

DBMSL Assignment No.- 2(B)

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Batch - T1

Output

1.Insert atleast five records in each table.

```
mysql> use Medical;
Database changed
mysql> create table Patient
    (pat_id varchar(20),pat_name varchar(100),date_adm date,age int,
    city varchar(30),primary key(pat_id));
Query OK, 0 rows affected (0.04 sec)

mysql> desc Patient;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| pat_id     | varchar(20)   | NO   | PRI | NULL    |       |
| pat_name   | varchar(100)  | YES  |     | NULL    |       |
| date_adm   | date          | YES  |     | NULL    |       |
| age        | int           | YES  |     | NULL    |       |
| city       | varchar(30)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> insert into Patient(pat_id,pat_name,age,city)
    values('p1','Ram',25,'Nagar'),('p2','Sham',30,'Pune');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into Patient values
    ('p3','Aarya','2023-1-20',35,'Mumbai'),
    ('p4','Shivam','2023-4-10',40,'Nashik'),
    ('p10','Vardan','2022-6-5',45,'Pune'),
    ('p5','Nupur','2022-8-15',16,'Nashik');
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> select *from Patient;
+-----+-----+-----+-----+-----+-----+
| pat_id | pat_name | date_adm | age | city |
+-----+-----+-----+-----+-----+-----+
| p1     | Ram      | NULL     | 25  | Nagar |
| p10    | Vardan   | 2022-06-05 | 45  | Pune  |
| p2     | Sham     | NULL     | 30  | Pune  |
| p3     | Aarya    | 2023-01-20 | 35  | Mumbai |
| p4     | Shivam   | 2023-04-10 | 40  | Nashik |
| p5     | Nupur    | 2022-08-15 | 16  | Nashik |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> create table Doctors
    (doc_id varchar(20),doc_name varchar(100),
    qualification varchar(80),exp decimal(4,2),
    dept varchar(80),city varchar(30),salary int,primary key(doc_id));
Query OK, 0 rows affected (0.03 sec)

mysql> desc Doctors;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| doc_id     | varchar(20)   | NO   | PRI | NULL    |       |
| doc_name   | varchar(100)  | YES  |     | NULL    |       |
| qualification | varchar(80)   | YES  |     | NULL    |       |
| exp        | decimal(4,2)  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
```

dept	varchar(80)	YES		NULL		
city	varchar(30)	YES		NULL		
salary	int	YES		NULL		

7 rows in set (0.00 sec)

```
mysql> insert into Doctors values
('d1','Dr.Suhas','MD','10.0','OPD','Pune',100000),
('d2','Dr.Shubham','MBBS','12.5','OPD','Malegoan',200000),
('d3','Dr.Abhinav','Oncologist','22.0','Cancer','Nagar',300000),
('d4','Dr.Shardul','Oncologist','22.5','Cancer','Mumbai',300000),
('d5','Dr.Pawan','BDS','5.0','Dentist','Pune',200000),
('d6','Dr.Sarita','Cardiologist','30.0','Cardiology','Satara',500000);
```

Query OK, 6 rows affected (0.01 sec)
Records: 6 Duplicates: 0 Warnings: 0

```
mysql> select * from Doctors;
```

doc_id	doc_name	qualification	exp	dept	city	salary
d1	Dr.Suhas	MD	10.00	OPD	Pune	100000
d2	Dr.Shubham	MBBS	12.50	OPD	Malegoan	200000
d3	Dr.Abhinav	Oncologist	22.00	Cancer	Nagar	300000
d4	Dr.Shardul	Oncologist	22.50	Cancer	Mumbai	300000
d5	Dr.Pawan	BDS	5.00	Dentist	Pune	200000
d6	Dr.Sarita	Cardiologist	30.00	Cardiology	Satara	500000

