-- Design at least 10 SQL queries for suitable database application using SQL DML statements:

-- all types of Joins, Sub-Query and View.


```
mysql> show databases;
+----------------------------+
| Database                   |
+----------------------------+
| 17thsep_procedure_function |   |
| information_schema         |
| library                    |
| mysql                      |
| performance_schema         |
| sakila                     |
| sys                        |
| world                      |
+----------------------------+
9 rows in set (0.01 sec)
```


```
mysql> create database hosiptal_record_assign3;
Query OK, 1 row affected (0.01 sec)
```


```
mysql> use hosiptal_record_assign3;
Database changed
```


-- 1.   Create table physician (reg_no primary, name, tel_no, city).


```
mysql> create table physician(reg_no int primary key , name varchar(20) , tel_no int(10) , city varchar(20));
Query OK, 0 rows affected, 1 warning (0.07 sec)
```

```
mysql> show tables;

+----------------------------------+
| Tables_in_hosiptal_record_assign3 |
+----------------------------------+
| physician                        |
+----------------------------------+
1 row in set (0.02 sec)


mysql> desc physician;

+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| reg_no | int         | NO   | PRI | NULL    |       |
| name   | varchar(20) | YES  |     | NULL    |       |
| tel_no | int         | YES  |     | NULL    |       |
| city   | varchar(20) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

-- 2.   Create table patient (p_id int primary, p_name varchar(10), street varchar(10), city varchar(10)).

```
mysql> create table patient(patient_id int primary key , patient_name varchar(20) , street varchar(20) ,
city varchar(15));
Query OK, 0 rows affected (0.03 sec)


mysql> show tables;

+----------------------------------+
| Tables_in_hosiptal_record_assign3 |
```

```
+---------------------------------+
| patient                |
| physician               |
+---------------------------------+
```
2 rows in set (0.01 sec)

-- 3.   create table visit (reg_no int,p_id int,date_of_visit date, fee int, FOREIGN KEY (p_id) REFERENCES patient(p_id), FOREIGN KEY (reg_no) REFERENCES physician(reg_no)).

mysql> create table visit(reg_no int , patient_id int , date_of_visit date , fee int , FOREIGN KEY(patient_id) REFERENCES patient(patient_id) , FOREIGN KEY(reg_no) REFERENCES physician(reg_no));

Query OK, 0 rows affected (0.05 sec)

mysql> show tables;
```
+---------------------------------+
| Tables_in_hosiptal_record_assign3 |
+---------------------------------+
| patient                |
| physician               |
| visit                 |
+---------------------------------+
```
3 rows in set (0.01 sec)

mysql> desc visit;
```
+---------------+------+------+-----+---------+-------+
| Field       | Type | Null | Key | Default | Extra |
+---------------+------+------+-----+---------+-------+
| reg_no      | int  | YES  | MUL | NULL    |       |
| patient_id   | int  | YES  | MUL | NULL    |       |
```

| date_of_visit | date | YES | | NULL | |

| fee | int | YES | | NULL | |

+---------------+------+------+-----+---------+-------+

4 rows in set (0.00 sec)

mysql> insert into physician values(101,'DR.Python',987654321,'Jalgaon');

Query OK, 1 row affected (0.01 sec)

mysql> insert into physician values(102,'DR.Cpp',1234567890,'Pune');

Query OK, 1 row affected (0.00 sec)

mysql> insert into physician values(103,'DR.Java',753894612,'Mumbai');

Query OK, 1 row affected (0.01 sec)

mysql> insert into physician values(104,'DR.Google',963852741,'Bengaluru');

Query OK, 1 row affected (0.00 sec)

mysql> insert into physician values(105,'DR.Microsoft',741852999,'Delhi');

Query OK, 1 row affected (0.01 sec)

mysql> insert into physician values(106,'DR.Tata',963852777,'Kolkata');

Query OK, 1 row affected (0.00 sec)

mysql> insert into physician values(107,'DR.Modi',741963888,'Surat');

Query OK, 1 row affected (0.01 sec)

mysql> select * from physician;

+--------+--------------+------------+-----------+

