# DBMS
# ASSIGNMENT-4

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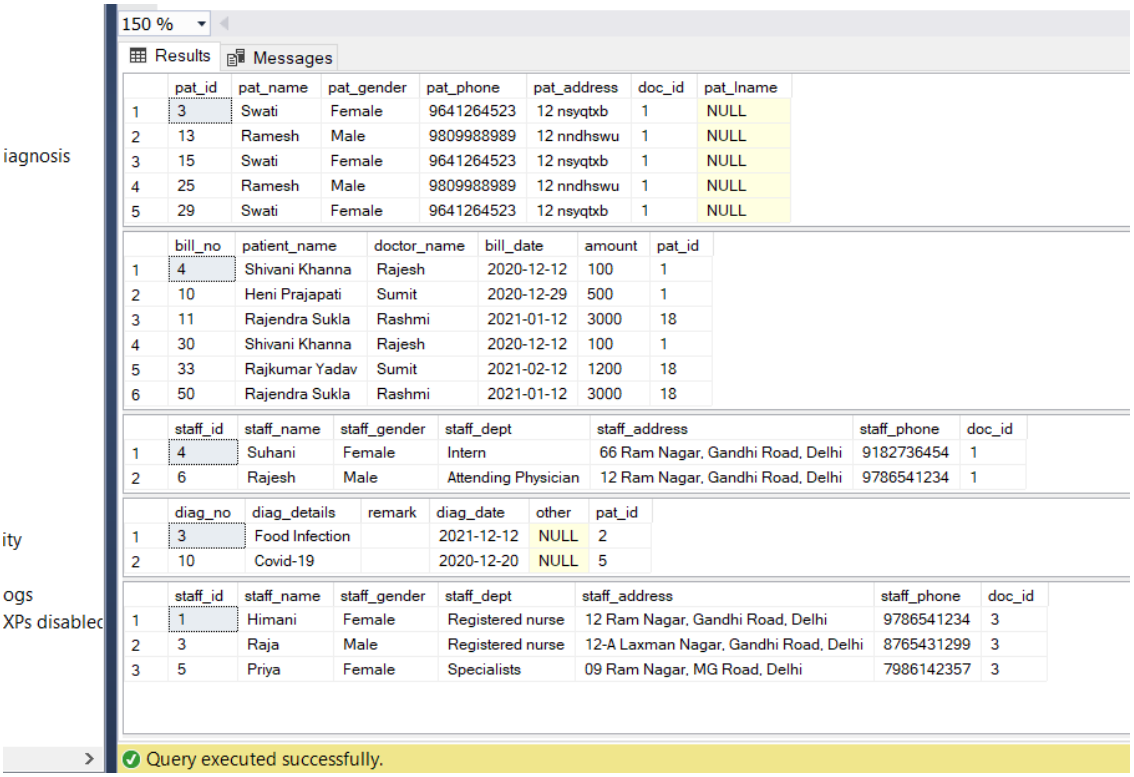
**REG. NO.:** 19BCS119

**1. 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.**

**Query:**

```
SELECT * FROM t1_patients
where doc_id IN(SELECT doc_id FROM t1_doctor
where doc_designation = 'Gynaecologist');

SELECT * FROM t1_bill
where pat_id IN(SELECT pat_id FROM t1_patients
where pat_name = 'Ramesh');

SELECT * FROM t1_staff
where doc_id IN(SELECT doc_id FROM t1_doctor
where doc_designation = 'Gynaecologist');

SELECT * FROM t1_patient_diagnosis
where pat_id IN(SELECT doc_id FROM t1_doctor
where doc_name = 'Rashmi');

SELECT * FROM t1_staff
where doc_id IN(SELECT pat_id FROM t1_patients
where pat_gender = 'Female');
```

