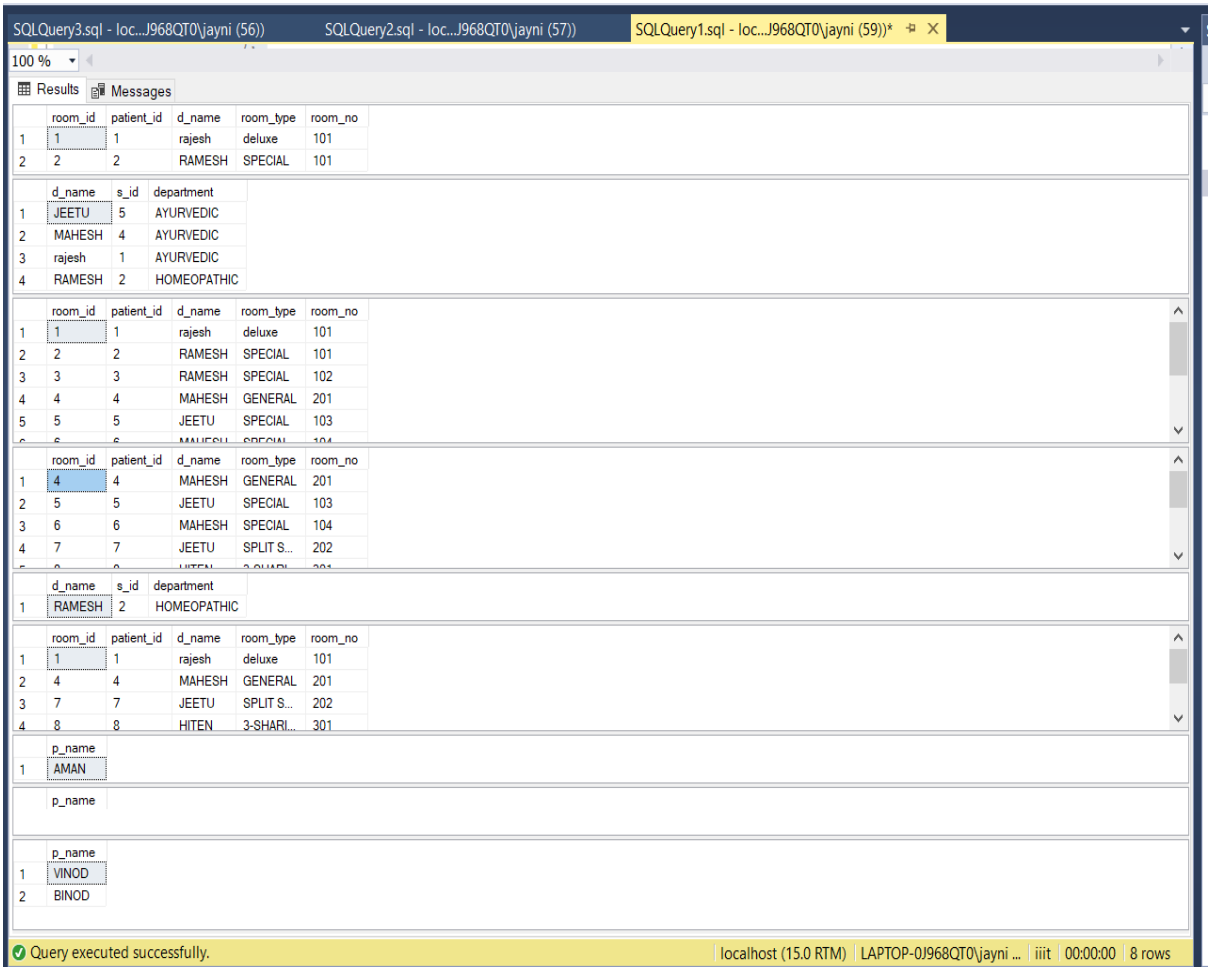
DBMS ASSIGNMENT 5
ROLL NO:-19BCS120

Q1)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?