6 rows in set (0.00 sec)

```
mysql> create table Treats
(doc_id varchar(20),pat_id varchar(20),disease varchar(80),fees int,
foreign key(doc_id) references Doctors(doc_id) on delete cascade,
foreign key(pat_id) references Patient(pat_id) on delete set NULL);
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> desc Treats;
```

Field	Type	Null	Key	Default	Extra
doc_id	varchar(20)	YES	MUL	NULL	
pat_id	varchar(20)	YES	MUL	NULL	
disease	varchar(80)	YES		NULL	
fees	int	YES		NULL	

4 rows in set (0.00 sec)

```
mysql> insert into Treats values
('d1','p1','Dengue',10000),('d1','p2','Corona',20000),
('d2','p3','Nemonia',40000),('d4','p4','Cancer',100000),
('d3','p5','Cancer',100000),('d6','p10','Blockage',200000),
('d5','p1','Root Canal',20000);
```

Query OK, 7 rows affected (0.01 sec)
Records: 7 Duplicates: 0 Warnings: 0

```
mysql> select * from Treats;
```

doc_id	pat_id	disease	fees
d1	p1	Dengue	10000
d1	p2	Corona	20000
d2	p3	Nemonia	40000
d4	p4	Cancer	100000
d3	p5	Cancer	100000
d6	p10	Blockage	200000
d5	p1	Root Canal	20000

7 rows in set (0.00 sec)

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

```
mysql> select pat_name from Patient where age between 18 and 50;
+-----+
| pat_name |
+-----+
| Ram      |
| Vardan   |
| Sham     |
| Aarya    |
| Shivam   |
+-----+
5 rows in set (0.00 sec)
```

3.Display the list Doctors who are MD.

```
mysql> select *from Doctors where qualification='MD';
+-----+-----+-----+-----+-----+-----+-----+
| doc_id | doc_name | qualification | exp   | dept | city | salary |
+-----+-----+-----+-----+-----+-----+-----+
| d1      | Dr.Suhas | MD            | 10.00 | OPD  | Pune | 100000 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

4.Display the list of Doctors whose experience is 20 plus years.

```
mysql> select *from Doctors where exp>20;
+-----+-----+-----+-----+-----+-----+-----+
| doc_id | doc_name   | qualification | exp   | dept      | city   | salary |
+-----+-----+-----+-----+-----+-----+-----+
| d3      | Dr.Abhinav | Oncologist    | 22.00 | Cancer    | Nagar  | 300000 |
| d4      | Dr.Shardul | Oncologist    | 22.50 | Cancer    | Mumbai | 300000 |
| d6      | Dr.Sarita  | Cardiologist  | 30.00 | Cardiology | Satara | 500000 |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

5.Display the patient suffering from Cancer.

```
mysql> select pat_name,disease from Patient,Treats
       where Treats.pat_id=Patient.pat_id and disease='Cancer';
+-----+-----+
| pat_name | disease |
+-----+-----+
| Shivam   | Cancer  |
| Nupur    | Cancer  |
+-----+-----+
2 rows in set (0.00 sec)
```

6.Display the Patient name and Doctor name who treated the cancer patient.

```
mysql> select pat_name,doc_name,disease from Patient,Treats,Doctors
       where Treats.doc_id=Doctors.doc_id and
       Treats.pat_id=Patient.pat_id and disease='Cancer';
+-----+-----+-----+
| pat_name | doc_name   | disease |
+-----+-----+-----+
| Shivam   | Dr.Shardul | Cancer  |
| Nupur    | Dr.Abhinav | Cancer  |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

7.Display the patient name whose name starts with 'A' , ends with 'A' having the 5 letters.

```
mysql> select *from Patient where pat_name LIKE "A__A";
```

```

+-----+-----+-----+-----+-----+
| pat_id | pat_name | date_adm | age | city |
+-----+-----+-----+-----+
| p3      | Aarya    | 2023-01-20 | 35 | Mumbai |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

```

8.Remove all the records of patient with patient id = p10.

