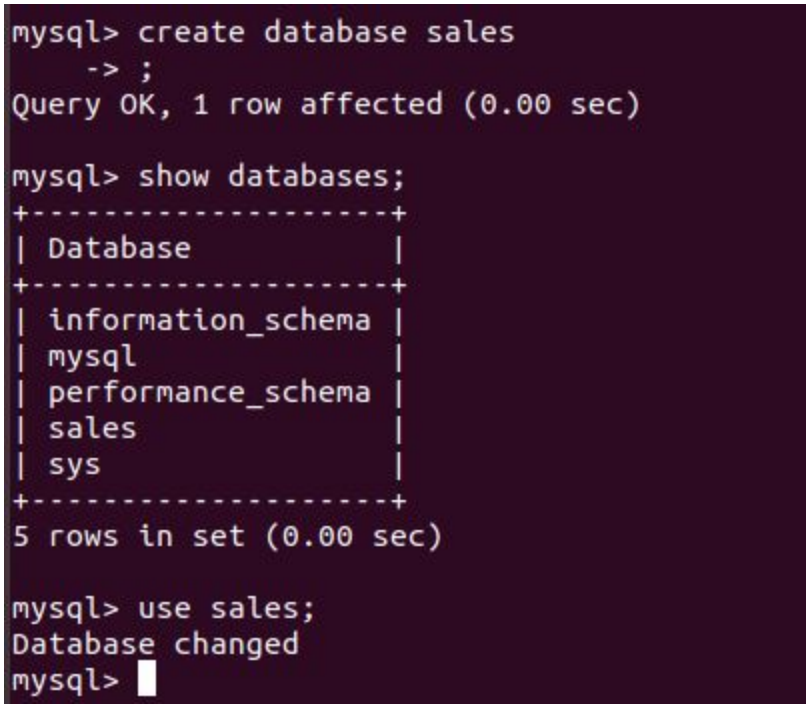
DBMS EXERCISE

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

```
mysql> desc Customers;
+--------+----------+------+-----+---------+-------+
| Field  | Type     | Null | Key | Default | Extra |
+--------+----------+------+-----+---------+-------+
| cnum   | int(11)  | NO   | PRI | NULL    |       |
| cname  | char(10) | NO   |     | NULL    |       |
| city   | char(10) | YES  |     | NULL    |       |
| rating | int(11)  | YES  |     | NULL    |       |
| snum   | int(11)  | YES  |     | NULL    |       |
+--------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> desc Salespeople;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| snum  | int(11)     | NO   | PRI | NULL    |       |
| sname | varchar(10) | NO   |     | NULL    |       |
| city  | varchar(10) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> desc orders;
+-------+---------------+------+-----+---------+-------+
| Field | Type          | Null | Key | Default | Extra |
+-------+---------------+------+-----+---------+-------+
| onum  | int(11)       | NO   | PRI | NULL    |       |
| amt   | decimal(10,0) | YES  | MUL | NULL    |       |
| odate | date          | NO   |     | NULL    |       |
| cnum  | int(11)       | NO   |     | NULL    |       |
| snum  | int(11)       | NO   |     | NULL    |       |
+-------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

3. **Create tables**

```
mysql> create table salesman (s_id bigint(20) NOT NULL , s_name varchar(30) NOT NULL, s_city varchar(100) NOT NULL);
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> create table p_order(o_id bigint(20) NOT NULL , o_name varchar(30) NOT NULL, o_amt bigint(30) NOT NULL, o_date date);
Query OK, 0 rows affected (0.04 sec)

mysql> create table customer (c_id bigint(20) NOT NULL , c_name varchar(30) NOT NULL, c_city varchar(100) NOT NULL);
Query OK, 0 rows affected (0.03 sec)
```

4. **Insert sample data**

```
mysql> insert into customer values ( 1 ,'shashank' , 'varanasi' );
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into customer values (2 ,'gaurav' ,' mirzapur' ),(3 ,'mohit' ,'allahabad' );
Query OK, 2 rows affected (0.01 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

5. **Find the sales person have multiple orders.**

```
mysql> select * from  Salespeople where snum in (select snum from orders group by snum having count(distinct onum)>1);
+------+--------+------+
| snum | sname  | city |
+------+--------+------+
|    1 | jayesh | ahmd |
+------+--------+------+
1 row in set (0.00 sec)

mysql>
```

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

```
mysql> select * from Salespeople inner join orders on Salespeople.snum=onum;
+------+--------+-------+------+---------+------------+------+------+
| snum | sname  | city  | onum | amt     | odate      | cnum | snum |
+------+--------+-------+------+---------+------------+------+------+
|    1 | jayesh | ahmd  |    1 |    1000 | 2000-02-22 |    1 |    1 |
|    2 | mukesh | ahmd  |    2 |    1000 | 2002-03-30 |    1 |    1 |
|    3 | ram    | calc  |    3 |   10200 | 2002-03-20 |    2 |    2 |
|    4 | shyam  | bihar |    4 | 1020330 | 2003-03-23 |    2 |    3 |
+------+--------+-------+------+---------+------------+------+------+
4 rows in set (0.00 sec)
```

7. **Create index**

```
mysql> create index index1 on orders(amt);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
```

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 | onum        | A         |           4 |     NULL | NULL   |      | BTREE      |         |
            |
| orders |          1 | index1   |            1 | amt         | 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**

```
mysql> select a.onum,b.sname,c.cname from orders a inner join Salespeople b on a.onum=b.snum inner join Customers c on c.cnum=b.snum ;
+------+--------+--------+
| onum | sname  | cname  |
+------+--------+--------+
|    1 | jayesh | sanjay |
|    2 | mukesh | paresh |
|    3 | ram    | jay    |
|    4 | shyam  | ajay   |
+------+--------+--------+
4 rows in set (0.00 sec)

mysql>
```