<u>**Exercise 1**</u>   Create Databse

Command :   create database assignment3;

```
ttn@ttn:~ $ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 19
Server version: 5.7.25-0ubuntu0.18.04.2 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database assignment3;
Query OK, 1 row affected (0.00 sec)

mysql> use assignment3;
Database changed
mysql>
```

<u>**Exercise 2**</u>   Design Schema

Tables :   Customers
               Salespersons
               Orders

Table Structure : 1. Customers
                   customerID (cust_id) Integr,
                   customerName (cust_name) Varchar
                   customerEmail (cust_email) Varchar
                   customerPhoneNumber (cust_phone) Integer
               2. Salespersons
                   salespersonsID (sp_id) Integr,
                   salespersonsName (sp_name) Varchar
                   salespersonsEmail (sp_email) Varchar
                   salespesonsPhoneNumber (sp_phone) Integer
               3. Orders
                   orderID (cust_id) Integr,
                   customerID (cust_id) Integer
                   salespersonsID (sp_id) Integer

Exercise 3 Create Tables

Command : create table customers(
    -> cust_id int(10) NOT NULL,
    -> cust_email varchar(40) NOT NULL,
    -> cust_name varchar(50) NOT NULL,
    -> cust_phone int(10) UNIQUE,
    -> PRIMARY KEY(cust_id)
    ->);
create table salespersons(
    -> sp_id int(10) NOT NULL,
    -> sp_email varchar(40) NOT NULL,
    -> sp_name varchar(40) NOT NULL,
    -> sp_phone int(10) UNIQUE,
    -> PRIMARY KEY(sp_id)
    ->);
create table orders(
    -> order_id int(10) NOT NULL,
    -> cust_id int(10) NOT NULL,
    -> sp_id int(10) NOT NULL
    ->);

```
mysql> use assignment3;
Database changed
mysql> create table customers(
    -> cust_id int(10) NOT NULL,
    -> cust_email varchar(40) NOT NULL,
    -> cust_name varchar(50) NOT NULL,
    -> cust_phone int(10) UNIQUE,
    -> PRIMARY KEY(cust_id)
    -> );
Query OK, 0 rows affected (0.31 sec)

mysql> create table salespersons(
    -> sp_id int(10) NOT NULL,
    -> sp_email varchar(40) NOT NULL,
    -> sp_name varchar(40) NOT NULL,
    -> sp_phone int(10) UNIQUE,
    -> PRIMARY KEY(sp_id)
    -> );
Query OK, 0 rows affected (0.45 sec)

mysql> create table orders(
    -> order_id int(10) NOT NULL,
    -> cust_id int(10) NOT NULL,
    -> sp_id int(10) NOT NULL
    -> );
Query OK, 0 rows affected (0.25 sec)
```

<u>Exercise 4</u>   Insert sample data

Command :   insert into customers (cust_id,cust_name,cust_email,cust_phone) values
       -> (001, 'Sushant', 'sushant@ttn.com', 1234567890),
      -> (002, 'Jitender', 'jitender@ttn.com', 1234567892),
      -> (003, 'Vidhi', 'vidhi@ttn.com', 1234567893),
      -> (004, 'Aditya', 'aditya@ttn.com', 1234567894);
    insert into salespersons (sp_id,sp_name,sp_email,sp_phone) values
     -> (201, 'Ajay', 'ajay@gmail.com', 234567891),
     -> (202, 'Rohan' , 'rohan@gmail.com', 234567892),
     -> (203, 'Chirag' , 'chirag@gmail.com', 234567893),
     -> (204, 'Manish' , 'manish@gmail.com', 234567894);
    insert into orders (order_id,sp_id,cust_id) values
     -> (401,201,002),
     -> (402,203,002),
     -> (403,201,001),
     -> (404,204,001),
     -> (405,203,001),
     -> (406,201,003),
     -> (407,202,004);

```
mysql> insert into customers (cust_id,cust_name,cust_email,cust_phone) values
    -> (001, 'Sushant', 'sushant@ttn.com', 1234567890),
    -> (002, 'Jitender', 'jitender@ttn.com', 1234567892),
    -> (003, 'Vidhi', 'vidhi@ttn.com', 1234567893),
    -> (004, 'Aditya', 'aditya@ttn.com', 1234567894);
Query OK, 4 rows affected (0.04 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> insert into salespersons (sp_id,sp_name,sp_email,sp_phone) values
    -> (201, 'Ajay', 'ajay@gmail.com', 234567891),
    -> (202, 'Rohan' , 'rohan@gmail.com', 234567892),
    -> (203, 'Chirag' , 'chirag@gmail.com', 234567893),
    -> (204, 'Manish' , 'manish@gmail.com', 234567894);
Query OK, 4 rows affected (0.08 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> insert into orders (order_id,sp_id,cust_id) values
    -> (401,201,002),
    -> (402,203,002),
    -> (403,201,001),
    -> (404,204,001),
    -> (405,203,001),
    -> (406,201,003),
    -> (407,202,004);
Query OK, 7 rows affected (0.16 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> select * from customers;
+---------+-------------------+-----------+------------+
| cust_id | cust_email        | cust_name | cust_phone |
+---------+-------------------+-----------+------------+
|       1 | sushant@ttn.com   | Sushant   | 1234567890 |
|       2 | jitender@ttn.com  | Jitender  | 1234567892 |
|       3 | vidhi@ttn.com     | Vidhi     | 1234567893 |
|       4 | aditya@ttn.com    | Aditya    | 1234567894 |
+---------+-------------------+-----------+------------+
4 rows in set (0.00 sec)

mysql> select * from salespersons;
+-------+-------------------+---------+-----------+
| sp_id | sp_email          | sp_name | sp_phone  |
+-------+-------------------+---------+-----------+
|   201 | ajay@gmail.com    | Ajay    | 234567891 |
|   202 | rohan@gmail.com   | Rohan   | 234567892 |
|   203 | chirag@gmail.com  | Chirag  | 234567893 |
|   204 | manish@gmail.com  | Manish  | 234567894 |
+-------+-------------------+---------+-----------+
4 rows in set (0.00 sec)

mysql> select * from orders;
+----------+---------+-------+
| order_id | cust_id | sp_id |
+----------+---------+-------+
|      401 |       2 |   201 |
|      402 |       2 |   203 |
|      403 |       1 |   201 |
|      404 |       1 |   204 |
|      405 |       1 |   203 |
|      406 |       3 |   201 |
|      407 |       4 |   202 |
+----------+---------+-------+
7 rows in set (0.00 sec)
```