**Output**:



| pat_id | pat_name | pat_gender | pat_phone | pat_address | doc_id | pat_lname |
|---|---|---|---|---|---|---|
| 3 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |
| 13 | Ramesh | Male | 9809988989 | 12 nndhswu | 1 | NULL |
| 15 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |
| 25 | Ramesh | Male | 9809988989 | 12 nndhswu | 1 | NULL |
| 29 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |

| bill_no | patient_name | doctor_name | bill_date | amount | pat_id |
|---|---|---|---|---|---|
| 4 | Shivani Khanna | Rajesh | 2020-12-12 | 100 | 1 |
| 10 | Heni Prajapati | Sumit | 2020-12-29 | 500 | 1 |
| 11 | Rajendra Sukla | Rashmi | 2021-01-12 | 3000 | 18 |
| 30 | Shivani Khanna | Rajesh | 2020-12-12 | 100 | 1 |
| 33 | Rajkumar Yadav | Sumit | 2021-02-12 | 1200 | 18 |
| 50 | Rajendra Sukla | Rashmi | 2021-01-12 | 3000 | 18 |

| staff_id | staff_name | staff_gender | staff_dept | staff_address | staff_phone | doc_id |
|---|---|---|---|---|---|---|
| 4 | Suhani | Female | Intern | 66 Ram Nagar, Gandhi Road, Delhi | 9182736454 | 1 |
| 6 | Rajesh | Male | Attending Physician | 12 Ram Nagar, Gandhi Road, Delhi | 9786541234 | 1 |

| diag_no | diag_details | remark | diag_date | other | pat_id |
|---|---|---|---|---|---|
| 3 | Food Infection | | 2021-12-12 | NULL | 2 |
| 10 | Covid-19 | | 2020-12-20 | NULL | 5 |

| staff_id | staff_name | staff_gender | staff_dept | staff_address | staff_phone | doc_id |
|---|---|---|---|---|---|---|
| 1 | Himani | Female | Registered nurse | 12 Ram Nagar, Gandhi Road, Delhi | 9786541234 | 3 |
| 3 | Raja | Male | Registered nurse | 12-A Laxman Nagar, Gandhi Road, Delhi | 8765431299 | 3 |
| 5 | Priya | Female | Specialists | 09 Ram Nagar, MG Road, Delhi | 7986142357 | 3 |

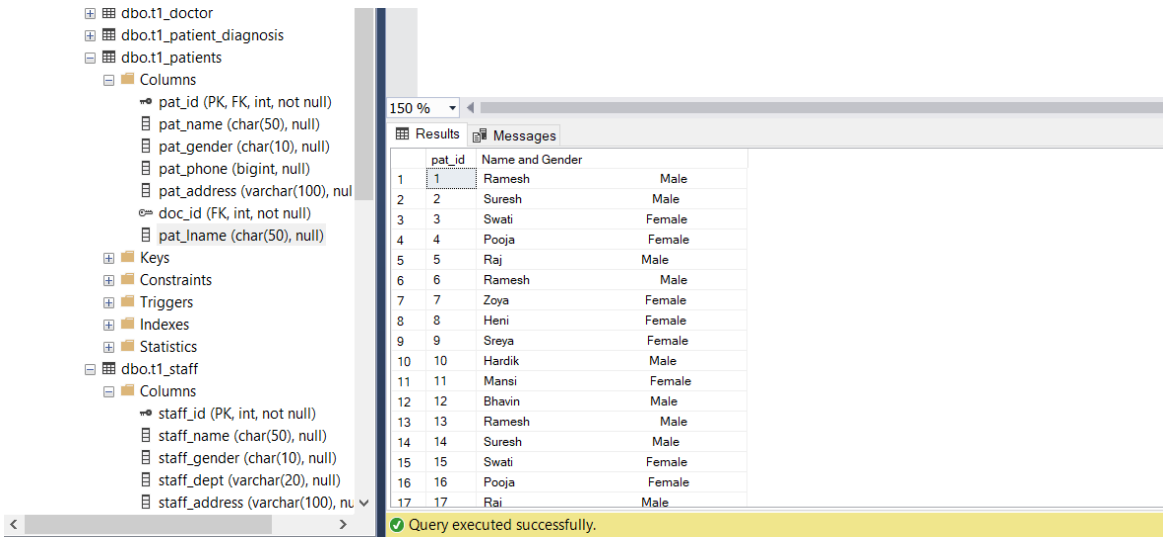
Query executed successfully.

