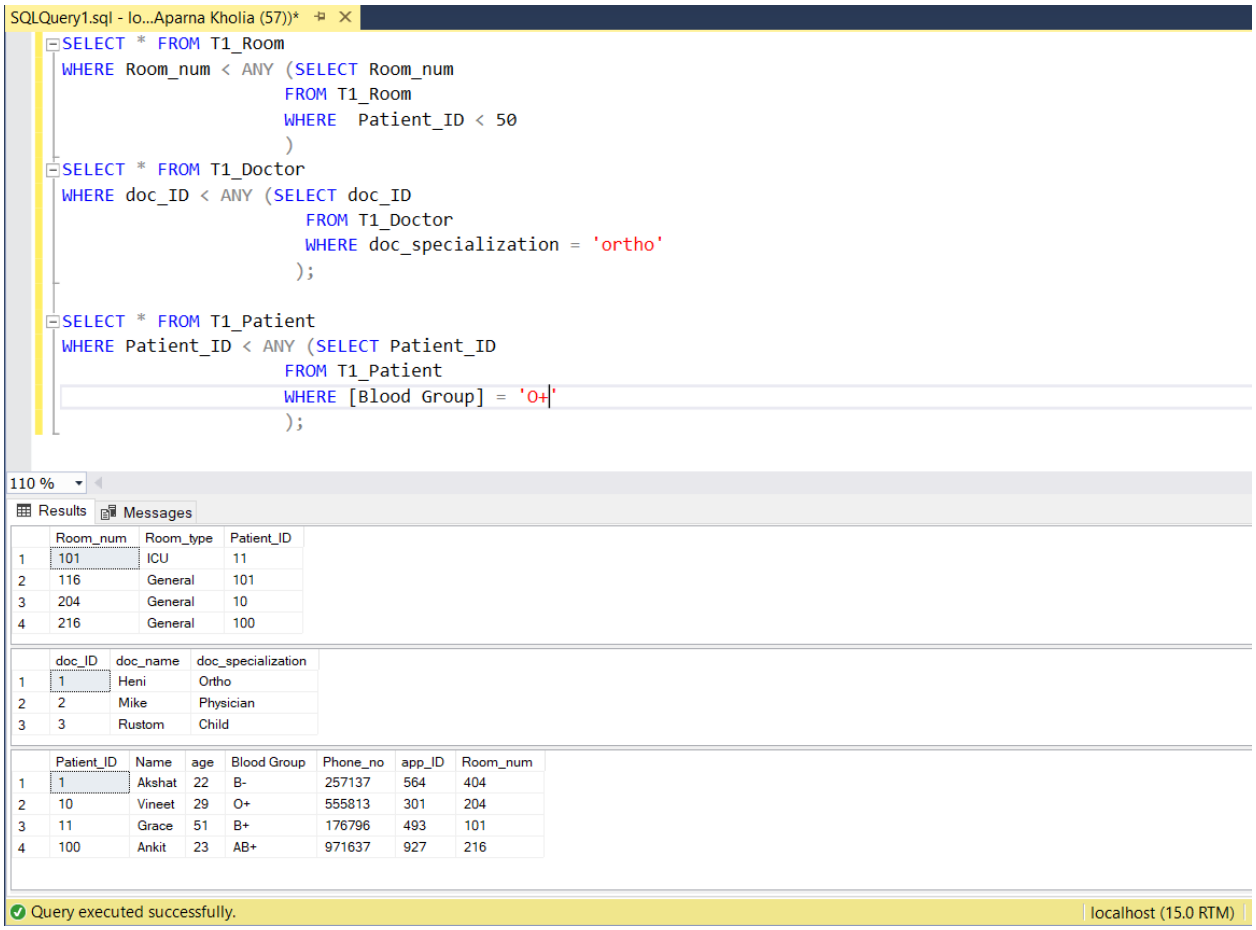
DBMS Lab Assignment 5

Name: Aparna Kholia
Reg No: 19BCS116

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



SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT * FROM T1_Room
WHERE Room_num < ANY (SELECT Room_num
                      FROM T1_Room
                      WHERE  Patient_ID < 50
                      )
SELECT * FROM T1_Doctor
WHERE doc_ID < ANY (SELECT doc_ID
                      FROM T1_Doctor
                      WHERE doc_specialization = 'ortho'
                     );

SELECT * FROM T1_Patient
WHERE Patient_ID < ANY (SELECT Patient_ID
                      FROM T1_Patient
                      WHERE [Blood Group] = 'O+'
                      );
```

110 %

Results | Messages

	Room_num	Room_type	Patient_ID
1	101	ICU	11
2	116	General	101
3	204	General	10
4	216	General	100

	doc_ID	doc_name	doc_specialization
1	1	Heni	Ortho
2	2	Mike	Physician
3	3	Rustom	Child

	Patient_ID	Name	age	Blood Group	Phone_no	app_ID	Room_num
1	1	Akshat	22	B-	257137	564	404
2	10	Vineet	29	O+	555813	301	204
3	11	Grace	51	B+	176796	493	101
4	100	Ankit	23	AB+	971637	927	216

Query executed successfully. localhost (15.0 RTM)

SQLQuery4.sql - lo...Aparna Kholia (52))*