```
| reg_no | name       | tel_no     | city      |
+--------+------------+------------+-----------+
|    101 | DR.Python    |  987654321 | Jalgaon   |
|    102 | DR.Cpp       | 1234567890 | Pune      |
|    103 | DR.Java      |  753894612 | Mumbai    |
|    104 | DR.Google    |  963852741 | Bengaluru |
|    105 | DR.Microsoft |  741852999 | Delhi     |
|    106 | DR.Tata      |  963852777 | Kolkata   |
|    107 | DR.Modi      |  741963888 | Surat     |
+--------+------------+------------+-----------+
7 rows in set (0.00 sec)
```

mysql> insert into patient values(1,'Kaustubh','Ganesh Colony Rd','Jalgaon');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(2,'Himanshu','Mahabad Rd','Jalgaon');

Query OK, 1 row affected (0.00 sec)

mysql> insert into patient values(3,'Onasvee','Airport Rd','Pune');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(4,'Harsh','Sargate Rd','Pune');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(5,'Akash','Thane Rd','Mumbai');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(6,'Vaishnavi','Powai Rd','Mumbai');

Query OK, 1 row affected (0.00 sec)

mysql> insert into patient values(7,'Ankit','MG Rd','Bengaluru');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(8,'Chris','Commercial Rd','Bengaluru');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(9,'Hiddleston','Noida Rd','Delhi');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(10,'Mark','New Delhi Rd','Delhi');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(11,'Scarlett','Bose Rd','Kolkata');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(12,'Benedict','Banerjee Rd','Kolkata');

Query OK, 1 row affected (0.01 sec)

mysql> insert into patient values(13,'RDJ','Narendra Rd','Surat');

Query OK, 1 row affected (0.00 sec)

mysql> insert into patient values(14,'Tom','Shah Rd','Surat');

Query OK, 1 row affected (0.01 sec)

mysql> select * from patient;

+------------+--------------+-----------------+-----------+
| patient_id | patient_name | street | city |
+------------+--------------+-----------------+-----------+

```
|     1 | Kaustubh   | Ganesh Colony Rd | Jalgaon   |
|     2 | Himanshu   | Mahabad Rd       | Jalgaon   |
|     3 | Onasvee    | Airport Rd       | Pune      |
|     4 | Harsh      | Sargate Rd       | Pune      |
|     5 | Akash      | Thane Rd         | Mumbai    |
|     6 | Vaishnavi  | Powai Rd         | Mumbai    |
|     7 | Ankit      | MG Rd            | Bengaluru |
|     8 | Chris      | Commercial Rd    | Bengaluru |
|     9 | Hiddleston | Noida Rd         | Delhi     |
|    10 | Mark       | New Delhi Rd     | Delhi     |
|    11 | Scarlett   | Bose Rd          | Kolkata   |
|    12 | Benedict   | Banerjee Rd      | Kolkata   |
|    13 | RDJ        | Narendra Rd      | Surat     |
|    14 | Tom        | Shah Rd          | Surat     |
+------------+--------------+------------------+-----------+
14 rows in set (0.00 sec)
```

mysql> insert into visit values(101,1,'2021-09-01',1000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(101,2,'2021-09-02',2000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(102,3,'2021-09-03',3000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(102,4,'2021-09-04',4000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(103,5,'2021-09-05',5000);

Query OK, 1 row affected (0.00 sec)

mysql> insert into visit values(103,6,'2021-09-06',6000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(104,7,'2021-09-07',7000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(104,8,'2021-09-08',8000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(105,9,'2021-09-09',9000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(105,10,'2021-09-10',10000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(106,11,'2021-09-11',1000);

Query OK, 1 row affected (0.00 sec)

mysql> insert into visit values(106,12,'2021-09-12',2000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(107,13,'2021-09-13',3000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into visit values(107,14,'2021-09-14',4000);

Query OK, 1 row affected (0.01 sec)

mysql> select * from visit;

