DBMS Lab Assignment 3

Abhishek Arya (19BCS004)

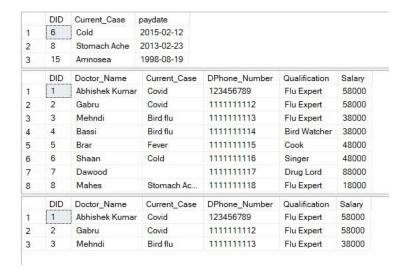
1. Illustrate logical ANY, ALL and LIKE operator- the queries should be relevant to your respective databases 3 queries for each operator. One query explaining the difference between ANY and ALL

```
Use T8_Hospital_Database
```

```
SELECT * FROM FEE WHERE paydate < ANY (SELECT paydate FROM FEE WHERE paydate > '1998-08-19');
```

SELECT * FROM Doctor WHERE DID < ANY (SELECT DID FROM Doctor WHERE Qualification = 'Flu Expert');

SELECT * FROM Doctor WHERE DID< ANY (SELECT DID FROM FEE WHERE Current Case = 'Bird Flu');

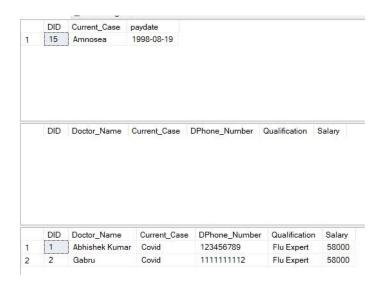


Use T8_Hospital_Database

```
SELECT * FROM FEE WHERE paydate < ALL (SELECT paydate FROM FEE WHERE paydate > '1998-08-19');
```

```
SELECT * FROM Doctor WHERE DID < ALL (SELECT DID FROM Doctor WHERE Qualification = 'Flu Expert');
```

SELECT * FROM Doctor WHERE DID< ALL (SELECT DID FROM FEE WHERE Current_Case = 'Bird Flu');



Use T8_Hospital_Database

SELECT Doctor_Name FROM Doctor where Doctor_Name like 'a%';

SELECT Doctor_Name FROM Doctor where Doctor_Name like '%a';

SELECT Doctor_Name FROM Doctor where Doctor_Name like '%pe%';



2. One query for each Aggregate function.

Use T8_Hospital_Database

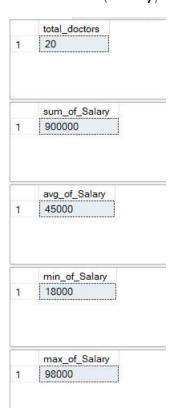
SELECT COUNT(*) As total_doctors FROM Doctor;

SELECT SUM(Salary)as sum_of_Salary FROM Doctor;

SELECT AVG(Salary)as avg_of_Salary FROM Doctor;

SELECT MIN(Salary)as min_of_Salary FROM Doctor;

SELECT MAX(Salary)as max_of_Salary FROM Doctor;



3. Illustrate the usage of order by, group by and having clause (2 queries for each case)

Use T8_Hospital_Database

SELECT Doctor_Name FROM Doctor order by DID;

SELECT * FROM FEE order by paydate;

SELECT DID FROM Doctor group by DID having DID < 3;

SELECT DID FROM Doctor group by DID having DID > 25;



4. Use Aggregate function with group by and having

```
Use T8_Hospital_Database
      SELECT max(Salary) as max_Salary FROM Doctor GROUP BY
Qualification;
       SELECT min(Salary) as min_Salary FROM Doctor GROUP BY Qualification;
       SELECT sum(Salary) as sum Salary FROM Doctor GROUP BY
Qualification;
      SELECT avg(Salary) as avg_Salary FROM Doctor GROUP BY Qualification;
      SELECT count(Salary) as count_Salary FROM Doctor GROUP BY
       Qualification;
         28000
         68000
         88000
         38000
         58000
         min_Salary
38000
         48000
          48000
          38000
          28000
         68000
         88000
          210000
          98000
          28000
       10
         avg_Salary
         28000
          18000
          38000
         38000
```

count Salary

5. Write at least 3 nested queries using order by, group by and having clause.

Use T8_Hospital_Database

SELECT Doctor_Name, DID FROM Doctor group by Doctor_Name, DID;