```

mysql> delete from Patient where pat_id='p10';
Query OK, 1 row affected (0.01 sec)

```

```

mysql> select *from Patient;
+-----+-----+-----+-----+-----+
| pat_id | pat_name | date_adm | age | city |
+-----+-----+-----+-----+-----+
| p1      | Ram      | NULL     | 25 | Nagar |
| p2      | Sham     | NULL     | 30 | Pune  |
| p3      | Aarya    | 2023-01-20 | 35 | Mumbai |
| p4      | Shivam   | 2023-04-10 | 40 | Nashik |
| p5      | Nupur    | 2022-08-15 | 16 | Nashik |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

```

```

mysql> select * from Treats;
+-----+-----+-----+-----+
| doc_id | pat_id | disease   | fees |
+-----+-----+-----+-----+
| d1      | p1     | Dengue    | 10000 |
| d1      | p2     | Corona    | 20000 |
| d2      | p3     | Nemonia   | 40000 |
| d4      | p4     | Cancer    | 100000 |
| d3      | p5     | Cancer    | 100000 |
| d6      | NULL   | Blockage  | 200000 |
| d5      | p1     | Root Canal | 20000 |
+-----+-----+-----+-----+
7 rows in set (0.00 sec)

```

9.Remove all the reacords of Dr.Suhas.

```

mysql> delete from Doctors where doc_name='Dr.Suhas';
Query OK, 1 row affected (0.05 sec)

```

```

mysql> select * from Treats;
+-----+-----+-----+-----+
| doc_id | pat_id | disease   | fees |
+-----+-----+-----+-----+
| d2      | p3     | Nemonia   | 40000 |
| d4      | p4     | Cancer    | 100000 |
| d3      | p5     | Cancer    | 100000 |
| d6      | NULL   | Blockage  | 200000 |
| d5      | p1     | Root Canal | 20000 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

```

```

mysql> select * from Doctors;
+-----+-----+-----+-----+-----+-----+-----+
| doc_id | doc_name   | qualification | exp  | dept      | city      | salary |
+-----+-----+-----+-----+-----+-----+-----+
| d2      | Dr.Shubham | MBBS         | 12.50 | OPD       | Malegoan | 200000 |
| d3      | Dr.Abhinav | Oncologist   | 22.00 | Cancer    | Nagar    | 300000 |
| d4      | Dr.Shardul | Oncologist   | 22.50 | Cancer    | Mumbai   | 300000 |
| d5      | Dr.Pawan   | BDS          | 5.00  | Dentist   | Pune     | 200000 |
| d6      | Dr.Sarita  | Cardiologist | 30.00 | Cardiology | Satara   | 500000 |
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

```

10.Change the qulification of Dr.Shubham from MBBS to MD.

```
mysql> update Doctors set qualification='MD'
      where doc_name='Dr.Shubham' and qualification='MBBS';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from Doctors;
```

doc_id	doc_name	qualification	exp	dept	city	salary
d2	Dr.Shubham	MD	12.50	OPD	Malegoan	200000
d3	Dr.Abhinav	Oncologist	22.00	Cancer	Nagar	300000
d4	Dr.Shardul	Oncologist	22.50	Cancer	Mumbai	300000
d5	Dr.Pawan	BDS	5.00	Dentist	Pune	210000
d6	Dr.Sarita	Cardiologist	30.00	Cardiology	Satara	550000
d7	Dr.Abhishek	MBBS	2.00	Orthopedic	Pune	10000

6 rows in set (0.00 sec)

11.Give 5% salary rise to the Dentist and 10% to Cardiologist in a single query.