```
+--------+------------+---------------+-------+
| reg_no | patient_id | date_of_visit | fee   |
+--------+------------+---------------+-------+
|   101  |      1     | 2021-09-01    |  1000 |
|   101  |      2     | 2021-09-02    |  2000 |
|   102  |      3     | 2021-09-03    |  3000 |
|   102  |      4     | 2021-09-04    |  4000 |
|   103  |      5     | 2021-09-05    |  5000 |
|   103  |      6     | 2021-09-06    |  6000 |
|   104  |      7     | 2021-09-07    |  7000 |
|   104  |      8     | 2021-09-08    |  8000 |
|   105  |      9     | 2021-09-09    |  9000 |
|   105  |     10     | 2021-09-10    | 10000 |
|   106  |     11     | 2021-09-11    |  1000 |
|   106  |     12     | 2021-09-12    |  2000 |
|   107  |     13     | 2021-09-13    |  3000 |
|   107  |     14     | 2021-09-14    |  4000 |
+--------+------------+---------------+-------+
```

14 rows in set (0.00 sec)

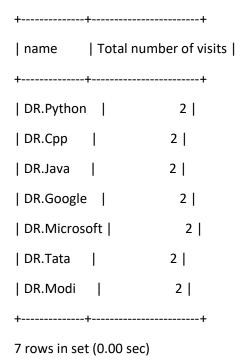-- 4.   Find name and city of patient who visited a physician on 13 Sep 2021.

mysql> select patient_name,city from patient where patient_id in(select patient_id from visit where date_of_visit='2021-09-13');

```
+--------------+-------+
| patient_name | city  |
+--------------+-------+
```

```
| RDJ        | Surat |

+-------------+-------+

1 row in set (0.01 sec)
```

-- 5.   Get the name of physician and total number of patients visited him.

mysql> select physician.name ,count(visit.patient_id) as "Total number of visits" from physician, visit where visit.reg_no=physician.reg_no group by physician.name , physician.name;

```
+-------------+-----------------------+

| name        | Total number of visits |

+-------------+-----------------------+

| DR.Python   |                    2 |

| DR.Cpp      |                    2 |

| DR.Java     |                    2 |

| DR.Google   |                    2 |

| DR.Microsoft |                   2 |

| DR.Tata     |                    2 |

| DR.Modi     |                    2 |

+-------------+-----------------------+

7 rows in set (0.00 sec)
```

-- 6.   Get the details of date wise fees collected at clinic group by date_of_visit.

mysql> select date_of_visit as "date" , sum(fee) from visit group by date_of_visit;

```
+------------+----------+

| date       | sum(fee) |

+------------+----------+

| 2021-09-01 |    1000 |

| 2021-09-02 |    2000 |
```

| 2021-09-03 | 3000 |

| 2021-09-04 | 4000 |

| 2021-09-05 | 5000 |

| 2021-09-06 | 6000 |

| 2021-09-07 | 7000 |

| 2021-09-08 | 8000 |

| 2021-09-09 | 9000 |

| 2021-09-10 | 10000 |

| 2021-09-11 | 1000 |

| 2021-09-12 | 2000 |

| 2021-09-13 | 3000 |

| 2021-09-14 | 4000 |

+------------+----------+

14 rows in set (0.00 sec)

-- 7.   Take join of physician and visit (inner, left, right, full outer join)

mysql> select p.reg_no,p.name,v.date_of_visit FROM physician p INNER JOIN visit v ON p.reg_no=v.reg_no;

+--------+-------------+---------------+

| reg_no | name | date_of_visit |

+--------+-------------+---------------+

| 101 | DR.Python | 2021-09-01 |

| 101 | DR.Python | 2021-09-02 |

| 102 | DR.Cpp | 2021-09-03 |

| 102 | DR.Cpp | 2021-09-04 |

| 103 | DR.Java | 2021-09-05 |

| 103 | DR.Java | 2021-09-06 |

| 104 | DR.Google | 2021-09-07 |

| 104 | DR.Google | 2021-09-08 |

| 105 | DR.Microsoft | 2021-09-09 |

| 105 | DR.Microsoft | 2021-09-10 |

| 106 | DR.Tata | 2021-09-11 |

| 106 | DR.Tata | 2021-09-12 |

| 107 | DR.Modi | 2021-09-13 |

| 107 | DR.Modi | 2021-09-14 |

+--------+--------------+---------------+

14 rows in set (0.00 sec)

-- 8.[reg_no, name, patient_id, date_of_visit].

-- 9.   Take join of patient and visit (inner, left, right, full outer join) [p_name, city, reg_no, date_of_visit].

mysql> select patient.patient_name , patient.city , visit.reg_no , visit.date_of_visit from patient inner join visit on patient.patient_id=visit.patient_id;

+--------------+-----------+--------+---------------+

| patient_name | city | reg_no | date_of_visit |

+--------------+-----------+--------+---------------+

| Kaustubh | Jalgaon | 101 | 2021-09-01 |

| Himanshu | Jalgaon | 101 | 2021-09-02 |

| Onasvee | Pune | 102 | 2021-09-03 |

| Harsh | Pune | 102 | 2021-09-04 |

| Akash | Mumbai | 103 | 2021-09-05 |