```
SELECT * FROM T1_Room
WHERE Room_num > ALL (SELECT Room_num
                      FROM T1_Room
                      WHERE Room_num < 210
                      );
SELECT * FROM T1_Doctor
WHERE doc_ID <> ALL (SELECT doc_ID
                       FROM T1_Doctor
                       WHERE doc_name = 'Heni'
                      );
SELECT * FROM T1_Room
WHERE Room_num <> ALL (SELECT Room_num
                      FROM T1_Room
                      WHERE Room_type = 'ICU'
                      );
```

110 %

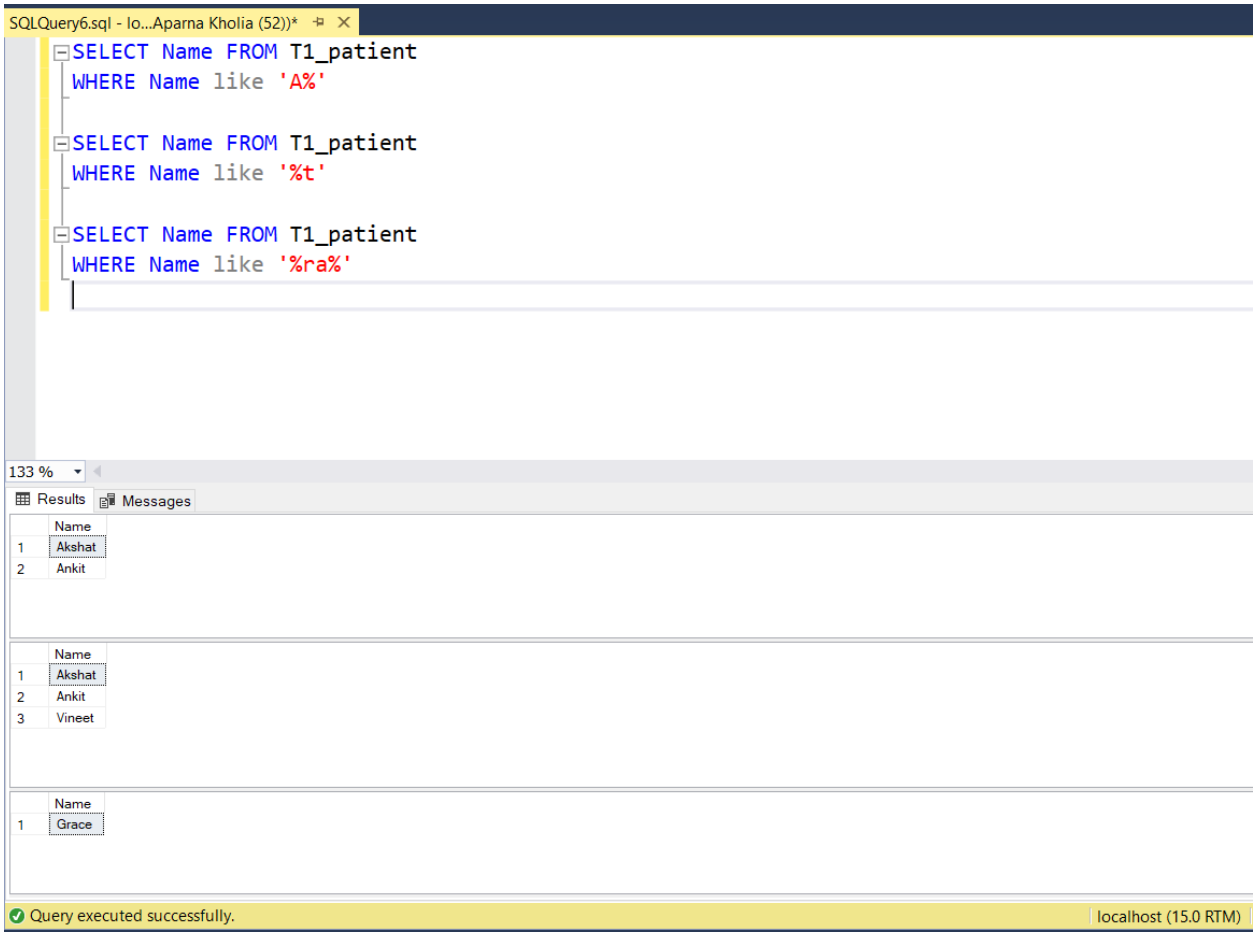
Results | Messages

	Room_num	Room_type	Patient_ID
1	216	General	100
2	404	General	1

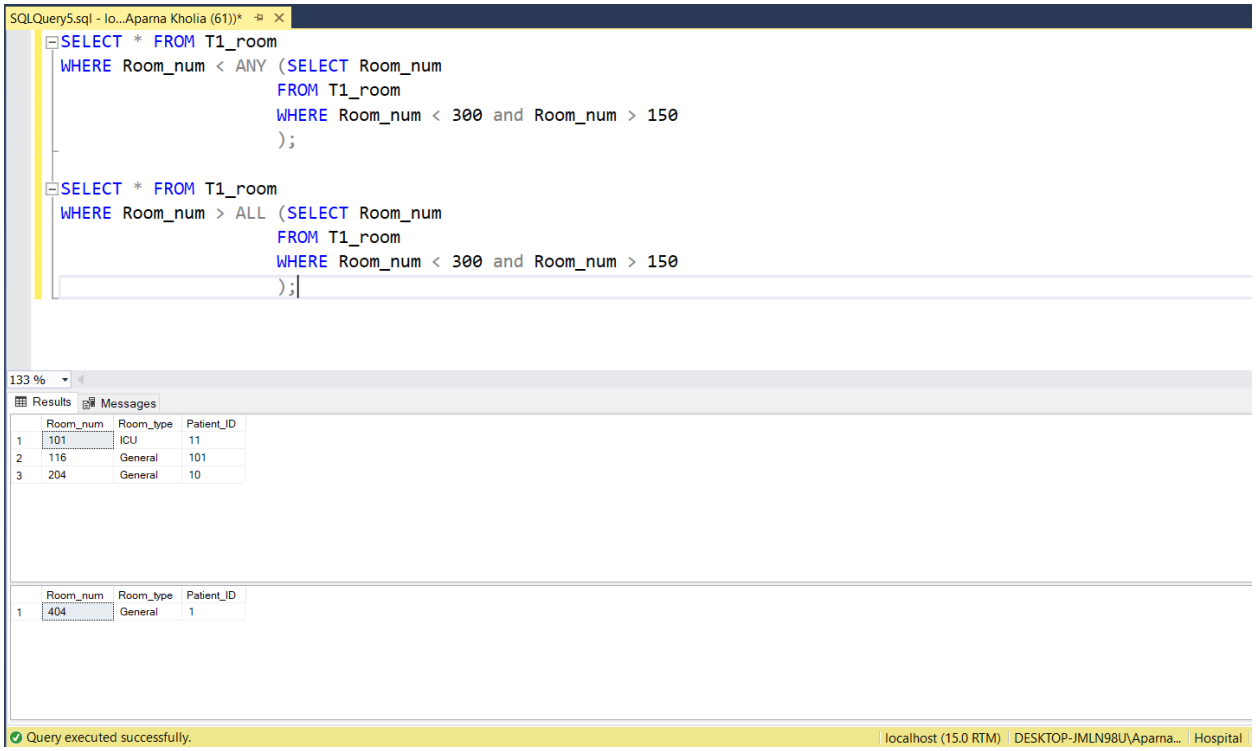
	doc_ID	doc_name	doc_specialization
1	4	Divyank	Ortho
2	5	Kush	Phy
