

### Problem statement :

Create a medical database having following tables:

Patient table(patient\_id,patient\_name,Date of Admit,Age,City)

Doctor table(doc\_id,doc\_name,qualification,experience,dept,city,salary)

Treats table(doc\_id,patient\_id,disease) (use on delete cascade )

1. Insert at least 5 records in each table.

select \* from Patient;

pat_id	pat_name	DateOfAdmit	age	city
a10	Aryan	2017-05-11	20	Mumbai
c12	Amit	2017-07-21	39	Bangalore
d13	Anita	2017-09-25	49	Pune
p10	Sandesh	2016-07-21	28	Pune
x15	Suyash	2017-04-17	29	Delhi

select \* from Doctor;

doc_id	doc_name	qualification	experience	dept	city	salary
e1	Suhas	MD	10	Dental	Pune	70000
r5	Yogesh	MD	8	Dental	Delhi	40000
s5	Mangesh	MBBS	25	Cardiology	Bangalore	100000
w8	Komal	MBBS	25	Chemothera	Kolkata	45000
y3	Shubham	MBBS	10	Cardiology	Mumabi	60000

select \* from Treats;

doc_id	pat_id	disease
w8	p10	Cancer
w8	c12	Cancer
e1	d13	Toothache
s5	x15	Heart Attack
r5	a10	Cavities

5 rows in set (0.00 sec)

2. Display all the patient names between age group 18 to 50.

select pat\_name from Patient where age between 18 and 50;

pat_name
Aryan
Amit
Anita
Sandesh
Suyash

5 rows in set (0.00 sec)

3. Display the list of all doctors who are MD.

```
select doc_name from Doctor where qualification="MD";
```

```
+-----+
| doc_name |
+-----+
| Suhas    |
| Yogesh   |
+-----+
```

2 rows in set (0.00 sec)

4. Display the list of all doctors whose experience>20 years.

```
select doc_name from Doctor where experience>20;
```

```
+-----+
| doc_name |
+-----+
| Mangesh  |
| Komal    |
+-----+
```

2 rows in set (0.00 sec)

5. Display patient names suffering from cancer.

```
select pat_name from Patient,Treats where Treats.disease="Cancer" and
Treats.pat_id=Patient.pat_id;
```

```
+-----+
| pat_name |
+-----+
| Sandesh  |
| Amit     |
+-----+
```

2 rows in set (0.02 sec)

6. Display the patient name & doctor name who is treating the cancer patient.

```
select pat_name,doc_name from Patient as p,Doctor as d,Treats as t where
disease="Cancer" and d.doc_id=t.doc_id and p.pat_id=t.pat_id;
```

```
+-----+-----+
| pat_name | doc_name |
+-----+-----+
| Sandesh  | Komal    |
| Amit     | Komal    |
+-----+-----+
```

2 rows in set (0.00 sec)

7. Display the patient names whose name starts with letter 'a',end with 'a',having a name having exactly 5 letters.

```
select pat_name from Patient where pat_name like "a%";
```

```
+-----+
| pat_name |
+-----+
| Aryan    |
| Amit     |
| Anita    |
+-----+
```

3 rows in set (0.00 sec)

```
mysql> select pat_name from Patient where pat_name like "%a";
```

```
+-----+
| pat_name |
+-----+
| Anita    |
+-----+
```

```
+-----+
1 row in set (0.00 sec)
```

```
mysql> select pat_name from Patient where pat_name like "_ _ _ _";
```

```
+-----+
| pat_name |
+-----+
| Aryan    |
| Anita    |
+-----+
2 rows in set (0.00 sec)
```

8. Remove all the records of patient with patient\_id=p10.

```
delete from Patient where pat_id="p10";
```

Query OK, 1 row affected (0.04 sec)

```
mysql> select * from Patient;
```

```
+-----+-----+-----+-----+-----+
| pat_id | pat_name | DateOfAdmit | age | city      |
+-----+-----+-----+-----+-----+
| a10    | Aryan    | 2017-05-11  | 20  | Mumbai    |
| c12    | Amit     | 2017-07-21  | 39  | Bangalore  |
| d13    | Anita    | 2017-09-25  | 49  | Pune      |
| x15    | Suyash   | 2017-04-17  | 29  | Delhi      |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
select * from Treats;
```

```
+-----+-----+-----+
| doc_id | pat_id | disease      |
+-----+-----+-----+
| w8     | c12    | Cancer       |
| e1     | d13    | Toothache    |
| s5     | x15    | Heart Attack |
| r5     | a10    | Cavities     |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

9. Remove all the records of doctor Suhas.