## 2. Illustrate how we can use concat and AS operator in SQL.

**Query**:

```
SELECT pat_id,concat(pat_name,pat_gender) as 'Name and Gender' FROM
t1_patients;
```

**Output**:

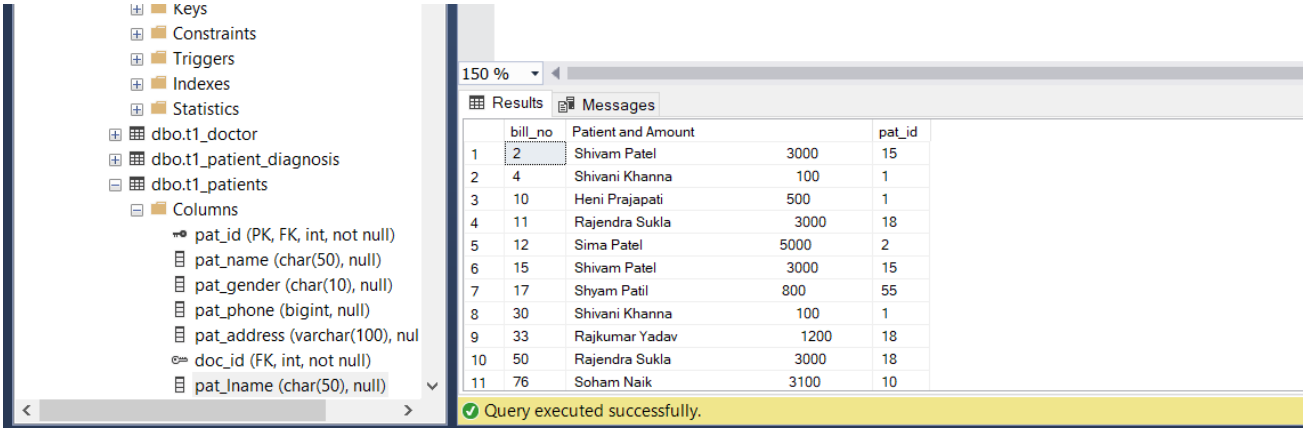



| pat_id | Name and Gender |
|---|---|
| 1 | Ramesh Male |
| 2 | Suresh Male |
| 3 | Swati Female |
| 4 | Pooja Female |
| 5 | Raj Male |
| 6 | Ramesh Male |
| 7 | Zoya Female |
| 8 | Heni Female |
| 9 | Sreya Female |
| 10 | Hardik Male |
| 11 | Mansi Female |
| 12 | Bhavin Male |
| 13 | Ramesh Male |
| 14 | Suresh Male |
| 15 | Swati Female |
| 16 | Pooja Female |
| 17 | Raj Male |

**Query:**

SELECT bill_no,concat(patient_name,amount) as 'Patient and Amount',pat_id FROM t1_bill;

**Output:**

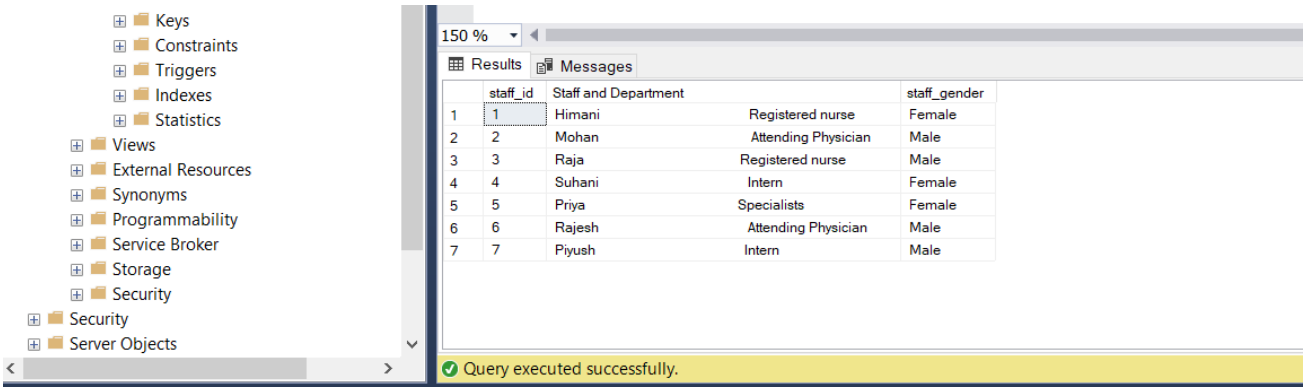



| | bill_no | Patient and Amount | pat_id |
|---|---|---|---|
| 1 | 2 | Shivam Patel 3000 | 15 |
| 2 | 4 | Shivani Khanna 100 | 1 |
| 3 | 10 | Heni Prajapati 500 | 1 |
| 4 | 11 | Rajendra Sukla 3000 | 18 |
| 5 | 12 | Sima Patel 5000 | 2 |
| 6 | 15 | Shivam Patel 3000 | 15 |
| 7 | 17 | Shyam Patil 800 | 55 |
| 8 | 30 | Shivani Khanna 100 | 1 |
| 9 | 33 | Rajkumar Yadav 1200 | 18 |
| 10 | 50 | Rajendra Sukla 3000 | 18 |
| 11 | 76 | Soham Naik 3100 | 10 |