ANS)
QUERY:-

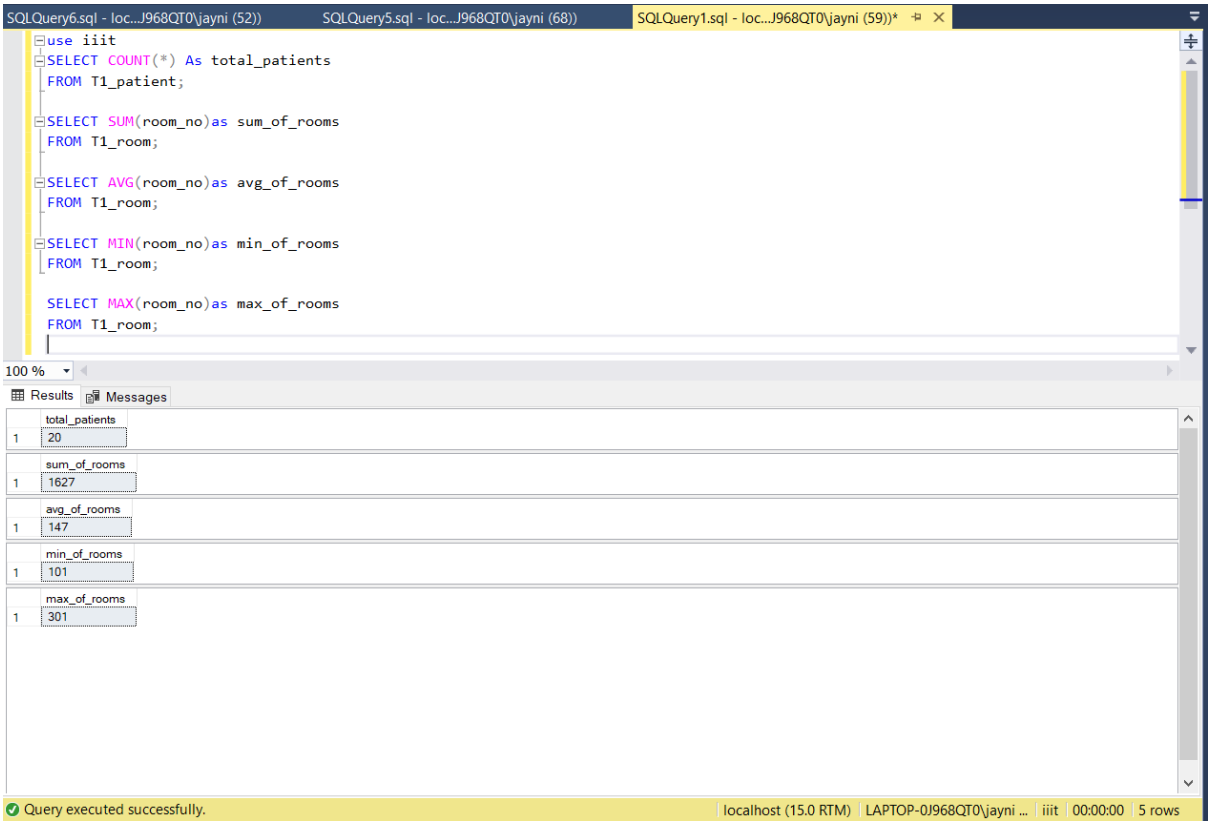
```
use iiit
SELECT * FROM T1_Room
WHERE room_no < ANY (SELECT room_no FROM T1_Room
                                    WHERE room_id < 4 );
use iiit
SELECT * FROM T1_Doctor
WHERE s_id < ANY (SELECT s_id FROM T1_Doctor
                            WHERE department = 'AYURVEDIC');
use iiit
SELECT * FROM T1_Room
WHERE room_id < ANY (SELECT room_id FROM T1_Room
                                    WHERE room_type = 'special');
use iiit
SELECT * FROM T1_Room
WHERE room_no > ALL (SELECT room_no  FROM T1_Room
                                    WHERE room_id < 4);
use iiit
SELECT * FROM T1_Doctor
WHERE s_id <> ALL (SELECT s_id FROM T1_Doctor
                             WHERE department = 'AYURVEDIC');
use iiit
SELECT * FROM T1_Room
WHERE room_id <> ALL (SELECT room_id FROM T1_Room
                                     WHERE room_type = 'special' );

use iiit
select p_name from T1_patient
where p_name like 'a%'

use iiit
select p_name from T1_patient
where p_name like '%a'

use iiit
select p_name from T1_patient
where p_name like '%no%'
```