3	2	Mike	Physician
4	3	Rustom	Child

	Room_num	Room_type	Patient_ID
1	116	General	101
2	204	General	10
3	216	General	100
4	404	General	1

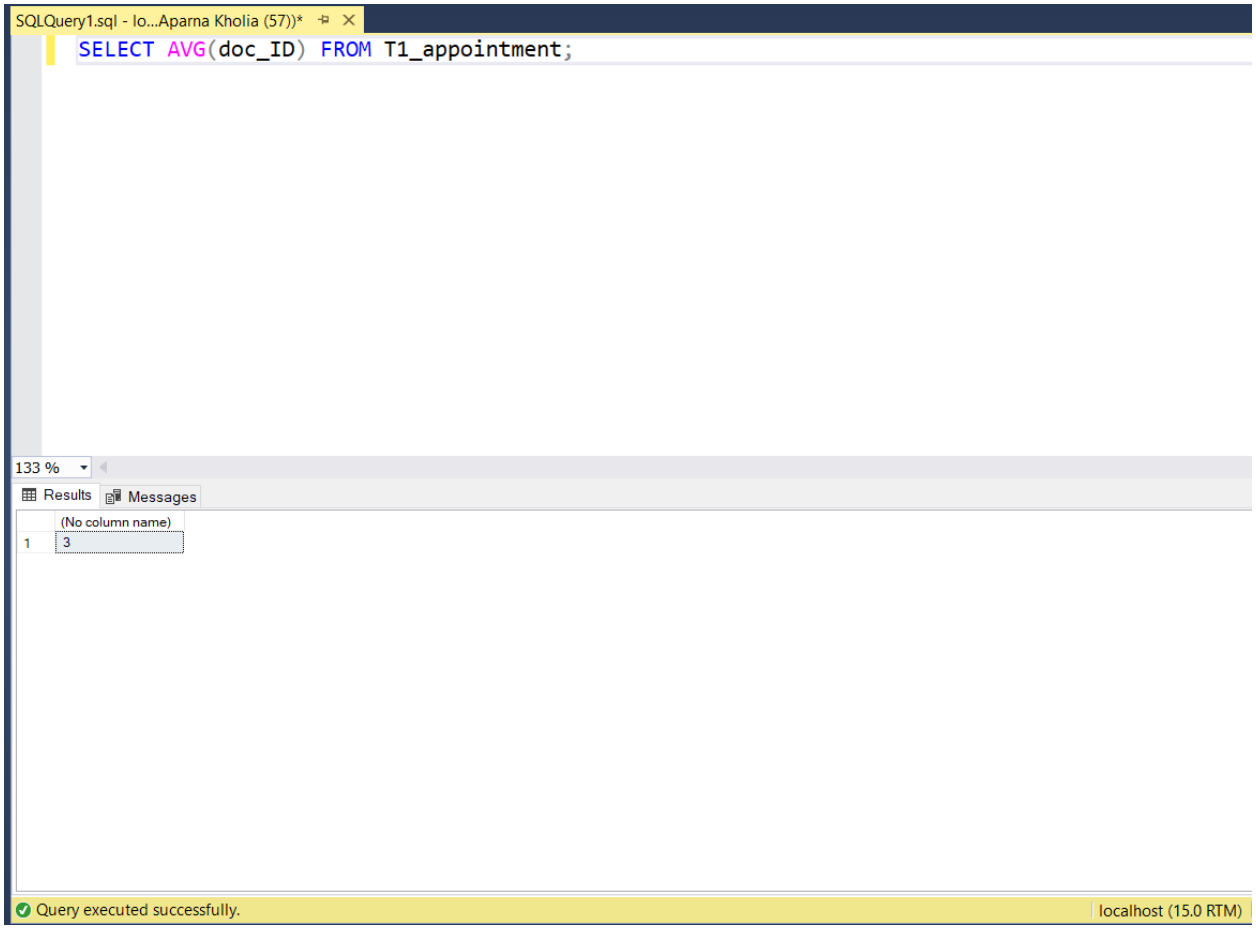
Query executed successfully. localhost (15.0 RTM)


SQLQuery6.sql - lo...Aparna Kholia (52))*
SELECT Name FROM T1_patient
WHERE Name like 'A%'
SELECT Name FROM T1_patient
WHERE Name like '%t'
SELECT Name FROM T1_patient
WHERE Name like '%ra%'
133 %
Results
Messages
Name
1 Akshat
2 Ankit
Name
1 Akshat
2 Ankit
3 Vineet
Name
1 Grace
Query executed successfully.
localhost (15.0 RTM)

Difference between ANY and ALL



2) One query for each Aggregate function.



SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT COUNT(*)
FROM T1_Room
WHERE Room_num>110;
```

