**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

Create the Database using the CREATE command, the databases can be displayed by using the SHOW command.

To use the Database and work on it, use the USE command.

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

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| Amazon             |
| db1                |
| mysql              |
| performance_schema |
| shop               |
| sys                |
+--------------------+
7 rows in set (0.00 sec)

mysql> use shop;
Database changed
```

2.Design Schema

Schema is the structure of the tables in the database, you can view the tables using the
DESC <TABLENAME> command.

```
mysql> create table customer(customer_id int PRIMARY KEY NOT NULL, customer_name VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.04 sec)

mysql> desc customer;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| customer_id   | int(11)     | NO   | PRI | NULL    |       |
| customer_name | varchar(20) | NO   |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> create table salesperson(salesperson_id int PRIMARY KEY NOT NULL, salesperson_name VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.03 sec)

mysql> desc salesperson;
+------------------+-------------+------+-----+---------+-------+
| Field            | Type        | Null | Key | Default | Extra |
+------------------+-------------+------+-----+---------+-------+
| salesperson_id   | int(11)     | NO   | PRI | NULL    |       |
| salesperson_name | varchar(20) | NO   |     | NULL    |       |
+------------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

```
mysql> desc orders;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| order_id       | int(11)     | NO   | PRI | NULL    |       |
| quantity       | varchar(20) | NO   |     | NULL    |       |
| customer_id    | int(11)     | YES  | MUL | NULL    |       |
| salesperson_id | int(11)     | YES  | MUL | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

3. Create tables.

To create the tables using the CREATE command.
SYNTAX: CREATE table <Tablename> (<column names separated by commas>) VALUES
(<'in between quotes'>);

```
mysql> create table customer(customer_id int PRIMARY KEY NOT NULL, customer_name VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> create table orders(order_id int PRIMARY KEY NOT NULL, quantity VARCHAR(20) NOT NULL, customer_id INT, salesperson_id INT, FOREIGN KEY(
customer_id) references customer(customer_id), FOREIGN KEY(salesperson_id) REFERENCES salesperson(salesperson_id));
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> create table salesperson(salesperson_id int PRIMARY KEY NOT NULL, salesperson_name VARCHAR(20) NOT NULL);
Query OK, 0 rows affected (0.03 sec)
```

## 4. Insert sample data

Insert data into tables using the INSERT Command;

```
mysql> insert into customer (customer_id, customer_name) values ('101', 'Ashita');
Query OK, 1 row affected (0.02 sec)

mysql> insert into customer (customer_id, customer_name) values ('102', 'Zara');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer (customer_id, customer_name) values ('103', 'Neraj');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer (customer_id, customer_name) values ('104', 'Ashita');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer (customer_id, customer_name) values ('105', 'Smriti');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer (customer_id, customer_name) values ('106', 'Neraj');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer (customer_id, customer_name) values ('107', 'Ashita');
Query OK, 1 row affected (0.01 sec)

mysql> select* from customer;
+-------------+---------------+
| customer_id | customer_name |
+-------------+---------------+
|         101 | Ashita        |
|         102 | Zara          |
|         103 | Neraj         |
|         104 | Ashita        |
|         105 | Smriti        |
|         106 | Neraj         |
|         107 | Ashita        |
+-------------+---------------+
7 rows in set (0.00 sec)
```

```
mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1111','sellergood');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1112','seller2');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1113','sellerbest');
Query OK, 1 row affected (0.02 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1114','sellgood');
Query OK, 1 row affected (0.00 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1115','wearebest');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1116','seller6');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesperson( salesperson_id, salesperson_name) values ('1117','seller7');
Query OK, 1 row affected (0.01 sec)

mysql> select * from salesperson;
+----------------+------------------+
| salesperson_id | salesperson_name |
+----------------+------------------+
|           1111 | sellergood       |
|           1112 | seller2          |
|           1113 | sellerbest       |
|           1114 | sellgood         |
|           1115 | wearebest        |
|           1116 | seller6          |
|           1117 | seller7          |
+----------------+------------------+
7 rows in set (0.00 sec)
```

```
mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111111','1','101','1111');
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111112','1','102','1112');
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111113','1','103','1113');
Query OK, 1 row affected (0.02 sec)

mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111114','1','104','1111');
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111115','1','105','1112');
Query OK, 1 row affected (0.01 sec)

mysql>
mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111116','1','106','1114');
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_id,quantity,customer_id,salesperson_id) values ('111117','1','107','1111');
Query OK, 1 row affected (0.02 sec)

mysql> select * from orders;
+----------+----------+-------------+----------------+
| order_id | quantity | customer_id | salesperson_id |
+----------+----------+-------------+----------------+
|   111111 | 1        |         101 |           1111 |
|   111112 | 1        |         102 |           1112 |
|   111113 | 1        |         103 |           1113 |
|   111114 | 1        |         104 |           1111 |
|   111115 | 1        |         105 |           1112 |
|   111116 | 1        |         106 |           1114 |
|   111117 | 1        |         107 |           1111 |
+----------+----------+-------------+----------------+
7 rows in set (0.00 sec)
```

5.Find the sales person have multiple orders.