OUTPUT:-


SQLQuery3.sql - loc...J968QT0\jayni (56))
SQLQuery2.sql - loc...J968QT0\jayni (57))
SQLQuery1.sql - loc...J968QT0\jayni (59))*
100 %
Results
Messages
room_id patient_id d_name room_type room_no
1 1 1 rajesh deluxe 101
2 2 2 RAMESH SPECIAL 101
d_name s_id department
1 JEETU 5 AYURVEDIC
2 MAHESH 4 AYURVEDIC
3 rajesh 1 AYURVEDIC
4 RAMESH 2 HOMEOPATHIC
room_id patient_id d_name room_type room_no
1 1 1 rajesh deluxe 101
2 2 2 RAMESH SPECIAL 101
3 3 3 RAMESH SPECIAL 102
4 4 4 MAHESH GENERAL 201
5 5 5 JEETU SPECIAL 103
room_id patient_id d_name room_type room_no
1 4 4 MAHESH GENERAL 201
2 5 5 JEETU SPECIAL 103
3 6 6 MAHESH SPECIAL 104
4 7 7 JEETU SPLIT S... 202
d_name s_id department
1 RAMESH 2 HOMEOPATHIC
room_id patient_id d_name room_type room_no
1 1 1 rajesh deluxe 101
2 4 4 MAHESH GENERAL 201
3 7 7 JEETU SPLIT S... 202
4 8 8 HITEN 3-SHARI... 301
p_name
1 AMAN
p_name
p_name
1 VINOD
2 BINOD
Query executed successfully.
localhost (15.0 RTM)
LAPTOP-0J968QT0\jayni ...
iiit
00:00:00
8 rows

Q2)One query for each Aggregate function?
ANS)
Query:-

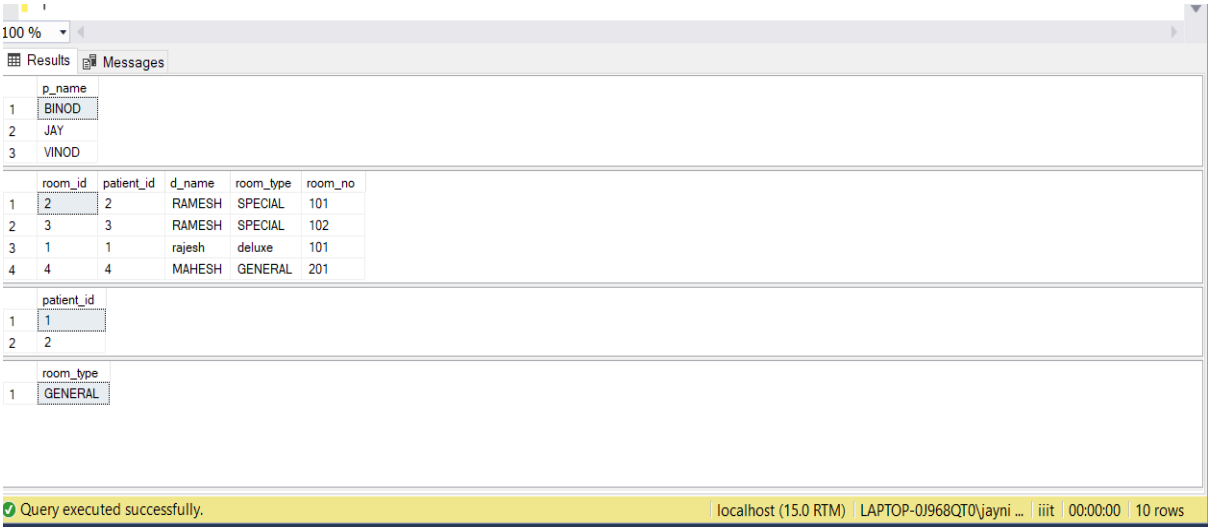
```
use iiit
SELECT COUNT(*) As total_patients
FROM T1_patient;

SELECT SUM(room_no)as sum_of_rooms
FROM T1_room;

SELECT AVG(room_no)as avg_of_rooms
FROM T1_room;

SELECT MIN(room_no)as min_of_rooms
FROM T1_room;

SELECT MAX(room_no)as max_of_rooms
FROM T1_room;
```



Q3)Illustrate the usage of order by, group by and having clause (2 queries for each case)?
ANS)
QUERY:-