133 %

Results | Messages

	(No column name)
1	4

Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna...

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT MAX(Room_num)
From T1_Patient;
```

133 %

Results | Messages

	(No column name)
1	404

Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna...

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT MIN(Room_num)
From T1_Patient;
```

133 %

Results | Messages

	(No column name)
1	101

Query executed successfully. | localhost (15.0 RTM) | DESKTOP-JMLN98U\Aparna...

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT SUM(Room_num)
From T1_Patient;
```

133 %

Results | Messages

	(No column name)
1	1041

Query executed successfully. | localhost (15.0 RTM) | DESKTOP-JMLN98U\Aparna...

3) Illustrate the usage of order by, group by and having clause

order-by.sql - loca...\Aparna Kholia (61))

```
SELECT Name FROM T1_patient
WHERE Patient_ID<40 order by Name ASC;

SELECT * FROM T1_room
where Room_num<200 order by Patient_ID desc;

SELECT * FROM T1_bill
where Payment_method='Cash' order by bill_ID desc;
```

133 %

Results | Messages

	Name
1	Akshat
2	Grace
3	Vineet

	Room_num	Room_type	Patient_ID
1	116	General	101
2	101	ICU	11

	bill_ID	Patient_ID	Payment_method
1	4597	1	Cash
2	2045	100	Cash

SQLQuery10.sql - I...Aparna Kholia (62))*

```
select patient_id from T1_patient
group by patient_id having patient_id < 100 ;

select Payment_method from T1_bill
group by Payment_method having Payment_method ='Credit card' ;
```

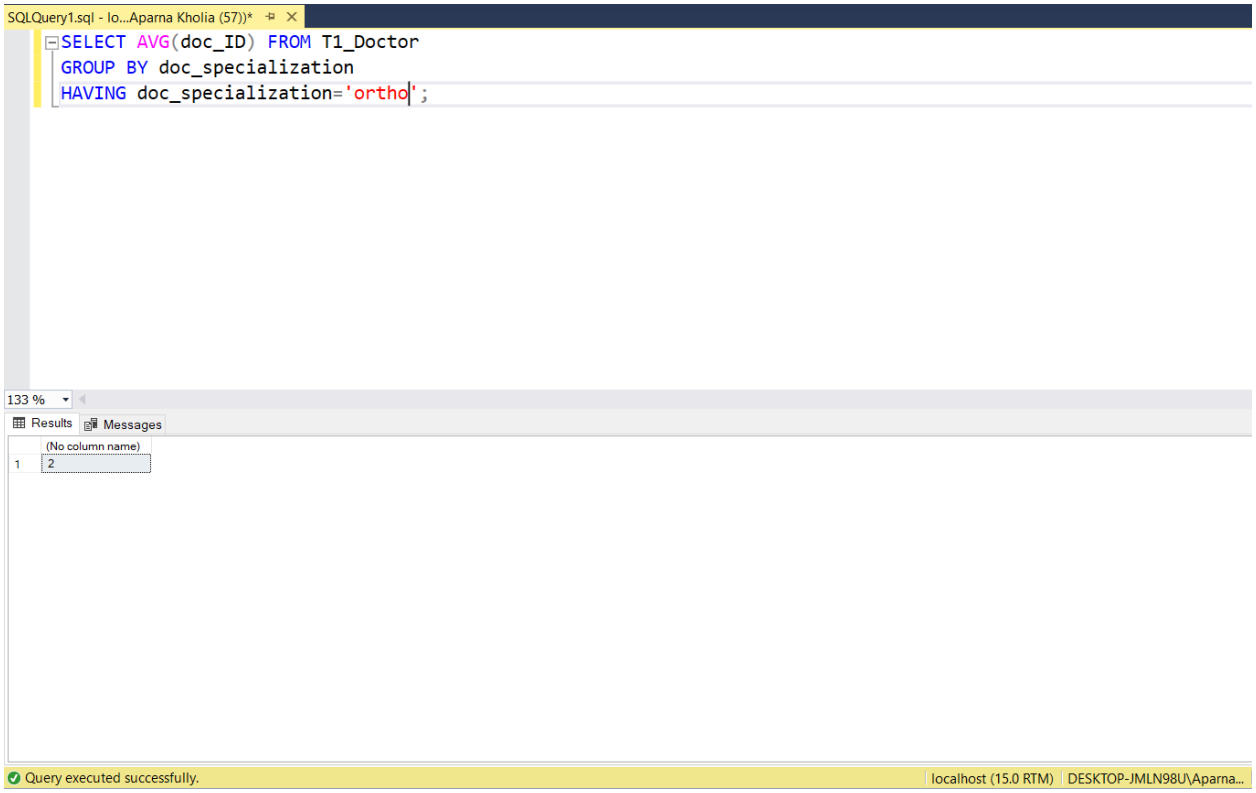
133 %

Results | Messages

	patient_id
1	1
2	10
3	11

	Payment_method
1	Credit card

4) Use Aggregate function with group by and having



SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT count(patient_id) FROM T1_Patient
GROUP BY [Blood Group]
HAVING [Blood Group]='O+';
```