```
mysql> update Doctors set salary=case
      when dept='Dentist' then salary+(salary*0.05)
      when dept='Cardiology' then salary+(salary*0.1)
      else salary
      end;
Query OK, 2 rows affected (0.00 sec)
Rows matched: 5  Changed: 2  Warnings: 0
```

```
mysql> select * from Doctors;
```

doc_id	doc_name	qualification	exp	dept	city	salary
d2	Dr.Shubham	MD	12.50	OPD	Malegoan	200000
d3	Dr.Abhinav	Oncologist	22.00	Cancer	Nagar	300000
d4	Dr.Shardul	Oncologist	22.50	Cancer	Mumbai	300000
d5	Dr.Pawan	BDS	5.00	Dentist	Pune	210000
d6	Dr.Sarita	Cardiologist	30.00	Cardiology	Satara	550000

5 rows in set (0.00 sec)

12.Display Department wise total salary of Doctors.

```
mysql> select distinct dept,sum(salary) as Total_Salary from Doctors group
by(dept);
```

dept	Total_Salary
OPD	200000
Cancer	600000
Dentist	210000
Cardiology	550000

4 rows in set (0.01 sec)

13.Find the Department which has highest average salary.

```
mysql> select dept,avg(salary) from Doctors group by(dept)
      having avg(salary) >=All (select avg(salary) from Doctors group by(dept));
```

dept	avg(salary)
Cardiology	550000.0000

1 row in set (0.00 sec)

14.Find the average salary of Doctors in Dentist Department.

```
mysql> select distinct dept,avg(salary) as Average_Salary from Doctors
      where dept='Dentist';
+-----+-----+
| dept   | Average_Salary |
+-----+-----+
| Dentist |      210000.0000 |
+-----+-----+
1 row in set (0.04 sec)
```

15.Find the Department where average salary of Doctors is more than 50000.

```
mysql> insert into Doctors values
      ('d7','Dr.Abhishek','MBBS','2.0','Orthopedic','Pune',10000);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select *from Doctors;
+-----+-----+-----+-----+-----+-----+
| doc_id | doc_name      | qualification | exp   | dept      | city      | salary |
+-----+-----+-----+-----+-----+-----+
| d2     | Dr.Shubham    | MD           | 12.50 | OPD       | Malegoan  | 200000 |
| d3     | Dr.Abhinav    | Oncologist    | 22.00 | Cancer    | Nagar     | 300000 |
| d4     | Dr.Shardul    | Oncologist    | 22.50 | Cancer    | Mumbai    | 300000 |
| d5     | Dr.Pawan      | BDS           | 5.00  | Dentist   | Pune      | 210000 |
| d6     | Dr.Sarita     | Cardiologist  | 30.00 | Cardiology | Satara    | 550000 |
| d7     | Dr.Abhishek   | MBBS         | 2.00  | Orthopedic | Pune      | 10000  |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> select dept,avg(salary) as Average_Salary from Doctors group by(dept)
      having avg(salary)>50000 ;
+-----+-----+
| dept   | Average_Salary |
+-----+-----+
| OPD     | 200000.0000 |
| Cancer  | 300000.0000 |
| Dentist | 210000.0000 |
| Cardiology | 550000.0000 |
+-----+-----+
4 rows in set (0.00 sec)
```

16.Find how many Doctors work in the Hospital.

```
mysql> select count(doc_id) from Doctors;
+-----+
| count(doc_id) |
+-----+
| 6 |
+-----+
1 row in set (0.01 sec)
```

17.Find out how many Doctors actually treated a patient.

```
mysql> select pat_name AS Patient_Name,doc_name AS Treating_Doctor_name
      from Patient,Doctors,Treats
      where Treats.doc_id=Doctors.doc_id and Patient.pat_id=Treats.pat_id;
+-----+-----+
| Patient_Name | Treating_Doctor_name |
+-----+-----+
| Ram          | Dr.Pawan             |
| Aarya        | Dr.Shubham           |
| Shivam       | Dr.Shardul           |
| Shivam       | Dr.Shardul           |
| Nupur        | Dr.Abhinav           |
+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> select count(distinct Doctors.doc_id) AS Treating_Doctor_count
        from Patient,Doctors,Treats
        where Treats.doc_id=Doctors.doc_id and Patient.pat_id=Treats.pat_id;
```

```
+-----+
| Treating_Doctor_count |
+-----+
|                      4 |
+-----+
1 row in set (0.00 sec)
```

18.Find the list of Cities in which either Doctor or Patient lives.

