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

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

mysql> show databases
    -> ;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| shopping           |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

2. Design Schema

```
mysql> desc customers
    -> ;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| Oid           | int(11)      | NO   | PRI | NULL    | auto_increment |
| customer_name | varchar(255) | YES  |     | NULL    |                |
| order_name    | varchar(255) | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc persons;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| Oid         | int(11)      | NO   |     | NULL    |       |
| person_name | varchar(255) | YES  |     | NULL    |       |
| order_name  | varchar(255) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql>
```

3. Create tables

```
mysql> create table customers ( Oid int NOT NULL AUTO_INCREMENT, customer_name varchar(255), order_name varchar(255), PRIMARY KEY(oid) );
Query OK, 0 rows affected (0.04 sec)

mysql> desc customers
    -> ;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| Oid           | int(11)     | NO   | PRI | NULL    | auto_increment |
| customer_name | varchar(255) | YES  |     | NULL    |                |
| order_name    | varchar(255) | YES  |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> create table persons ( Oid int NOT NULL, person_name varchar(255), order_name varchar(255) );
Query OK, 0 rows affected (0.03 sec)

mysql> desc persons;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Oid         | int(11)     | NO   |     | NULL    |       |
| person_name | varchar(255) | YES  |     | NULL    |       |
| order_name  | varchar(255) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

4. Insert sample data

```
mysql> insert into customers (customer_name, order_name) values('arjun', 'dell');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customers (customer_name, order_name) values('arun', 'lenovo');
Query OK, 1 row affected (0.02 sec)

mysql> insert into customers (customer_name, order_name) values('arjun', 'lenovo');
Query OK, 1 row affected (0.01 sec)

mysql> insert into customers (customer_name, order_name) values('akhil', 'hp');
Query OK, 1 row affected (0.01 sec)

mysql> insert into persons ( oid, person_name) values('1', 'p1' );
Query OK, 1 row affected (0.01 sec)

mysql> insert into persons (oid, person_name) values('2', 'p1');
Query OK, 1 row affected (0.01 sec)

mysql> insert into persons (oid, person_name) values('3', 'p2');
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> select * from persons
    -> ;
+-----+-------------+
| Oid | person_name |
+-----+-------------+
|   1 | p1          |
|   2 | p1          |
|   3 | p2          |
+-----+-------------+
3 rows in set (0.00 sec)

mysql> select * from customers;
+-----+---------------+------------+
| Oid | customer_name | order_name |
+-----+---------------+------------+
|   1 | arjun         | dell       |
|   2 | arun          | lenovo     |
|   3 | arjun         | lenovo     |
|   4 | akhil         | hp         |
+-----+---------------+------------+
4 rows in set (0.00 sec)

mysql>
```

5. Find the sales person have multiple orders.

```
mysql> select * from persons;
+-----+-------------+
| Oid | person_name |
+-----+-------------+
|   1 | p1          |
|   2 | p1          |
|   3 | p2          |
+-----+-------------+
3 rows in set (0.00 sec)

mysql> select * from customers;
+-----+---------------+------------+
| Oid | customer_name | order_name |
+-----+---------------+------------+
|   1 | arjun         | dell       |
|   2 | arun          | lenovo     |
|   3 | arjun         | lenovo     |
|   4 | akhil         | hp         |
+-----+---------------+------------+
4 rows in set (0.00 sec)

mysql> select person_name from persons group by person_name having count(person_name)>1;
+-------------+
| person_name |
+-------------+
| p1          |
+-------------+
1 row in set (0.00 sec)

mysql>
```

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

```
mysql> select * from persons;
+-----+-------------+
| Oid | person_name |
+-----+-------------+
|   1 | p1          |
|   2 | p1          |
|   4 | p2          |
+-----+-------------+
3 rows in set (0.00 sec)

mysql> select * from customers;
+-----+---------------+------------+
| Oid | customer_name | order_name |
+-----+---------------+------------+
|   1 | arjun         | dell       |
|   2 | arun          | lenovo     |
|   3 | arjun         | lenovo     |
|   4 | akhil         | hp         |
+-----+---------------+------------+
4 rows in set (0.01 sec)

mysql> select persons.person_name, customers.order_name from persons LEFT JOIN customers on persons.oid=customers.oid;
+-------------+------------+
| person_name | order_name |
+-------------+------------+
| p1          | dell       |
| p1          | lenovo     |
| p2          | hp         |
+-------------+------------+
3 rows in set (0.00 sec)

mysql>
mysql>
```

7. Create index

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| shopping           |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql> use shopping
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> create index hello  on customers (customer_name);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table

```
mysql> show index from customers;
+-----------+------------+----------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| Table     | Non_unique | Key_name | Seq_in_index | Column_name   | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment
 | Index_comment |
+-----------+------------+----------+--------------+---------------+-----------+-------------+----------+--------+------+------------+---------
--+---------------+
| customers |          0 | PRIMARY  |            1 | Oid           | A         |           4 |     NULL | NULL   |      | BTREE      |
 |               |
| customers |          1 | hello    |            1 | customer_name | A         |           3 |     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 * from customers;
+-----+---------------+------------+
| Oid | customer_name | order_name |
+-----+---------------+------------+
|   1 | arjun         | dell       |
|   2 | arun          | lenovo     |
|   3 | arjun         | lenovo     |
|   4 | akhil         | hp         |
+-----+---------------+------------+
4 rows in set (0.00 sec)

mysql> select * from persons;
+-----+-------------+
| Oid | person_name |
+-----+-------------+
|   1 | p1          |
|   2 | p1          |
|   4 | p2          |
|   3 | p1          |
+-----+-------------+
4 rows in set (0.00 sec)

mysql> select customers.customer_name, customers.order_name, persons.person_name from persons RIGHT JOIN customers on persons.oid=customers.oi
d;
+---------------+------------+-------------+
| customer_name | order_name | person_name |
+---------------+------------+-------------+
| arjun         | dell       | p1          |
| arun          | lenovo     | p1          |
| akhil         | hp         | p2          |
| arjun         | lenovo     | p1          |
+---------------+------------+-------------+
4 rows in set (0.00 sec)
```