Exercise:Introduction To Database

1. Create Database

Sol:

create database sale_order;

use database;

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

```
mysql> use sale_order;
Database changed
```

2. Design Schema

Sol:

describe customer;

describe salesperson;

describe ordersale;

```
mysql> describe customer;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| id      | int(11)     | NO   | PRI | NULL    | auto_increment |
| name    | varchar(40) | YES  |     | NULL    |                |
| address | varchar(40) | YES  |     | NULL    |                |
| s_id    | int(11)     | YES  | MUL | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

```
mysql> describe salesperson;
+---------+-------------+------+-----+---------+----------------+
| Field   | Type        | Null | Key | Default | Extra          |
+---------+-------------+------+-----+---------+----------------+
| id      | int(11)     | NO   | PRI | NULL    | auto_increment |
| name    | varchar(40) | YES  |     | NULL    |                |
| contact | int(11)     | YES  |     | NULL    |                |
+---------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

```
mysql> describe ordersale;
+-------------+---------+------+-----+---------+----------------+
| Field       | Type    | Null | Key | Default | Extra          |
+-------------+---------+------+-----+---------+----------------+
| id          | int(11) | NO   | PRI | NULL    | auto_increment |
| customer_id | int(11) | YES  | MUL | NULL    |                |
| sales_id    | int(11) | YES  | MUL | NULL    |                |
| quantity    | int(11) | YES  |     | NULL    |                |
+-------------+---------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

3. Create tables

Sol:

create table customer(id int primary key auto_increment,name varchar(40),address varchar(40));

create table salesperson(id int primary key auto_increment,name varchar(40),contact int);

create table ordersale(id int primary key auto_increment,customer_id int,sales-id int,quantity int,foreign key(customer_id) references customer(id),foreign key(sales_id) references salesperson(id));

```
mysql> create table customer(id int primary key auto_increment,name varchar(40),address varchar(40),s_id int);
```

```
mysql> create table salesperson(id int primary key auto_increment,name varchar(40),contact int);
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> create table ordersale(id int primary key auto_increment,customer_id int,sales_id int,quantity int,foreign key(customer_id)references c
ustomer(id),foreign key(sales_id)references salesperson(id));
Query OK, 0 rows affected (0.04 sec)
```

4. Insert sample data

Sol:

Insert into customer(name,address,s_id)values(“S”,”Bhopal”,2);

Insert into salesperson(name,contact)values(“A”,”Bhopal”,99887);

Insert into ordersale(customer_id,sales_id,quantity)values(1,2,50);

```
mysql> insert into customer(name,address,s_id) values("S","Bhopal",2);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from customer;
+----+------+----------+------+
| id | name | address  | s_id |
+----+------+----------+------+
|  1 | X    | Chennai  |    1 |
|  2 | Y    | Kolkata  |    3 |
|  3 | Z    | Delhi    |    2 |
|  4 | P    | Haridwar |    1 |
|  5 | Q    | Noida    |    2 |
|  6 | R    | Shimla   |    3 |
| 10 | S    | Bhopal   |    2 |
+----+------+----------+------+
7 rows in set (0.00 sec)
```

```
mysql> insert into salesperson(name,contact) values("A",99887);
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson(name,contact) values("B",89837);
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson(name,contact) values("C",75837);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from salesperson;
+----+------+---------+
| id | name | contact |
+----+------+---------+
|  1 | A    |   99887 |
|  2 | B    |   89837 |
|  3 | C    |   75837 |
+----+------+---------+
3 rows in set (0.00 sec)
```

```
mysql> insert into ordersale(customer_id,sales_id,quantity) values(1,2,50);
Query OK, 1 row affected (0.01 sec)

mysql> insert into ordersale(customer_id,sales_id,quantity) values(2,3,40);
Query OK, 1 row affected (0.01 sec)

mysql> insert into ordersale(customer_id,sales_id,quantity) values(3,1,80);
Query OK, 1 row affected (0.02 sec)

mysql> insert into ordersale(customer_id,sales_id,quantity) values(2,2,70);
Query OK, 1 row affected (0.01 sec)

mysql> insert into ordersale(customer_id,sales_id,quantity) values(1,3,20);
Query OK, 1 row affected (0.01 sec)

