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DBMS LAB ASSIGNMENT - 4

Q1) Write 5 Nested Queries for your respective database- the queries should not be very similar like just changing the where clause or just building all the queries on only one or two tables etc. The queries should make sense; it should cover most part of your database tables.

Code:

```
use Hospital
SELECT *
FROM dbo.T1_ROOM
WHERE doctor_id IN( SELECT doctor_id
FROM dbo.T1_Doctor
WHERE doctor_specialization = 'ENT');

SELECT *
FROM dbo.T1_Doctor
WHERE doctor_id IN ( SELECT doctor_id
FROM dbo.T1_Patient
WHERE room_id IN( SELECT room_id
FROM dbo.T1_Room
where room_type = 'ac')));

SELECT *
FROM dbo.T1_Patient
WHERE doctor_id IN( SELECT doctor_id
```

```
FROM dbo.T1_Doctor
WHERE doctor_phone IN( SELECT doctor_phone
FROM dbo.T1_Doctor
where doctor_phone = 0123456789));
```

```
SELECT *
FROM dbo.T1_Doctor
WHERE doctor_id IN ( SELECT doctor_id
FROM dbo.T1_Patient
WHERE room_id IN( SELECT room_id
FROM dbo.T1_Room
where room_type = 'general'));
```

```
SELECT *
FROM dbo.T1_Patient
WHERE doctor_id IN( SELECT doctor_id
FROM dbo.T1_Doctor
WHERE doctor_phone IN( SELECT doctor_phone
FROM dbo.T1_Doctor
where doctor_phone = 121364529));
```

Output:

Results Messages						
	room_id	room_no	room_type	patient_id	doctor_id	entrydate
1	3	103	ac	3	3	NULL
2	5	105	ac single bed	5	1	NULL
3	8	108	ac	3	3	NULL
4	10	110	ac single bed	5	1	NULL
5	13	113	ac	3	3	NULL
6	15	115	ac single bed	5	1	NULL
7	18	116	ac	3	3	NULL
8	20	118	ac single bed	5	1	NULL

doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
1	ARJUN	123456789	UP	ENT
2	Mayank	124576989	Karnataka	Liver

patient_id	name	phone	address	disease	doctor_id	room_id
1	Gourab	121765529	MH	Sinus	1	3

doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
1	Ram	122135489	Bihar	MBBS
2	Ayaan	121364529	MH	ENT
3	Akash	12465231	UP	Ortho

patient_id	name	phone	address	disease	doctor_id	room_id
1	Mohan	127524789	UP	Nose Surgery	3	1

Query executed successfully. | localhost (15.0 RTM) | LAPTOP-F8TGAA78\Nihar ... | Hospital | 00:00:00 | 1 rows

Q2) Illustrate how we can use Concat and As operators in SQL.

Code:

```
use Hospital
SELECT CONCAT(doctor_name,' ',doctor_address) AS
Full_Name
from
    T1_Doctor
SELECT CONCAT(room_no,' * ',room_type) AS Room
from
    T1_Room
SELECT CONCAT(name,'(',disease,')') AS
Name_and_Disease
from T1_Patient
```

Output:

The screenshot shows the SQL Server Enterprise Manager interface with three queries executed. The first query, 'SQLQuery5.sql', concatenates doctor names and addresses. The second query, 'SQLQuery3.sql', concatenates room numbers and types. The third query, 'SQLQuery2.sql', concatenates patient names and diseases.

```
use Hospital
SELECT CONCAT(doctor_name, ' ', doctor_address) AS Full_Name from
T1_Doctor
SELECT CONCAT(room_no, ' * ', room_type) AS Room from
T1_Room
SELECT CONCAT(name, '(', disease, ')') AS
Name_and_Disease from T1_Patient
```