Exercise 5 Find the sales person have multiple orders.

Command : select * from salespersons where sp_id in (select sp_id from orders group by sp_id having COUNT(sp_id)>1);

```
mysql> select * from salespersons where sp_id in (select sp_id from orders group by sp_id having COUNT(sp_id)>1);
+-------+------------------+----------+-----------+
| sp_id | sp_email         | sp_name  | sp_phone  |
+-------+------------------+----------+-----------+
|   201 | ajay@gmail.com   | Ajay     | 234567891 |
|   203 | chirag@gmail.com | Chirag   | 234567893 |
+-------+------------------+----------+-----------+
2 rows in set (0.00 sec)
```

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

Command : select * from salespersons right join orders on salespersons.sp_id=orders.sp_id;

```
mysql> select * from salespersons right join orders on salespersons.sp_id=orders.sp_id;
+-------+------------------+----------+-----------+----------+---------+-------+
| sp_id | sp_email         | sp_name  | sp_phone  | order_id | cust_id | sp_id |
+-------+------------------+----------+-----------+----------+---------+-------+
|   201 | ajay@gmail.com   | Ajay     | 234567891 |      401 |       2 |   201 |
|   201 | ajay@gmail.com   | Ajay     | 234567891 |      403 |       1 |   201 |
|   201 | ajay@gmail.com   | Ajay     | 234567891 |      406 |       3 |   201 |
|   202 | rohan@gmail.com  | Rohan    | 234567892 |      407 |       4 |   202 |
|   203 | chirag@gmail.com | Chirag   | 234567893 |      402 |       2 |   203 |
|   203 | chirag@gmail.com | Chirag   | 234567893 |      405 |       1 |   203 |
|   204 | manish@gmail.com | Manish   | 234567894 |      404 |       1 |   204 |
+-------+------------------+----------+-----------+----------+---------+-------+
7 rows in set (0.00 sec)
```

Exercise 7 Create index

Command : create index newIndex on salespersons (sp_id);

```
mysql> create index newIndex on salespersons (sp_id);
Query OK, 0 rows affected (0.32 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Exercise 8 How to show index on a table

Command : show index from salespersons;

```
mysql> show index from salespersons;
+--------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table        | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+--------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| salespersons |          0 | PRIMARY  |            1 | sp_id       | A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
| salespersons |          0 | sp_phone |            1 | sp_phone    | A         |           4 |     NULL | NULL   | YES  | BTREE      |         |               |
| salespersons |          1 | newIndex |            1 | sp_id       | A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
+--------------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
3 rows in set (0.00 sec)
```

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

Command : select T.order_id,T.sp_id,salespersons.sp_name,T.cust_id,T.cust_name from (select orders.order_id,orders.sp_id,customers.* from orders left join customers on orders.cust_id = customers.cust_id) as T right join salespersons on salespersons.sp_id= T.sp_id;

```
mysql> select T.order_id,T.sp_id,salespersons.sp_name,T.cust_id,T.cust_name from (select orders.order_id,orders.sp_id,customers.* from orders l
eft join customers on orders.cust_id = customers.cust_id) as T right join salespersons on salespersons.sp_id= T.sp_id;
+----------+-------+---------+---------+-----------+
| order_id | sp_id | sp_name | cust_id | cust_name |
+----------+-------+---------+---------+-----------+
|      401 |   201 | Ajay    |       2 | Jitender  |
|      403 |   201 | Ajay    |       1 | Sushant   |
|      406 |   201 | Ajay    |       3 | Vidhi     |
|      407 |   202 | Rohan   |       4 | Aditya    |
|      402 |   203 | Chirag  |       2 | Jitender  |
|      405 |   203 | Chirag  |       1 | Sushant   |
|      404 |   204 | Manish  |       1 | Sushant   |
+----------+-------+---------+---------+-----------+
7 rows in set (0.00 sec)
```