mysql> insert into ordersale(customer_id,sales_id,quantity) values(2,3,30);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from ordersale;
+----+-------------+----------+----------+
| id | customer_id | sales_id | quantity |
+----+-------------+----------+----------+
|  1 |           1 |        2 |       50 |
|  2 |           2 |        3 |       40 |
|  3 |           3 |        1 |       80 |
|  4 |           2 |        2 |       70 |
|  5 |           1 |        3 |       20 |
|  6 |           2 |        3 |       30 |
+----+-------------+----------+----------+
6 rows in set (0.00 sec)
```

5. Find the sales person have multiple orders.

Sol:

Select name,contact,coount(ordersale.sales_id)as”totalOrders” from salesperson join ordersale on(ordersale.sales_id=salesperson.id)group by ordersale.sales_id having count(ordersale.sales_id)>1;

```
mysql> select name,contact,count(ordersale.sales_id) as totalOrders from salesperson join ordersale on(ordersale.sales_id=salesperson.id) grou
p by ordersale.sales_id having count(ordersale.sales_id)>1;
+------+---------+------------+
| name | contact | totalOrders |
+------+---------+------------+
| B    |   89837 |          2 |
| C    |   75837 |          3 |
+------+---------+------------+
2 rows in set (0.00 sec)
```

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

Sol:

Select * from salesperson left outer join ordersale

salesperson.id=ordersale.sales_id;

```
mysql> select * from salesperson left outer join ordersale on salesperson.id=ordersale.sales_id;
+----+------+---------+------+-------------+----------+----------+
| id | name | contact | id   | customer_id | sales_id | quantity |
+----+------+---------+------+-------------+----------+----------+
|  1 | A    |   99887 |    3 |           3 |        1 |       80 |
|  2 | B    |   89837 |    1 |           1 |        2 |       50 |
|  2 | B    |   89837 |    4 |           2 |        2 |       70 |
|  3 | C    |   75837 |    2 |           2 |        3 |       40 |
|  3 | C    |   75837 |    5 |           1 |        3 |       20 |
|  3 | C    |   75837 |    6 |           2 |        3 |       30 |
+----+------+---------+------+-------------+----------+----------+
6 rows in set (0.00 sec)
```

7. Create index

Sol:

Create index sale_order on ordersale(id);

```
mysql> create index sale_order on ordersale(id);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table

Sol:

Show index from ordersale;

```
mysql> show index from ordersale;
+----------+------------+------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| Table     | Non_unique | Key_name    | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Commen
t | Index_comment |
+----------+------------+------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| ordersale |          0 | PRIMARY     |            1 | id          | A         |           6 |     NULL | NULL   |      | BTREE      |
  |               |
| ordersale |          1 | customer_id |            1 | customer_id | A         |           3 |     NULL | NULL   | YES  | BTREE      |
  |               |
| ordersale |          1 | sales_id    |            1 | sales_id    | A         |           3 |     NULL | NULL   | YES  | BTREE      |
  |               |
| ordersale |          1 | sale_order  |            1 | id          | A         |           6 |     NULL | NULL   |      | BTREE      |
  |               |
+----------+------------+------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
4 rows in set (0.00 sec)
```

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

Sol:

select o.id as "Order_No",s.name as"Salesperson_name",c.* from ordersale o left join salesperson s on s.id=o.sales_id left join customer c on o.customer_id=c.id;

```
mysql> select o.id as "Order_No",s.name as"Salesperson_name",c.* from ordersale o left join salesperson s on s.id=o.sales_id left join custome
r c on o.customer_id=c.id;
+----------+-----------------+------+------+---------+------+
| Order_No | Salesperson_name | id   | name | address | s_id |
+----------+-----------------+------+------+---------+------+
|        3 | A               |    3 | Z    | Delhi   |    2 |
|        1 | B               |    1 | X    | Chennai |    1 |
|        4 | B               |    2 | Y    | Kolkata |    3 |
|        2 | C               |    2 | Y    | Kolkata |    3 |
|        5 | C               |    1 | X    | Chennai |    1 |
|        6 | C               |    2 | Y    | Kolkata |    3 |
+----------+-----------------+------+------+---------+------+
6 rows in set (0.00 sec)
```