SELECT DID, Qualification, Doctor_Name FROM Doctor group by DID, Qualification, Doctor_Name order by Doctor_Name desc;

SELECT Doctor_Name,Qualification FROM Doctor group by Doctor_Name,Qualification order by Doctor_Name desc;



6. Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection

Use T8_Hospital_Database

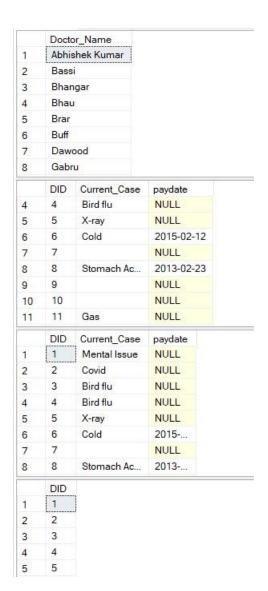
SELECT Doctor_Name FROM Doctor except select Doctor_Name from Doctor where Qualification='Bird Flu';

SELECT * FROM FEE where exists(select DID from Doctor where DID<5);

SELECT * FROM FEE where not exists(select DID from Doctor where DID>27);

SELECT DID FROM Doctor union select DID from FEE;

SELECT DID FROM Doctor intersect select DID from FEE;



7. INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN- 3 queries for each instance

Use T8_Hospital_Database

select D1.Doctor_Name from Doctor D1 inner join Doctor D2 on
D2.Current_Case='Bird Flu';

select D1.Doctor_Name from Doctor D1 inner join Doctor D2 on
D2.DID<2;</pre>

select D1.Doctor_Name from Doctor D1 inner join Doctor D2 on
D2.Qualification='Flu Expert';

	Doctor_Name
4	Bassi
5	Brar
6	Shaan
7	Dawood
8	Mahes
9	Bhangar
10	Bhau
11	Shankar
	Doctor_Name
1	Abhishek Kumar
2	Gabru
3	Mehndi
4	Bassi
5	Brar
6	Shaan
7	Dawood
8	Mahes
	Doctor_Name
10	Bhau
11	Shankar
12	Lakshman
13	Sweta
14	Pewds
15	Kevin
16	Ken

```
Use T8_Hospital_Database

select D1.Doctor_Name from Doctor D1 left join Doctor D2 on
D2.Current_Case='Bird Flu';

select D1.Doctor_Name from Doctor D1 left join Doctor D2 on D2.DID<2;

select D1.Doctor_Name from Doctor D1 left join Doctor D2 on
D2.Qualification='Flu Expert';</pre>
```

Doctor_Name Abhishek Kumar Abhishek Kumar 2 Gabru 3 Gabru Mehndi 5 Mehndi 6 Bassi Bassi Doctor_Name Abhishek Kumar Gabru 2 3 Mehndi Bassi Brar 5 Shaan 6 Dawood Mahes Doctor_Name Abhishek Kumar Abhishek Kumar 2 Abhishek Kumar Abhishek Kumar 5 Abhishek Kumar Gabru 6 7 Gabru

Use T8_Hospital_Database

D2.DID<2;

```
select D1.Doctor_Name from Doctor D1 right join Doctor D2 on
D2.Current_Case='Bird Flu';
select D1.Doctor_Name from Doctor D1 right join Doctor D2 on
```

select D1.Doctor_Name from Doctor D1 right join Doctor D2 on D2.Qualification='Flu Expert';

	Doctor_Name	
1	NULL	
2	NULL	
3	Abhishek Kumar	
4	Gabru	
5	Mehndi	
6	Bassi	
7	Brar	
8	Shaan	
	Doctor_Name	
1	Abhishek Kumar	
2	Gabru	
3	Mehndi	
4	Bassi	
5	Brar	
6	Shaan	
7	Dawood	
8	Mahes	
	Doctor_Name	
1	Abhishek Kumar	
2	Gabru	
3	Mehndi	
4	Bassi	
5	Brar	
6	Shaan	
7	Dawood	

8. Use all the above condition in JOIN as well.

```
Use T8_Hospital_Database

select D1.Doctor_Name from Doctor D1 join Doctor D2 on
D2.Current_Case='Bird Flu';

select D1.Doctor_Name from Doctor D1 join Doctor D2 on D2.DID<2;

select D1.Doctor_Name from Doctor D1 join Doctor D2 on
D2.Qualification='Flu Expert';
```