133 %

Results | Messages

	(No column name)
1	2

Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna..

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT max(patient_id) FROM T1_Patient
GROUP BY [Blood Group]
HAVING [Blood Group]='O+';
```

133 %

Results | Messages

	(No column name)
1	101

Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna...

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT min(bill_ID) FROM T1_bill
GROUP BY Payment_method
HAVING Payment_method='Credit card';
```

133 %

Results | Messages

	(No column name)
1	350

Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna...

SQLQuery1.sql - lo...Aparna Kholia (57))*

```
SELECT sum(app_ID) FROM T1_appointment
GROUP BY app_time
having app_time='12:30';
```

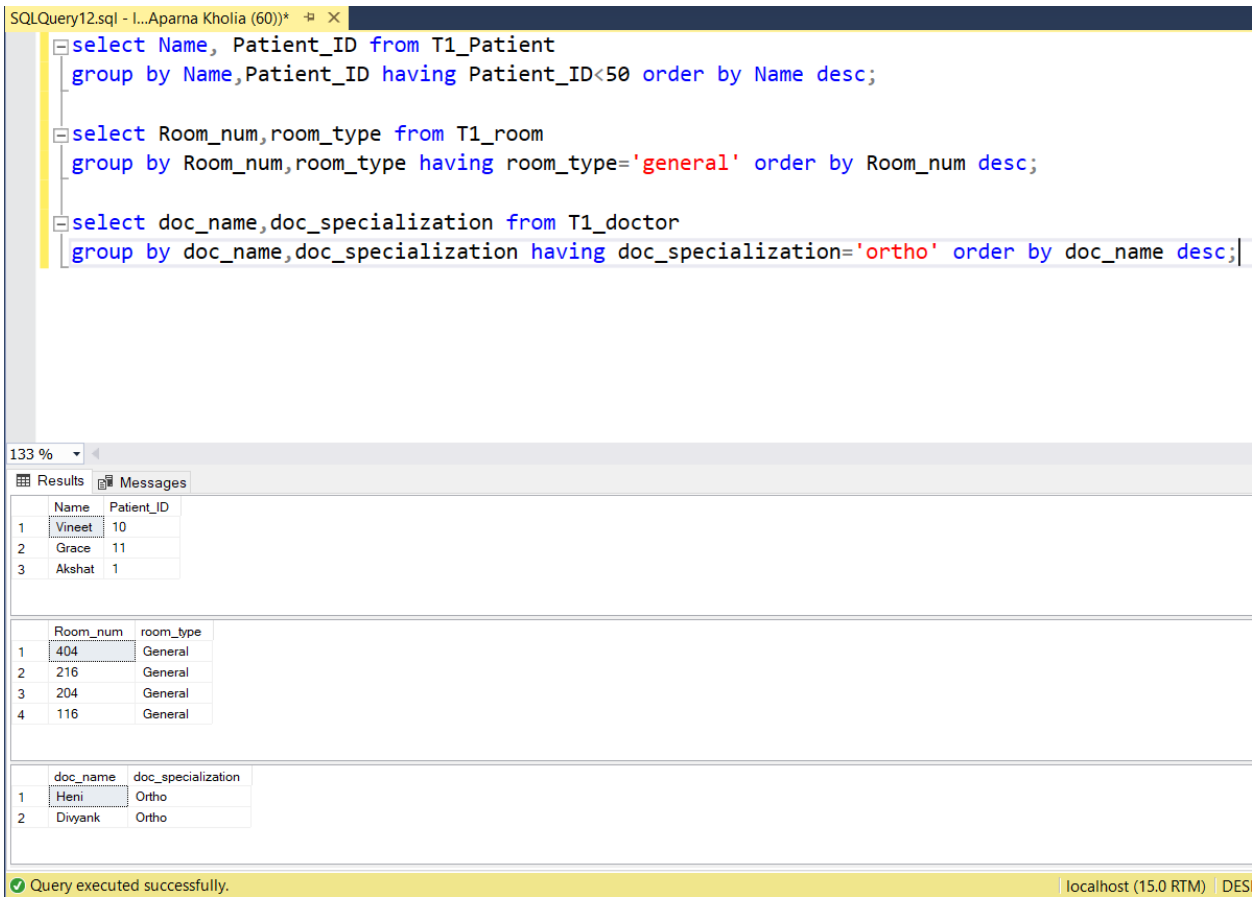
133 %

Results | Messages

	(No column name)
1	739

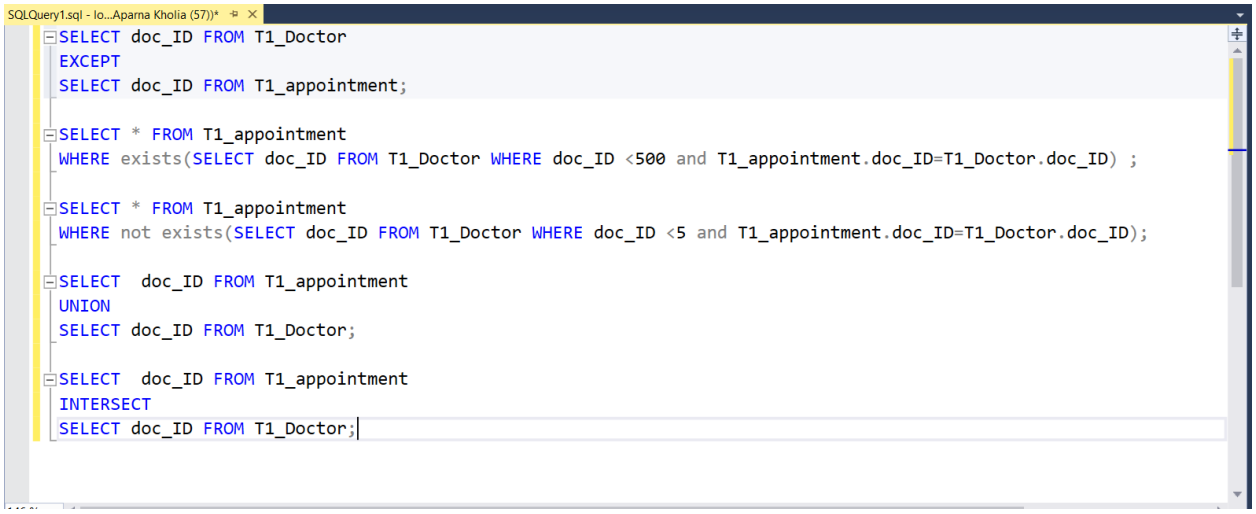
Query executed successfully. localhost (15.0 RTM) DESKTOP-JMLN98U\Aparna...