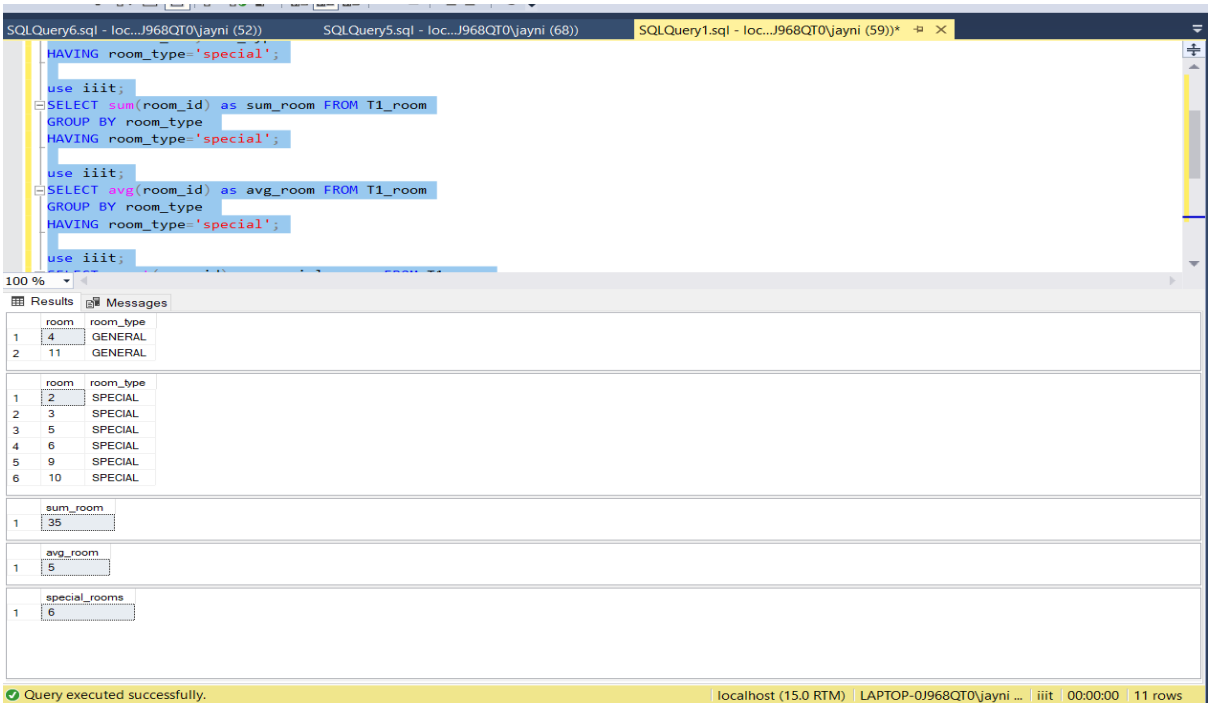
```
use iiit
select p_name from T1_patient
where patient_id<4 order by p_name ASC

use iiit
select * from T1_room
where room_id<5 order by d_name desc

use iiit
select patient_id from T1_patient
group by patient_id having patient_id < 3 ;

use iiit
select room_type from T1_room
group by room_type having room_type ='GENERAL' ;
```

OUTPUT:-



Q4)Use Aggregate function with group by and having?
ANS)
Query:-

```
use iiit;
SELECT max(room_id) as room,room_type FROM T1_room
GROUP BY room_id ,room_type
HAVING room_type='general';

use iiit;
SELECT min(room_id) as room,room_type FROM T1_room
GROUP BY room_id ,room_type
HAVING room_type='special';

use iiit;
SELECT sum(room_id) as sum_room FROM T1_room
GROUP BY room_type
HAVING room_type='special';

use iiit;
SELECT avg(room_id) as avg_room FROM T1_room
GROUP BY room_type
HAVING room_type='special';

use iiit;
SELECT count(room_id) as special_rooms FROM T1_room
GROUP BY room_type
HAVING room_type='special';
```