Full_Name

1	Akash UP
2	ARJUN UP
3	Ayaan MH
4	Mayank Karnataka
5	Ram Bihar

Room

1	101 * general
2	102 * general
3	103 * ac
4	104 * ac
5	105 * ac single bed
6	106 * general
7	106 * general
8	107 * general
9	107 * general
10	108 * ac

Name_and_Disease

1	Aparna(Liver Failure)
2	Gourab(Sinus)
3	Jaynit(Leg Fracture)
4	Mohan(Nose Surg...
5	Sanchit(Appendix)

Query executed successfully. | localhost (15.0 RTM) | LAPTOP-F8TGAA78\Nihar ... | Hospital | 00:00:00 | 30 rows

Q3) Illustrate all the Comparison operator.

Code:

```
SELECT * FROM dbo.T1_Doctor where doctor_id <= 2;
SELECT * FROM dbo.T1_Doctor where doctor_id <= 5;

SELECT * FROM dbo.T1_Room where room_id >= 1;
SELECT * FROM dbo.T1_Room where room_id >= 0;

SELECT * FROM dbo.T1_Doctor where doctor_name = 'Akash';
SELECT * FROM dbo.T1_Doctor where doctor_id = 5;

SELECT * FROM dbo.T1_Doctor where doctor_id <= 2;
SELECT * FROM dbo.T1_Doctor where doctor_id <= 5;
```

```
SELECT * FROM dbo.T1_Room where room_id != 2;
SELECT * FROM dbo.T1_Room where room_type != 'ac';
```

Output:

SQLQuery6.sql - lo...TGAA78\Nihar (54))*					
SQLQuery5.sql - lo...TGAA78\Nihar (52))*					
SQLQuery3.sql - lo...TGAA78\Nihar (59))*					
SQLQuery4.sql - lo...TGAA78\Nihar (69))*					
150 %					
Results Messages					
1	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
2	1	ARJUN	123456789	UP	ENT
3	2	Ram	122135489	Bihar	MBBS
4	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
5	1	ARJUN	123456789	UP	ENT
6	2	Ram	122135489	Bihar	MBBS
7	3	Ayaan	121364529	MH	ENT
8	4	Mayank	124576989	Karnataka	Liver
9	5	Akash	12465231	UP	Ortho
10	room_id	room_no	room_type	patient_id	doctor_id
11	1	101	general	1	5
12	2	102	general	2	4
13	3	103	ac	3	3
14	4	104	ac	4	2
15	5	105	ac single...	5	1
16	6	106	general	1	5
17	7	107	general	2	4
18	8	108	ac	3	3
19	room_id	room_no	room_type	patient_id	doctor_id
20	1	101	general	1	5
21	2	102	general	2	4
22	3	103	ac	3	3
23	4	104	ac	4	2
24	5	105	ac single...	5	1
25	6	106	general	1	5
26	7	107	general	2	4
27	8	108	ac	3	3
28	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
29	5	Akash	12465231	UP	Ortho
30	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
31	5	Akash	12465231	UP	Ortho
32	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
33	1	ARJUN	123456789	UP	ENT
34	2	Ram	122135489	Bihar	MBBS
35	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
36	1	ARJUN	123456789	UP	ENT
37	2	Ram	122135489	Bihar	MBBS
Query executed successfully.					
localhost (15.0 RTM) LAPTOP-F8TGAA78\Nihar ... Hospital 00:00:00 87 rows					
1	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
2	1	ARJUN	123456789	UP	ENT
3	2	Ram	122135489	Bihar	MBBS
4	doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
5	1	ARJUN	123456789	UP	ENT
6	2	Ram	122135489	Bihar	MBBS
7	3	Ayaan	121364529	MH	ENT
8	4	Mayank	124576989	Karnataka	Liver
9	5	Akash	12465231	UP	Ortho
10	room_id	room_no	room_type	patient_id	doctor_id
11	5	105	ac single...	5	1
12	6	106	general	1	5
13	7	107	general	2	4
14	8	108	ac	3	3
15	9	109	ac	4	2
16	10	110	ac single...	5	1
17	11	111	general	1	5
18	12	112	general	2	4
19	room_id	room_no	room_type	patient_id	doctor_id
20	1	101	general	1	5
21	2	102	general	2	4
22	5	105	ac single...	5	1
23	6	106	general	1	5
24	7	107	general	2	4
25	10	110	ac single...	5	1
26	11	111	general	1	5
27	12	112	general	2	4
Query executed successfully.					
localhost (15.0 RTM) LAPTOP-F8TGAA78\Nihar ... Hospital 00:00:00 87 rows					