**Query:**

SELECT staff_id,concat(staff_name,staff_dept) as 'Staff and Department',staff_gender FROM t1_staff;

**Output:**



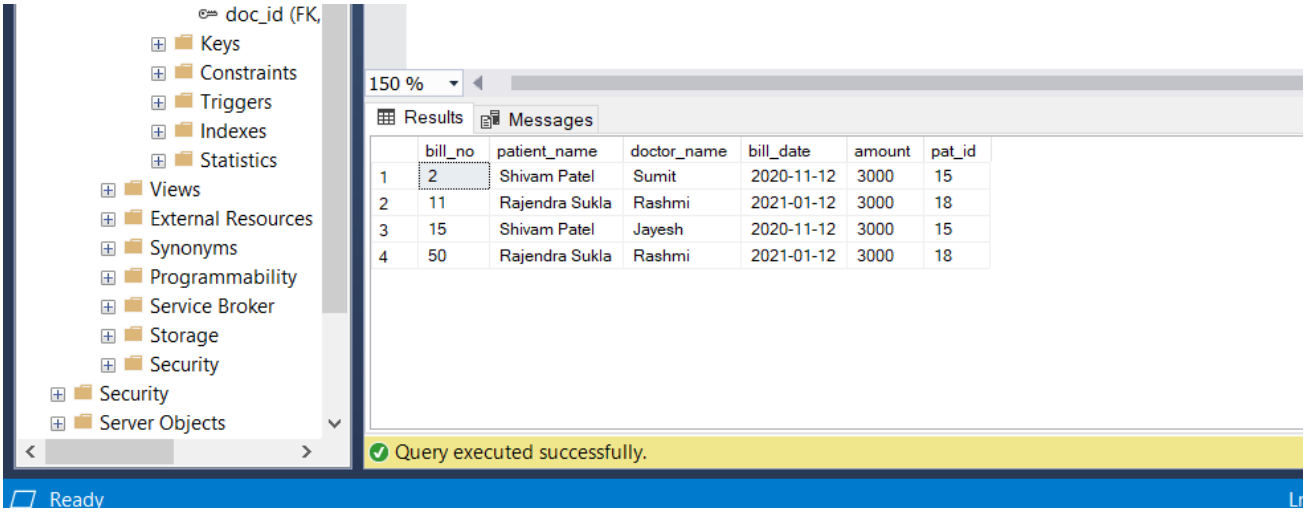

| | staff_id | Staff and Department | staff_gender |
|---|---|---|---|
| 1 | 1 | Himani Registered nurse | Female |
| 2 | 2 | Mohan Attending Physician | Male |
| 3 | 3 | Raja Registered nurse | Male |
| 4 | 4 | Suhani Intern | Female |
| 5 | 5 | Priya Specialists | Female |
| 6 | 6 | Rajesh Attending Physician | Male |
| 7 | 7 | Piyush Intern | Male |

## 3. Illustrate all the Comparison operator

**Query:(= operator)**

SELECT * FROM t1_bill WHERE amount=3000;