```
| Vaishnavi   | Mumbai    |    103 | 2021-09-06    |
| Ankit       | Bengaluru |    104 | 2021-09-07    |
| Chris       | Bengaluru |    104 | 2021-09-08    |
| Hiddleston  | Delhi     |    105 | 2021-09-09    |
| Mark        | Delhi     |    105 | 2021-09-10    |
| Scarlett    | Kolkata   |    106 | 2021-09-11    |
| Benedict    | Kolkata   |    106 | 2021-09-12    |
| RDJ         | Surat     |    107 | 2021-09-13    |
| Tom         | Surat     |    107 | 2021-09-14    |
+-------------+-----------+--------+--------------+
```

14 rows in set (0.00 sec)

mysql> select patient.patient_name , patient.city , visit.reg_no , visit.date_of_visit from patient LEFT join visit on patient.patient_id=visit.patient_id;

```
+-------------+-----------+--------+--------------+
| patient_name | city     | reg_no | date_of_visit |
+-------------+-----------+--------+--------------+
| Kaustubh    | Jalgaon   |    101 | 2021-09-01    |
| Himanshu    | Jalgaon   |    101 | 2021-09-02    |
| Onasvee     | Pune      |    102 | 2021-09-03    |
| Harsh       | Pune      |    102 | 2021-09-04    |
| Akash       | Mumbai    |    103 | 2021-09-05    |
| Vaishnavi   | Mumbai    |    103 | 2021-09-06    |
| Ankit       | Bengaluru |    104 | 2021-09-07    |
| Chris       | Bengaluru |    104 | 2021-09-08    |
| Hiddleston  | Delhi     |    105 | 2021-09-09    |
| Mark        | Delhi     |    105 | 2021-09-10    |
| Scarlett    | Kolkata   |    106 | 2021-09-11    |
| Benedict    | Kolkata   |    106 | 2021-09-12    |
```

| RDJ | Surat | 107 | 2021-09-13 |
| Tom | Surat | 107 | 2021-09-14 |

+--------------+-----------+--------+--------------+

14 rows in set (0.00 sec)

mysql> select patient.patient_name , patient.city , visit.reg_no , visit.date_of_visit from patient RIGHT join visit on patient.patient_id=visit.patient_id;

+--------------+-----------+--------+--------------+

| patient_name | city | reg_no | date_of_visit |

+--------------+-----------+--------+--------------+

| Kaustubh | Jalgaon | 101 | 2021-09-01 |

| Himanshu | Jalgaon | 101 | 2021-09-02 |

| Onasvee | Pune | 102 | 2021-09-03 |

| Harsh | Pune | 102 | 2021-09-04 |

| Akash | Mumbai | 103 | 2021-09-05 |

| Vaishnavi | Mumbai | 103 | 2021-09-06 |

| Ankit | Bengaluru | 104 | 2021-09-07 |

| Chris | Bengaluru | 104 | 2021-09-08 |

| Hiddleston | Delhi | 105 | 2021-09-09 |

| Mark | Delhi | 105 | 2021-09-10 |

| Scarlett | Kolkata | 106 | 2021-09-11 |

| Benedict | Kolkata | 106 | 2021-09-12 |

| RDJ | Surat | 107 | 2021-09-13 |

| Tom | Surat | 107 | 2021-09-14 |

+--------------+-----------+--------+--------------+

14 rows in set (0.00 sec)