_id) references salesperson(s_id));
Query OK, 0 rows affected (0.02 sec)

mysql> create table orders(id int primary key auto_increment,c_id int,s_id int,order_quantity int,foreign key(s_id) re
ferences salesperson(s_id)),foreign key(c_id) references customer(c_id));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server versi
on for the right syntax to use near ',foreign key(c_id) references customer(c_id))' at line 1
mysql>
mysql>
mysql> create table orders(id int primary key auto_increment,c_id int,s_id int,order_quantity int,foreign key(s_id) re
ferences salesperson(s_id),foreign key(c_id) references customer(c_id));
Query OK, 0 rows affected (0.02 sec)
```

4. Insert sample data

```
mysql> insert into salesperson (s_name,contact) values ('saket',7983537086),('Rahul',8976432356),('Ranjan',7060970124)
,('Mohit',7655448756);
ERROR 1264 (22003): Out of range value for column 'contact' at row 1
mysql> insert into salesperson (s_name,contact) values ('saket',798353708),('Rahul',897643236),('Ranjan',706097014),('
Mohit',765544875);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> insert into customer (c_name,address,s_id) values ('xyz','delhi',1),('abc','noida',2),('pqr','gurgaon',1),('efg
','gaziabad',3);
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> insert into orders (c_id,s_id,quantity) values (1,2,18),(1,1,21),(2,1,29),(3,1,15),(3,4,16),(4,2,15),(4,3,17);
ERROR 1054 (42S22): Unknown column 'quantity' in 'field list'
mysql> insert into orders (c_id,s_id,order_quantity) values (1,2,18),(1,1,21),(2,1,29),(3,1,15),(3,4,16),(4,2,15),(4,3
,17);
Query OK, 7 rows affected (0.00 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> select * from salesperson;
+------+--------+-----------+
| s_id | s_name | contact   |
+------+--------+-----------+
|    1 | saket  | 798353708 |
|    2 | Rahul  | 897643236 |
|    3 | Ranjan | 706097014 |
|    4 | Mohit  | 765544875 |
+------+--------+-----------+
4 rows in set (0.00 sec)
```

```
mysql> select * from customer;
+------+--------+----------+
| c_id | c_name | address  |
+------+--------+----------+
|    1 | xyz    | delhi    |
|    2 | abc    | noida    |
|    3 | pqr    | gurgaon  |
|    4 | efg    | gaziabad |
+------+--------+----------+
4 rows in set (0.00 sec)
```

```
mysql> select *from orders;
+----+------+------+----------------+
| id | c_id | s_id | order_quantity |
+----+------+------+----------------+
|  1 |    1 |    2 |             18 |
|  2 |    1 |    1 |             21 |
|  3 |    2 |    1 |             29 |
|  4 |    3 |    1 |             15 |
|  5 |    3 |    4 |             16 |
|  6 |    4 |    2 |             15 |
+----+------+------+----------------+
6 rows in set (0.00 sec)
```

5. Find the sales person have multiple orders.

```
mysql> select s_name,contact,count(orders.s_id) as totalorders from salesperson join orders on (orders.s_id=salesperso
n.s_id) group by orders.s_id having count(orders.s_id)>1;
+--------+-----------+-------------+
| s_name | contact   | totalorders |
+--------+-----------+-------------+
| saket  | 798353708 |           3 |
| Rahul  | 897643236 |           2 |
+--------+-----------+-------------+
2 rows in set (0.01 sec)
```

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

```
mysql> select * from salesperson left outer join orders on salesperson.s_id=orders.s_id;
+------+--------+-----------+------+------+------+-----------------+
| s_id | s_name | contact   | id   | c_id | s_id | order_quantity |
+------+--------+-----------+------+------+------+-----------------+
|    1 | saket  | 798353708 |    2 |    1 |    1 |              21 |
|    1 | saket  | 798353708 |    3 |    2 |    1 |              29 |
|    1 | saket  | 798353708 |    4 |    3 |    1 |              15 |
|    2 | Rahul  | 897643236 |    1 |    1 |    2 |              18 |
|    2 | Rahul  | 897643236 |    6 |    4 |    2 |              15 |
|    3 | Ranjan | 706097014 | NULL | NULL | NULL |            NULL |
|    4 | Mohit  | 765544875 |    5 |    3 |    4 |              16 |
+------+--------+-----------+------+------+------+-----------------+
7 rows in set (0.00 sec)
```

7. Create index

```
mysql> create index sales on orders(id);
Query OK, 0 rows affected (0.03 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 | I
ndex_type | Comment | Index_comment | Visible | Expression |
+--------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+--
----------+---------+---------------+---------+------------+
| orders |          0 | PRIMARY  |            1 | id          | A         |           6 |     NULL |   NULL |      | B
TREE      |         |               | YES     | NULL       |
| orders |          1 | s_id     |            1 | s_id        | A         |           4 |     NULL |   NULL | YES  | B
TREE      |         |               | YES     | NULL       |
| orders |          1 | c_id     |            1 | c_id        | A         |           4 |     NULL |   NULL | YES  | B
TREE      |         |               | YES     | NULL       |
| orders |          1 | sales    |            1 | id          | A         |           6 |     NULL |   NULL |      | B
TREE      |         |               | YES     | NULL       |
+--------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+--
----------+---------+---------------+---------+------------+
4 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 o.id as "order_no",s.s_name as "salesperson_name",c.* from orders o left join salesperson s on o.s_id=s.s_id inner join custome
r c on c.c_id=o.c_id;
+----------+------------------+------+--------+----------+
| order_no | salesperson_name | c_id | c_name | address  |
+----------+------------------+------+--------+----------+
|        1 | Rahul            |    1 | xyz    | delhi    |
|        2 | saket            |    1 | xyz    | delhi    |
|        3 | saket            |    2 | abc    | noida    |
|        4 | saket            |    3 | pqr    | gurgaon  |
|        5 | Mohit            |    3 | pqr    | gurgaon  |
|        6 | Rahul            |    4 | efg    | gaziabad |
+----------+------------------+------+--------+----------+
6 rows in set (0.01 sec)
```