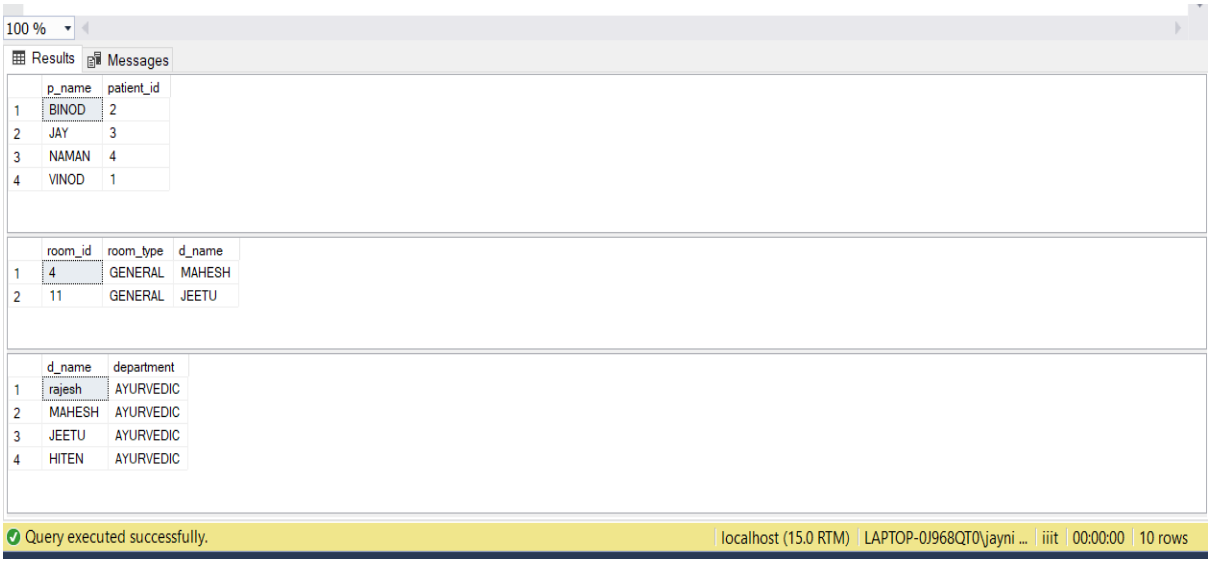


Q5)Write at least 3 nested queries using order by, group by and having clause?
ANS)

QUERY:-

```
use iiit
select p_name,patient_id from T1_patient
group by p_name,patient_id having patient_id<5 order by p_name asc

use iiit
select room_id,room_type,d_name from T1_room
group by room_id,room_type,d_name having room_type='general' order by d_name desc

use iiit
select d_name,department from T1_doctor
group by d_name,department having department='ayurvedic' order by d_name desc
```