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

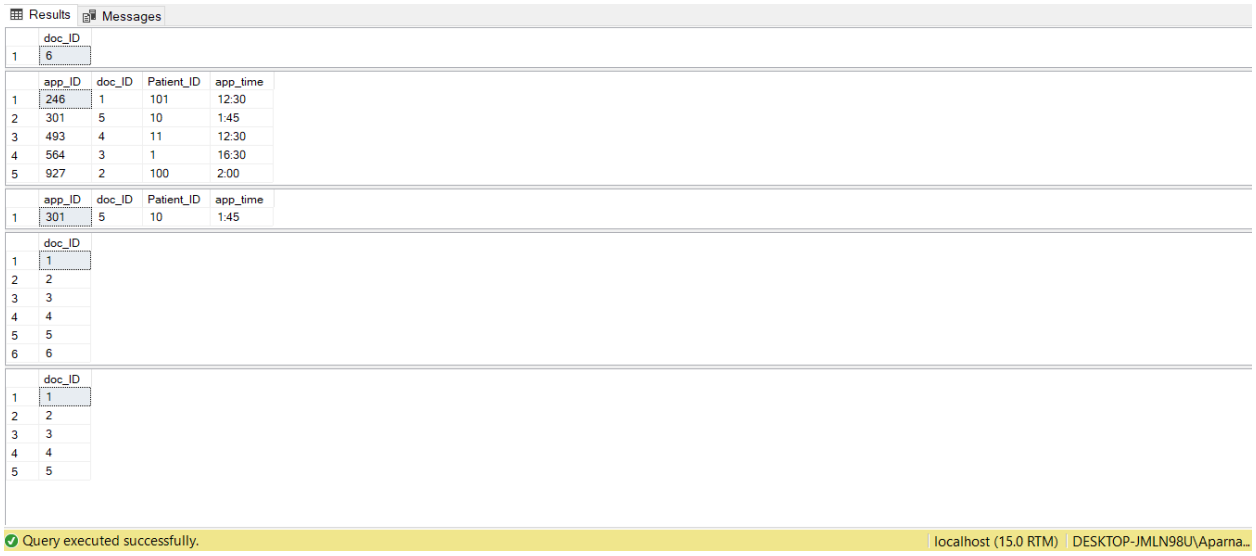


6)Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection

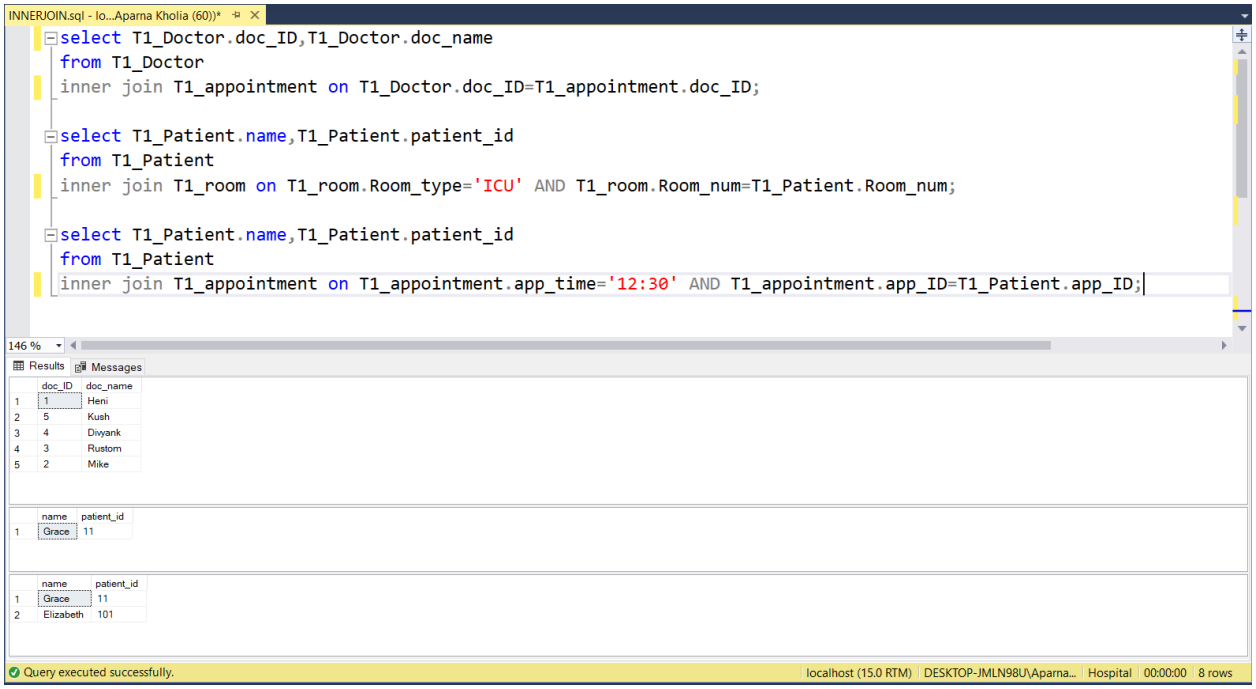
CODE:



OUTPUT:



7)INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN



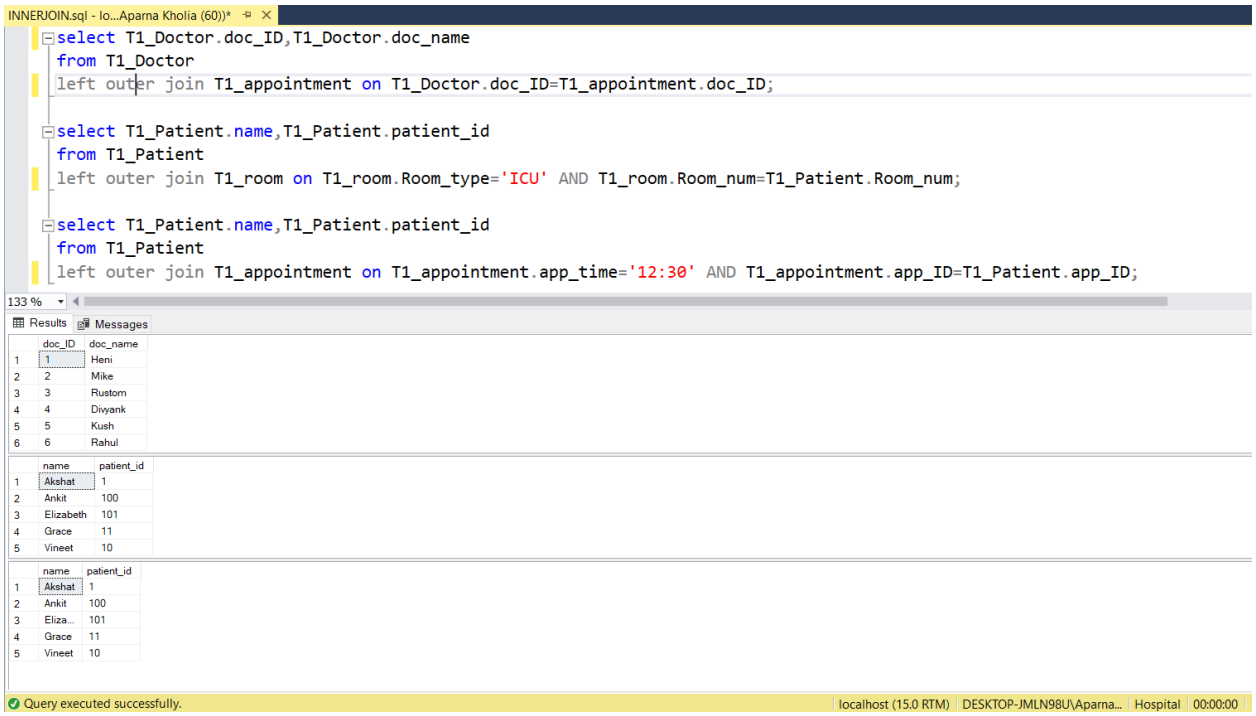
```
select T1_Doctor.doc_ID,T1_Doctor.doc_name
from T1_Doctor
inner join T1_appointment on T1_Doctor.doc_ID=T1_appointment.doc_ID;

select T1_Patient.name,T1_Patient.patient_id
from T1_Patient
inner join T1_room on T1_room.Room_type='ICU' AND T1_room.Room_num=T1_Patient.Room_num;

select T1_Patient.name,T1_Patient.patient_id
from T1_Patient
inner join T1_appointment on T1_appointment.app_time='12:30' AND T1_appointment.app_ID=T1_Patient.app_ID;
```