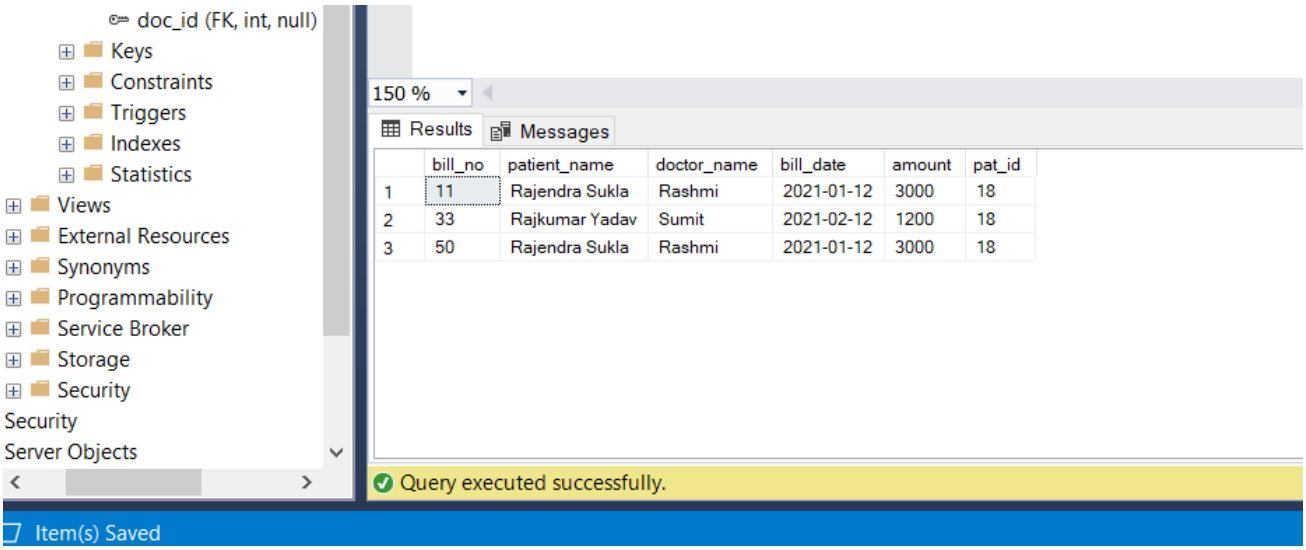
**Output**:




**Query:(= operator)**

SELECT * FROM t1_bill WHERE pat_id=18;

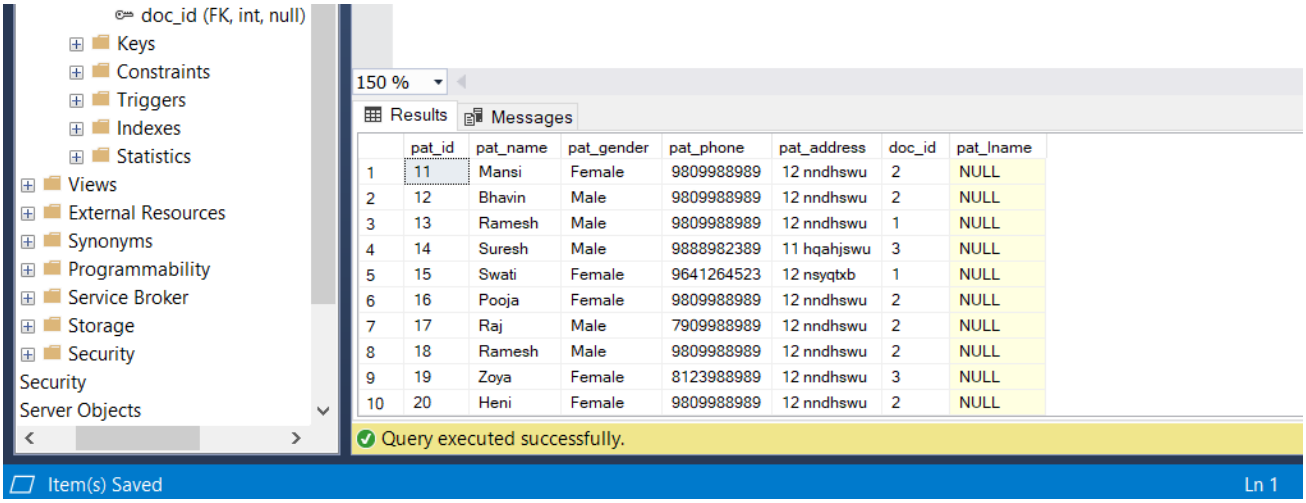
**Output**:




**Query:(> operator)**

SELECT * FROM t1_patients WHERE pat_id>10;