OUTPUT:-

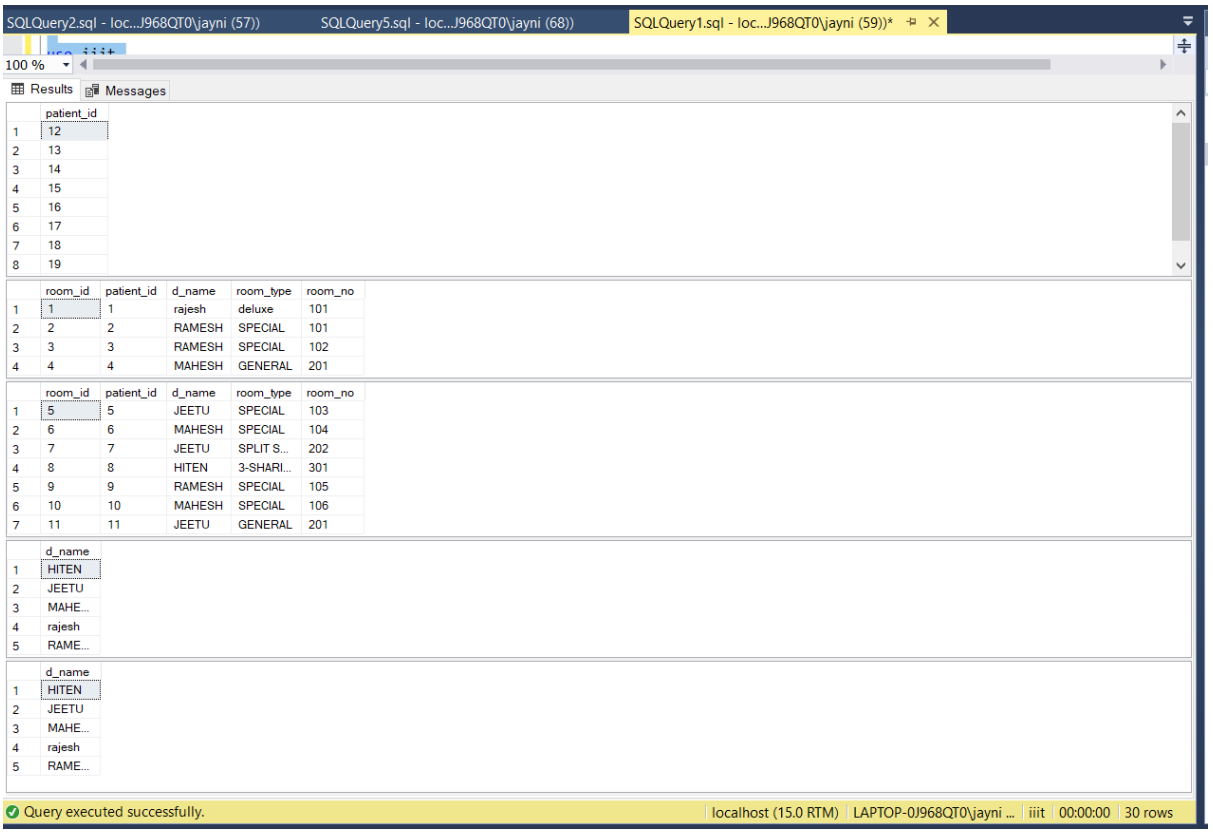


Q6)Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection?
ANS)

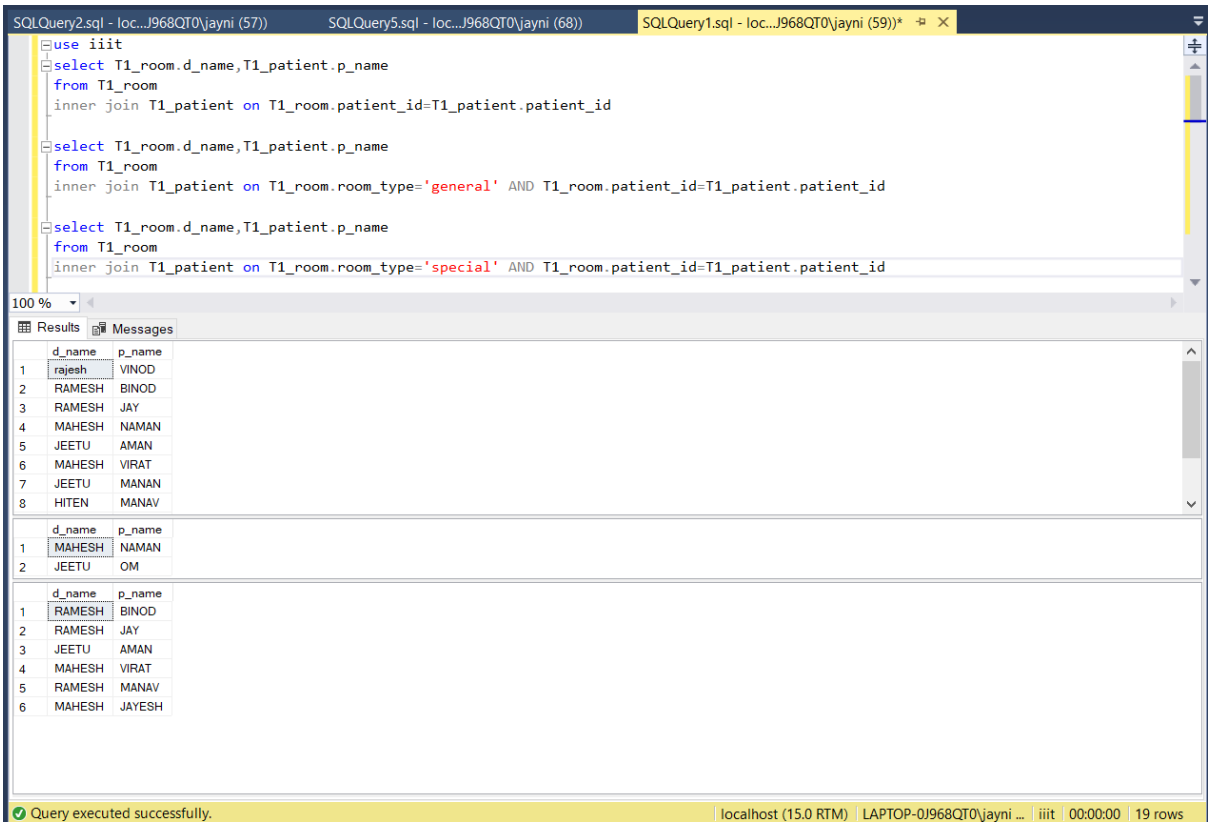
QUERY:-

```
use iiit
select patient_id from T1_patient
except
select patient_id from T1_room

use iiit
select * from T1_room
where exists(select patient_id from T1_patient where patient_id <5 and
T1_room.patient_id=T1_patient.patient_id)

use iiit
select * from T1_room
where not exists(select patient_id from T1_patient where patient_id <5 and
T1_room.patient_id=T1_patient.patient_id)

use iiit
select  d_name from T1_room
union
select d_name from T1_doctor

use iiit
select  d_name from T1_room
intersect
select d_name from T1_doctor
```

