**Roll No:**

**Student Name:**

**Program and Output:**

**Problem statement :**

Design at least 10 SQL queries for suitable database application using SQL DML statements: Insert, Select, Update, Delete with operators, functions, and set operator.

create database sports;

use sports;

create table indoor(i\_no int(3),i\_name varchar(30),i\_branch varchar(20),year int(5),i\_game varchar(20),points int(5));

insert into indoor(i\_no,i\_name,i\_branch,year,i\_game,points) values (1,’sanjana’,’computer’,3,’carrom’,50);

insert into indoor(i\_no,i\_name,i\_branch,year,i\_game,points) values ('2',"kartiki","Mechanical",'2',"carrom",'60');

insert into indoor(i\_no,i\_name,i\_branch,year,i\_game,points) values ('3',"shrawan","MBA",'1',"carrom",'40');

insert into indoor(i\_no,i\_name,i\_branch,year,i\_game,points) values ('4',"pooja","civil",'1',"chess",'40');

insert into indoor(i\_no,i\_name,i\_branch,year,i\_game,points) values ('5',"RAM","IT",'1',"ludo",'20');

select \* from indoor;

create table outdoor(o\_no int(3),o\_name varchar(30),o\_branch varchar(20),

year int(5),o\_game varchar(20),points int(5));

insert into outdoor(o\_no,o\_name,o\_branch,year,o\_game,points) values('1',"ram","computer",'1',"cricket",'25');

insert into outdoor(o\_no,o\_name,o\_branch,year,o\_game,points) values('2',"Niku","IT",'3',"cricket",'30');

insert into outdoor(o\_no,o\_name,o\_branch,year,o\_game,points) values('3',"Namrata","E&tc",'2',"badminton",'50');

insert into outdoor(o\_no,o\_name,o\_branch,year,o\_game,points) values('4',"Neha","auto",'4',"hockey",'40');

insert into outdoor(o\_no,o\_name,o\_branch,year,o\_game,points) values('5',"vaishali","MBA",'1',"hockey",'45');

select \* from outdoor;

select i\_name from indoor union all select o\_name from outdoor;

update outdoor set year='2' where o\_name="ram";

select \* from outdoor;

delete from outdoor where o\_branch="MBA";

select \*from outdoor;

select i\_name from indoor union all select o\_name from outdoor;

select o\_name from outdoor;

select o\_name from outdoor where o\_game="cricket";

select sum(points) from indoor where i\_branch="computer";

select avg(points) from indoor where i\_branch="computer";

select min(points) from outdoor;

select \* from outdoor where o\_game like 'foo%';

select \* from outdoor where o\_branch like '\_\_';

select \* from indoor order by points DESC;

Create a medical database having following tables and apply above problem statement :

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.
2. Display all the patient names between age group 18 to 50.
3. Display the list of all doctors who are MD.
4. Display the list of all doctors whose experience>20 years.
5. Display patient names suffering from cancer.
6. Display the patient name & doctor name who is treating the cancer patient.
7. Display the patient names whose name starts with letter 'a',end with 'a',having a name having exactly 5 letters.
8. Remove all the records of patient with patient\_id=p10.
9. Remove all the records of doctor Suhas.
10. Change the qualification of doctor Shubham from MBBS to MD.
11. Give 5% salary rates to the dentist and 10% raise to cardiologist (in single query).
12. Find the dept that have the highest avg salary.
13. Find how many doctors work in hospital.
14. Find the avg salary of the doctors in dentist dept.
15. Find the dept where avg salary of the instructor is more than 50,000.
16. Find how many doctors work in hospital.
17. Find out how many doctors actually treated a patient.
18. List the cities in which either doctor or patient lives.
19. List the cities in which both the patient & the doctor lives.
20. Find out the doctors who have not treated any patient.

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