Q4) Illustrate Logical operators except ANY, ALL and Like.

Code:

```
use Hospital

SELECT *
FROM dbo.T1_ROOM
WHERE doctor_id IN( SELECT doctor_id
FROM dbo.T1_Doctor
WHERE doctor_specialization = 'ENT');

SELECT *
FROM dbo.T1_Doctor
WHERE doctor_id IN ( SELECT doctor_id
FROM dbo.T1_Patient
WHERE room_id IN( SELECT room_id
FROM dbo.T1_Room
where room_type = 'ac')));

SELECT *
FROM dbo.T1_Patient
WHERE doctor_id IN( SELECT doctor_id
FROM dbo.T1_Doctor
WHERE doctor_phone IN( SELECT doctor_phone
FROM dbo.T1_Doctor
where doctor_phone = 0123456789));

SELECT *
FROM dbo.T1_Doctor
WHERE doctor_id IN ( SELECT doctor_id
FROM dbo.T1_Patient
WHERE room_id IN( SELECT room_id
```

```

FROM dbo.T1_Room
where room_type = 'general'));

SELECT *
FROM dbo.T1_Patient
WHERE doctor_id IN( SELECT doctor_id
FROM dbo.T1_Doctor
WHERE doctor_phone IN( SELECT doctor_phone
FROM dbo.T1_Doctor
where doctor_phone = 121364529));

```

Output:

150 %

Results Messages

patient_id	name	phone	address	disease	doctor_id	room_id
1	Mohan	127524789	UP	Nose Surgery	3	1
2	Sanchit	122424159	Bihar	Appendix	2	2
3	Gourab	121765529	MH	Sinus	1	3

doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
3	Ayaan	121364529	MH	ENT
4	Mayank	124576989	Karnataka	Liver
5	Akash	124576989	UP	Ortho

doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
1	ARJUN	123456789	UP	ENT
3	Ayaan	121364529	MH	ENT
4	Mayank	124576989	Karnataka	Liver

patient_id	name	phone	address	disease	doctor_id	room_id
2	Sanchit	122424159	Bihar	Appendix	2	2
3	Gourab	121765529	MH	Sinus	1	3

room_id	room_no	room_type	patient_id	doctor_id	entrydate
1	101	general	1	5	NULL
2	102	general	2	4	NULL
3	105	ac single...	5	1	NULL
4	106	general	1	5	NULL
5	107	general	2	4	NULL
6	110	ac single...	5	1	NULL
7	111	general	1	5	NULL
8	112	general	2	4	NULL

doctor_id	doctor_name	doctor_phone	doctor_address	doctor_specialization
1	ARJUN	123456789	UP	ENT
4	Mayank	124576989	Karnataka	Liver

patient_id	name	phone	address	disease	doctor_id	room_id
1	Mohan	127524789	UP	Nose Surgery	3	1
2	Gourab	121765529	MH	Sinus	1	3
3	Jaynit	1257531	UP	Leg Fracture	5	7

room_id	room_no	room_type	patient_id	doctor_id	entrydate
1	102	general	2	4	NULL
2	106	general	1	5	NULL
3	106	general	1	5	NULL

Query executed successfully.

localhost (15.0 RTM) | LAPTOP-F8TGAA78\Nihar ... | Hospital | 00:00:00 | 31 rows