```
mysql> select salesperson_name from salesperson where (select count(*) from orde
rs where salesperson.salesperson_id=orders.salesperson_id)>1;
+------------------+
| salesperson_name |
+------------------+
| sellergood       |
| seller2          |
+------------------+
2 rows in set (0.00 sec)
```

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

```
mysql> select * from salesperson right join orders ON salesperson.salesperson_id=orders.salesperson_id;
+---------------+------------------+----------+----------+-------------+---------------+
| salesperson_id | salesperson_name | order_id | quantity | customer_id | salesperson_id |
+---------------+------------------+----------+----------+-------------+---------------+
|          1111 | sellergood       |   111111 |        1 |         101 |          1111 |
|          1112 | seller2          |   111112 |        1 |         102 |          1112 |
|          1113 | sellerbest       |   111113 |        1 |         103 |          1113 |
|          1111 | sellergood       |   111114 |        1 |         104 |          1111 |
|          1112 | seller2          |   111115 |        1 |         105 |          1112 |
|          1114 | sellgood         |   111116 |        1 |         106 |          1114 |
|          1111 | sellergood       |   111117 |        1 |         107 |          1111 |
+---------------+------------------+----------+----------+-------------+---------------+
7 rows in set (0.00 sec)
```

7.Create index.

Create the index of the whole tables by selecting the muliple columns the table has.

8.How to show index on a table.

Use the SHOW command to show indexes from a specific table.

```
mysql> show index 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 | customer_id  | A         |           6 |     NULL | NULL   |      | BTREE      |         |               |
| customer |          1 | ind      |            1 | customer_name| A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
| customer |          1 | ind      |            2 | customer_id  | A         |           7 |     NULL | NULL   |      | BTREE      |         |               |
+----------+------------+----------+--------------+--------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
3 rows in set (0.00 sec)
```

```
mysql> show index from orders;
+--------+------------+---------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table  | Non_unique | Key_name      | Seq_in_index | Column_name   | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+--------+------------+---------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| orders |          0 | PRIMARY       |            1 | order_id      | A         |           6 |     NULL | NULL   |      | BTREE      |         |               |
| orders |          1 | customer_id   |            1 | customer_id   | A         |           6 |     NULL | NULL   | YES  | BTREE      |         |               |
| orders |          1 | salesperson_id|            1 | salesperson_id| A         |           4 |     NULL | NULL   | YES  | BTREE      |         |               |
| orders |          1 | inde          |            1 | order_id      | A         |           7 |     NULL | NULL   |      | BTREE      |         |               |
| orders |          1 | inde          |            2 | quantity      | A         |           7 |     NULL | NULL   |      | BTREE      |         |               |
| orders |          1 | inde          |            3 | customer_id   | A         |           7 |     NULL | NULL   | YES  | BTREE      |         |               |
| orders |          1 | inde          |            4 | salesperson_id| A         |           7 |     NULL | NULL   | YES  | BTREE      |         |               |
+--------+------------+---------------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
7 rows in set (0.00 sec)
```

```
mysql> show index from salesperson;
+-------------+------------+----------+--------------+----------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table       | Non_unique | Key_name | Seq_in_index | Column_name    | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-------------+------------+----------+--------------+----------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| salesperson |          0 | PRIMARY  |            1 | salesperson_id | A         |           6 |     NULL | NULL   |      | BTREE      |         |               |
| salesperson |          1 | ind      |            1 | salesperson_name| A        |           7 |     NULL | NULL   |      | BTREE      |         |               |
| salesperson |          1 | ind      |            2 | salesperson_id | A         |           7 |     NULL | NULL   |      | BTREE      |         |               |
+-------------+------------+----------+--------------+----------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
```

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

```
mysql> mysql> select order_id,salesperson.salesperson_name,orders.customer_id from salesperson right join orders on salesperson.salesperson_id
=orders.salesperson_id;
+----------+------------------+-------------+
| order_id | salesperson_name | customer_id |
+----------+------------------+-------------+
|   111111 | sellergood       |         101 |
|   111112 | seller2          |         102 |
|   111113 | sellerbest       |         103 |
|   111114 | sellergood       |         104 |
|   111115 | seller2          |         105 |
|   111116 | sellgood         |         106 |
|   111117 | sellergood       |         107 |
+----------+------------------+-------------+
7 rows in set (0.01 sec)
```