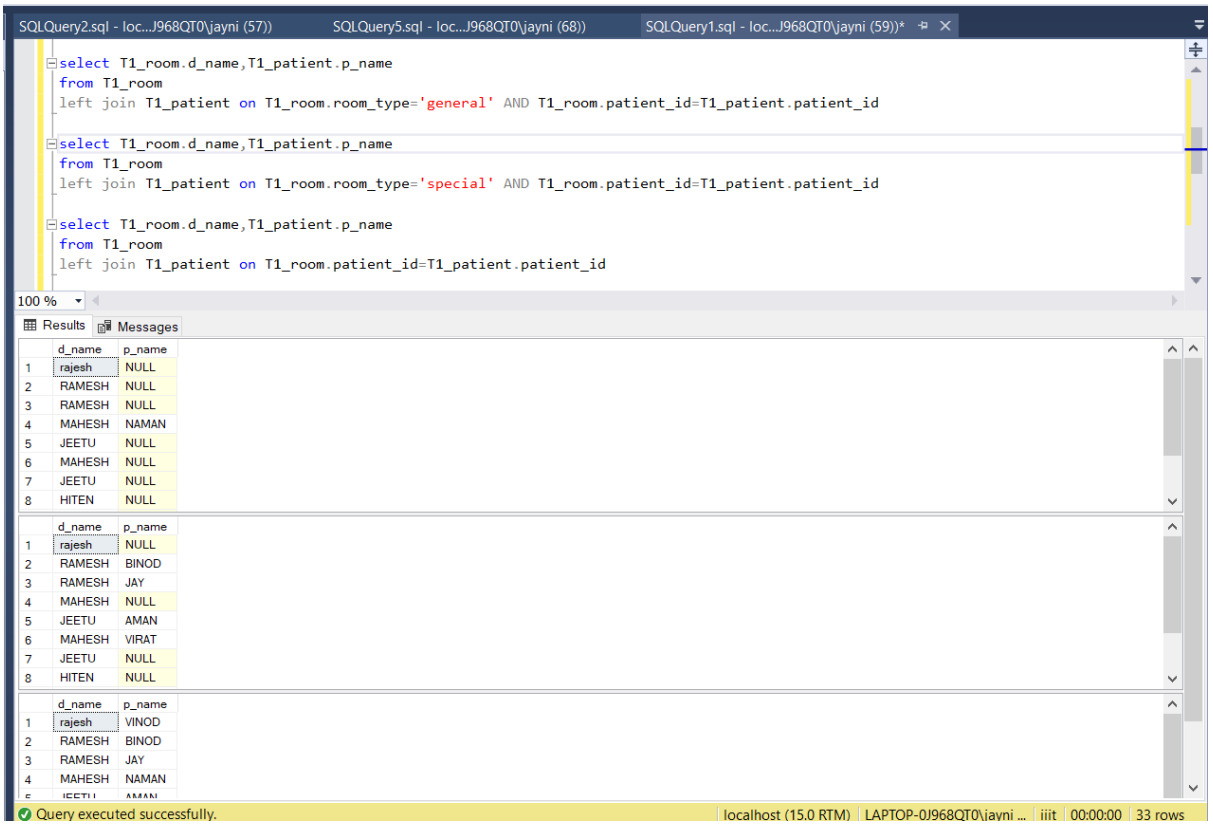
OUTPUT:-


SQLQuery2.sql - loc...J968QT0\jayni (57))
SQLQuery5.sql - loc...J968QT0\jayni (68))
SQLQuery1.sql - loc...J968QT0\jayni (59))*
100 %
Results
Messages
patient_id
1 12
2 13
3 14
4 15
5 16
6 17
7 18
8 19
room_id patient_id d_name room_type room_no
1 1 1 rajesh deluxe 101
2 2 2 RAMESH SPECIAL 101
3 3 3 RAMESH SPECIAL 102
4 4 4 MAHESH GENERAL 201
room_id patient_id d_name room_type room_no
1 5 5 JEETU SPECIAL 103
2 6 6 MAHESH SPECIAL 104
3 7 7 JEETU SPLIT S... 202
4 8 8 HITEN 3-SHARI... 301
5 9 9 RAMESH SPECIAL 105
6 10 10 MAHESH SPECIAL 106
7 11 11 JEETU GENERAL 201
d_name
1 HITEN
2 JEETU
3 MAHE...
4 rajesh
5 RAME...
d_name
1 HITEN
2 JEETU
3 MAHE...
4 rajesh
5 RAME...
Query executed successfully.
localhost (15.0 RTM)
LAPTOP-0J968QT0\jayni ...
iiit
00:00:00
30 rows