```
mysql> select city from Doctors UNION select city from Patient;
```

```
+-----+
| city      |
+-----+
| Malegoan  |
| Nagar     |
| Mumbai    |
| Pune      |
| Satara    |
| Nashik    |
+-----+
6 rows in set (0.01 sec)
```

19 A) List the cities where both lives.

```
mysql> select distinct city from Doctors where city IN (select city from Patient);
```

```
+-----+
| city      |
+-----+
| Nagar     |
| Mumbai    |
| Pune      |
+-----+
3 rows in set (0.00 sec)
```

19 B)List D_name,P_name,cities names if they live in same city.

```
mysql> select pat_name,doc_name, patient.city from patient, doctor
        where patient.city=doctor.city;
```

```
+-----+-----+-----+
| pat_name | doc_name | city  |
+-----+-----+-----+
| Ram      | Dr.Abhinav | Nagar |
| Aarya    | Dr.Shardul | Mumbai |
| Sham     | Dr.Pawan   | Pune  |
| Sham     | Dr.Abhishek | Pune  |
+-----+-----+-----+
4 rows in set (0.01 sec)
```

20.Find the Doctors who have not treated any Patient.

```
mysql> select doc_id,doc_name from Doctors where doc_id
        NOT IN (select doc_id from Treats);
```

```
+-----+-----+
| doc_id | doc_name |
+-----+-----+
| d7     | Dr.Abhishek |
| d8     | Dr.Shubham  |
+-----+-----+
2 rows in set (0.00 sec)
```

21 (A) Display the name of Doctors and Patient as a single column.

```
mysql> select doc_name As Name from Doctors UNION select pat_name from Patient;
+-----+
| Name      |
+-----+
| Dr.Shubham |
| Dr.Abhinav |
| Dr.Shardul |
| Dr.Pawan   |
| Dr.Sarita  |
| Dr.Abhishek |
| Ram        |
| Sham       |
| Aarya      |
| Shivam     |
| Nupur      |
+-----+
11 rows in set (0.00 sec)
```

21.(B) Let Duplicate name appear many times.

```
mysql> select doc_name As Name from Doctors UNION ALL
       select pat_name from Patient;
+-----+
| Name      |
+-----+
| Dr.Shubham |
| Dr.Abhinav |
| Dr.Shardul |
| Dr.Pawan   |
| Dr.Sarita  |
| Dr.Abhishek |
| Dr.Shubham |
| Ram        |
| Sham       |
| Aarya      |
| Shivam     |
| Nupur      |
+-----+
12 rows in set (0.00 sec)
```

22. What's the total money collected so far from treatment of patients.

```
mysql> select sum(fees) as Total_Fees from Treats;
+-----+
| Total_Fees |
+-----+
| 460000     |
+-----+
1 row in set (0.00 sec)
```

23. Find the average salary of each Department.

```
mysql> select dept, avg(salary) AS Average_Salary from Doctors group by(dept);
+-----+-----+
| dept      | Average_Salary |
+-----+-----+
| OPD       | 200000.0000    |
| Cancer    | 300000.0000    |
| Dentist   | 210000.0000    |
| Cardiology | 550000.0000    |
| Orthopedic | 10000.0000     |
+-----+-----+
5 rows in set (0.00 sec)
```


24.Display Patient name which does not have date of admission.

```
mysql> select *from Patient where date_adm is NULL;
+-----+-----+-----+-----+-----+
| pat_id | pat_name | date_adm | age  | city  |
+-----+-----+-----+-----+-----+
| p1     | Ram      | NULL     | 25   | Nagar |
| p2     | Sham     | NULL     | 30   | Pune  |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```