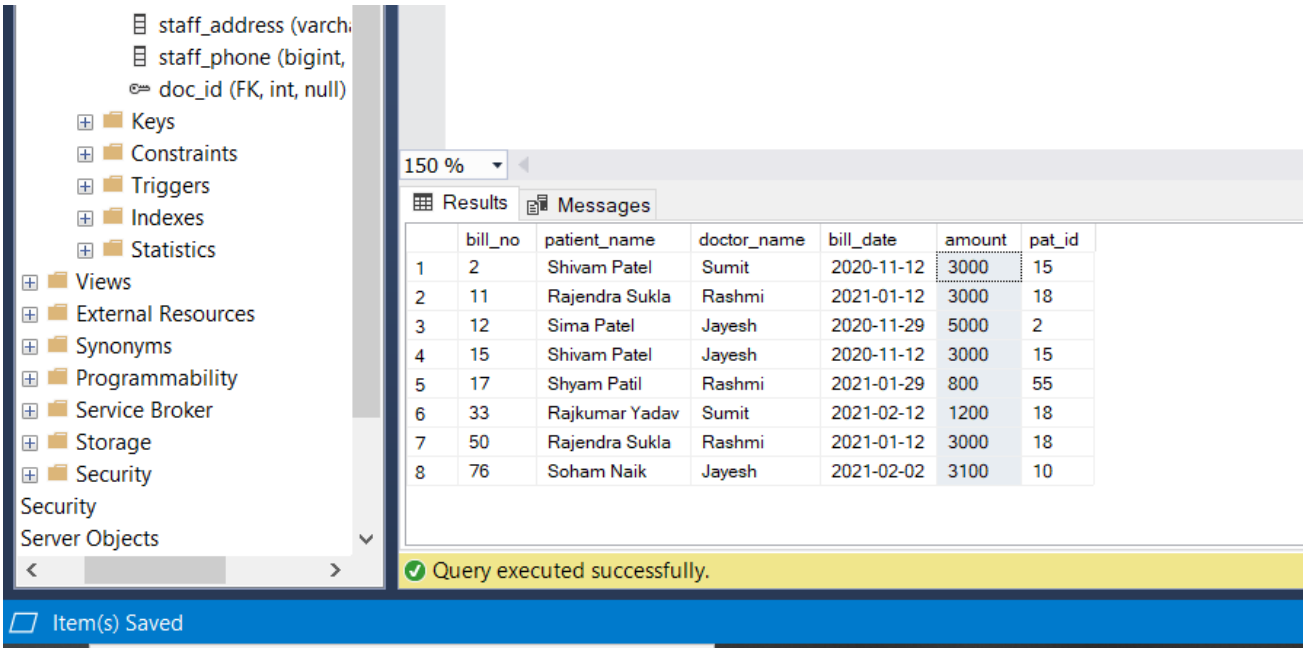
**Output**:




**Query:(> operator)**

SELECT * FROM t1_bill WHERE amount>500;

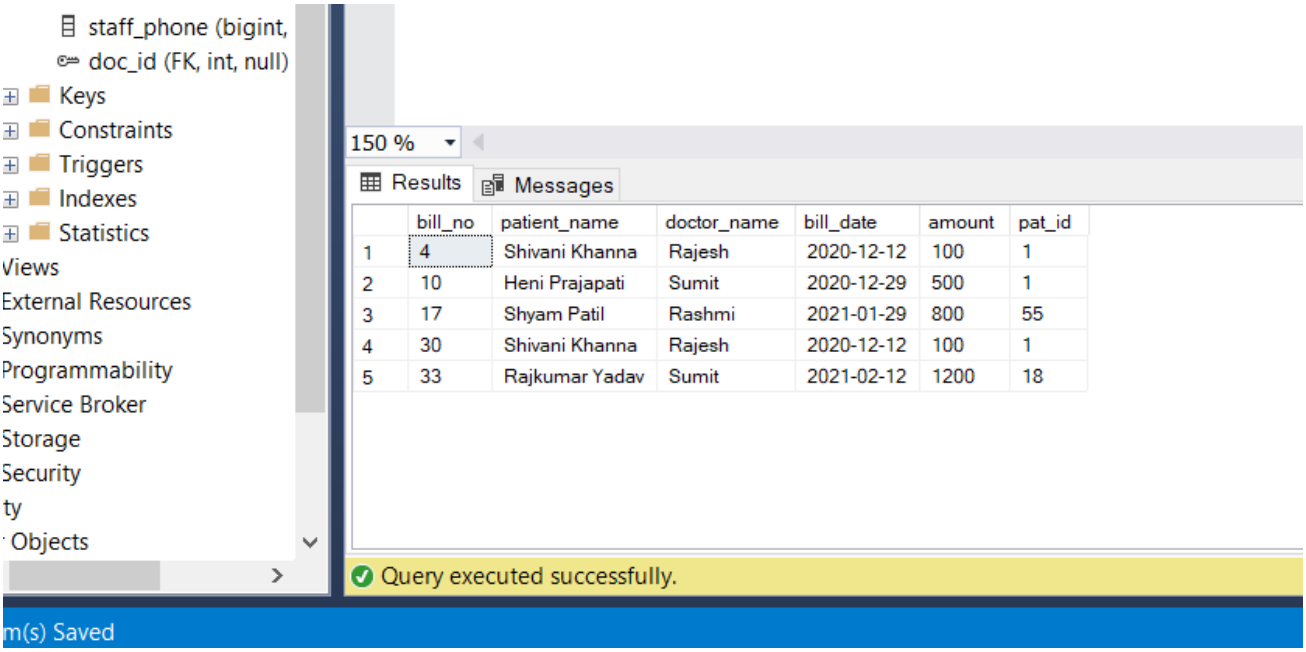
**Output**:




**Query:(< operator)**

SELECT * FROM t1_bill WHERE amount<3000;

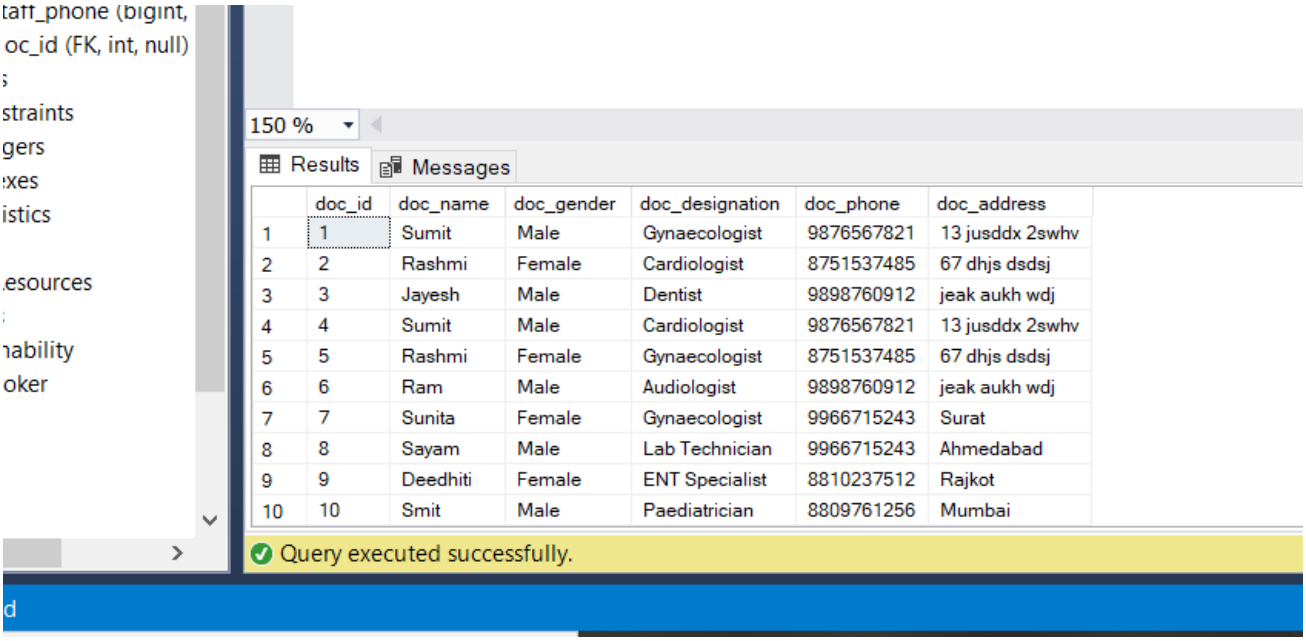
**Output**:




**Query:(< operator)**

SELECT * FROM t1_doctor WHERE doc_id<15;