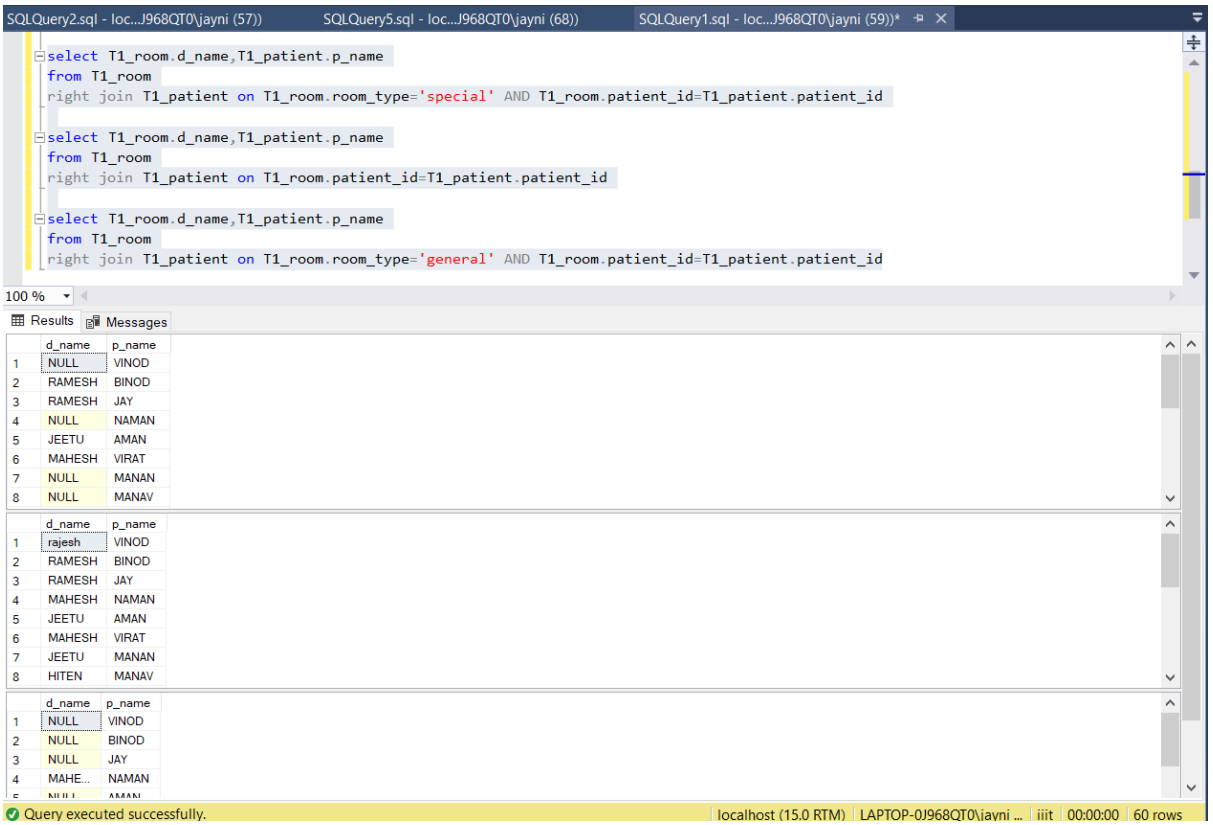
Q7)INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN- 3 queries for each instance?
ANS)
INNER JOIN:-



LEFT OUTER JOIN:-



RIGHT OUTER JOIN:-



Q8)Use all the above condition in JOIN as well?
ANS)
QUERY:-

```
select T1_room.d_name,T1_patient.p_name
from T1_room
join T1_patient on T1_room.room_type='special' AND
T1_room.patient_id=T1_patient.patient_id

select T1_room.d_name,T1_patient.p_name
from T1_room
join T1_patient on T1_room.patient_id=T1_patient.patient_id

select T1_room.d_name,T1_patient.p_name
from T1_room
join T1_patient on T1_room.room_type='general' AND
T1_room.patient_id=T1_patient.patient_id
```

JOIN:-