```
select * from Treats;
```

```
+-----+-----+-----+
| doc_id | pat_id | disease      |
+-----+-----+-----+
| w8     | c12    | Cancer       |
| s5     | x15    | Heart Attack |
| r5     | a10    | Cavities     |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from Doctor;
```

```
+-----+-----+-----+-----+-----+-----+
| doc_id | doc_name | qualification | experience | dept      | city      |
| salary |
+-----+-----+-----+-----+-----+-----+
| r5     | Yogesh   | MD            | 8          | Dental    | Delhi     |
40000 |
| s5     | Mangesh  | MBBS          | 25         | Cardiology | Bangalore |
100000 |
| w8     | Komal    | MBBS          | 25         | Chemothera | Kolkata   |
45000 |
| y3     | Shubham  | MBBS          | 10         | Cardiology | Mumabi    |
60000 |
```

```
+-----+-----+-----+-----+-----+-----+
+-----+
4 rows in set (0.00 sec)
```

10. Change the qualification of doctor Shubham from MBBS to MD.  
 update Doctor set qualification="MD" where doc\_name="Shubham";  
 Query OK, 1 row affected (0.03 sec)  
 Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> select * from Doctor;
+-----+-----+-----+-----+-----+-----+
+-----+
| doc_id | doc_name | qualification | experience | dept      | city      | salary |
+-----+-----+-----+-----+-----+-----+
+-----+
| r5     | Yogesh   | MD           | 8          | Dental    | Delhi     | 40000  |
| s5     | Mangesh  | MBBS         | 25         | Cardiology | Bangalore | 100000 |
| w8     | Komal    | MBBS         | 25         | Chemothera | Kolkata   | 45000  |
| y3     | Shubham  | MD           | 10         | Cardiology | Mumabi    | 60000  |
+-----+-----+-----+-----+-----+-----+
+-----+
4 rows in set (0.00 sec)
```

11. Give 5% salary rates to the dentist and 10% raise to cardiologist (in single query).  
 update Doctor set salary=case when dept="Dental" then salary+salary\*(0.05) when  
 dept="Cardiology" then salary+salary\*(0.1) else salary\*1 end;  
 Query OK, 3 rows affected (0.05 sec)  
 Rows matched: 4 Changed: 3 Warnings: 0

```
mysql> select * from Doctor;
+-----+-----+-----+-----+-----+-----+
+-----+
| doc_id | doc_name | qualification | experience | dept      | city      | salary |
+-----+-----+-----+-----+-----+-----+
+-----+
| r5     | Yogesh   | MD           | 8          | Dental    | Delhi     | 42000  |
| s5     | Mangesh  | MBBS         | 25         | Cardiology | Bangalore | 110000 |
| w8     | Komal    | MBBS         | 25         | Chemothera | Kolkata   | 45000  |
| y3     | Shubham  | MD           | 10         | Cardiology | Mumabi    | 66000  |
+-----+-----+-----+-----+-----+-----+
+-----+
4 rows in set (0.00 sec)
```

12. Display dept wise total salary of doctors.  
 select dept,sum(salary) from Doctor group by dept;

```
+-----+-----+
| dept      | sum(salary) |
+-----+-----+
| Cardiology | 176000      |
| Chemothera | 45000       |
| Dental     | 42000       |
+-----+-----+
```

3 rows in set (0.00 sec)

13. Find the dept that have the highest avg salary.  
 select dept,avg(salary) from Doctor group by dept having avg(salary)>=all(select  
 avg(salary) from Doctor group by dept);

```
+-----+
| dept      | avg(salary) |
+-----+
| Cardiology | 88000.0000 |
+-----+
```

1 row in set (0.00 sec)

14. Find the avg salary of the doctors in dentist dept.  
 select avg(salary) from Doctor where dept="Dental";

```
+-----+
| avg(salary) |
+-----+
| 42000.0000 |
+-----+
```

1 row in set (0.00 sec)

15. Find the dept where avg salary of the instructor is more than 50,000.  
 select dept from Doctor group by dept having avg(salary)>50000;

```
+-----+
| dept      |
+-----+
| Cardiology |
+-----+
```

1 row in set (0.02 sec)

16. Find how many doctors work in hospital.  
 select count(\*) from Doctor;

```
+-----+
| count(*) |
+-----+
|         4 |
+-----+
```

1 row in set (0.00 sec)

17. Find out how many doctors actually treated a patient.  
 select count(distinct doc\_id) from Treats;

```
+-----+
| count(distinct doc_id) |
+-----+
|                        3 |
+-----+
```

1 row in set (0.00 sec)

18. List the cities in which either doctor or patient lives.  
 select city from Doctor union select city from Patient;

```
+-----+
| city      |
+-----+
| Delhi     |
| Bangalore |
| Kolkata   |
| Mumbai    |
| Pune      |
+-----+
```

5 rows in set (0.01 sec)

19. List the cities in which both the patient & the doctor lives.  
 select d.city from Doctor as d,Patient as p where d.city=p.city;

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

```

+-----+
| Mumbai |
| Bangalore |
| Delhi |
+-----+

```

3 rows in set (0.00 sec)

20. Find out the doctors who have not treated any patient.

```

select doc_name,doc_id from Doctor where doc_id not in(select distinct doc_id
from Treats);

```

```

+-----+-----+
| doc_name | doc_id |
+-----+-----+
| Shubham | y3     |
+-----+-----+

```

1 row in set (0.00 sec)