-- 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)