	doc_ID	doc_name
1	1	Heni
2	5	Kush
3	4	Divyank
4	3	Rustom
5	2	Mike

	name	patient_id
1	Grace	11

	name	patient_id
1	Grace	11
2	Elizabeth	101

Query executed successfully.



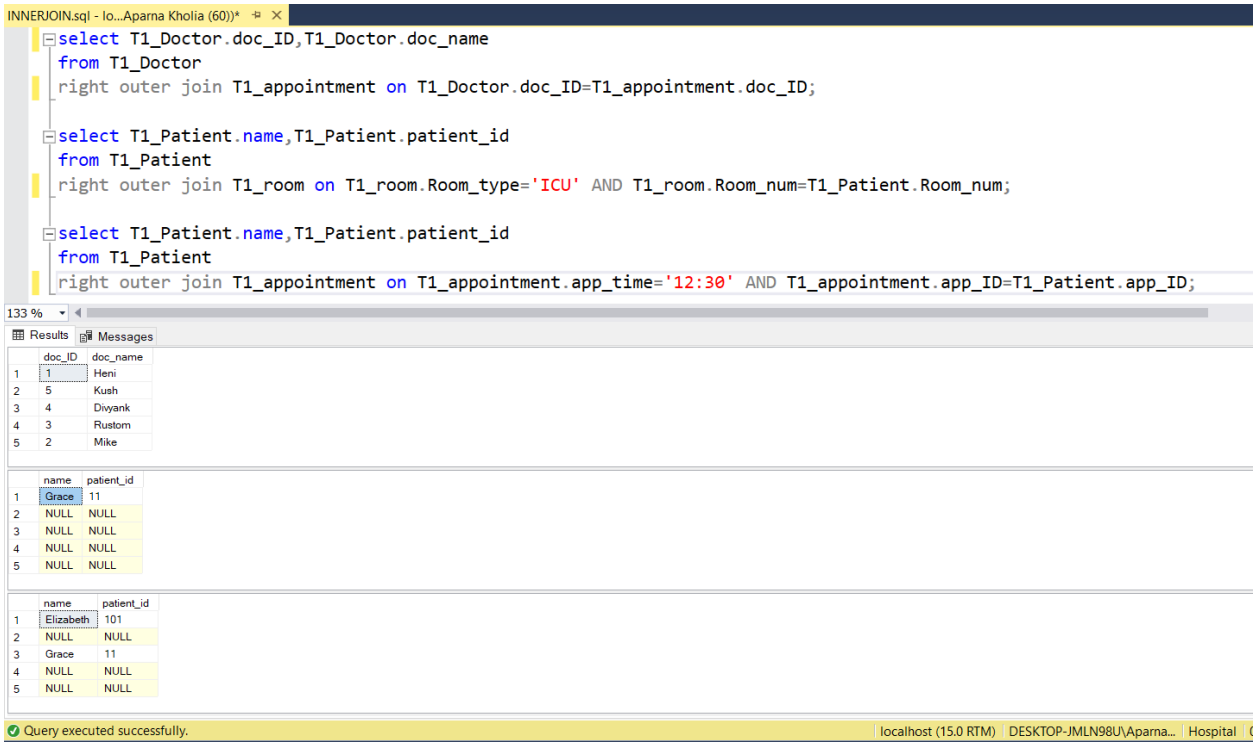
```
select T1_Doctor.doc_ID,T1_Doctor.doc_name
from T1_Doctor
left outer join T1_appointment on T1_Doctor.doc_ID=T1_appointment.doc_ID;

select T1_Patient.name,T1_Patient.patient_id
from T1_Patient
left outer join T1_room on T1_room.Room_type='ICU' AND T1_room.Room_num=T1_Patient.Room_num;

select T1_Patient.name,T1_Patient.patient_id
from T1_Patient
left outer join T1_appointment on T1_appointment.app_time='12:30' AND T1_appointment.app_ID=T1_Patient.app_ID;
```

	doc_ID	doc_name
1	1	Heni
2	2	Mike
3	3	Rustom
4	4	Divyank
5	5	Kush
6	6	Rahul

	name	patient_id
1	Akshat	1
2	Ankit	100
3	Elizabeth	101
4	Grace	11
5	Vineet	10

	name	patient_id
1	Akshat	1
2	Ankit	100
3	Eliza...	101
4	Grace	11
5	Vineet	10

Query executed successfully.



8) Use all the above conditions in JOIN as well.