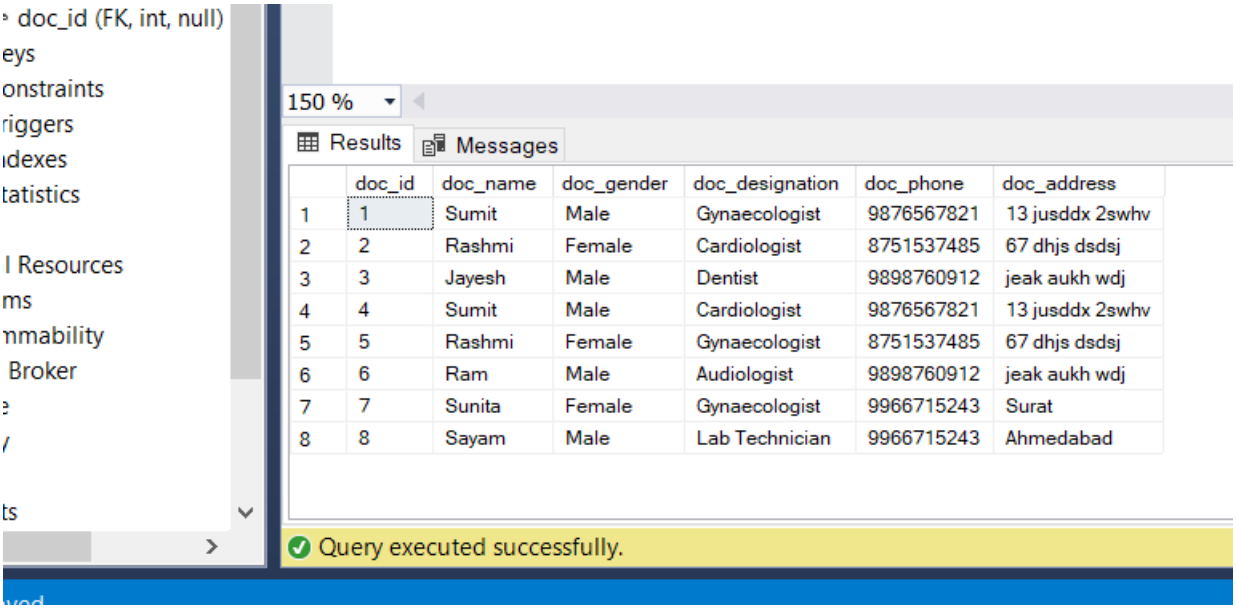
**Output**:




**Query:(<= operator)**

SELECT * FROM t1_doctor WHERE doc_id<=8;

**Output**:

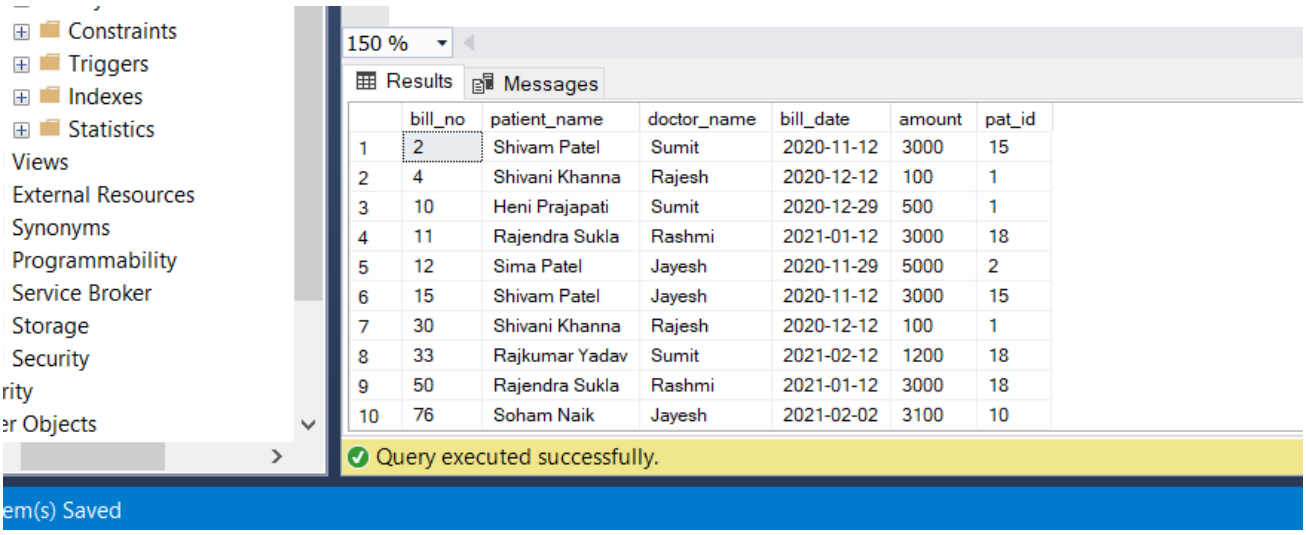


| | doc_id | doc_name | doc_gender | doc_designation | doc_phone | doc_address |
|---|---|---|---|---|---|---|
| 1 | 1 | Sumit | Male | Gynaecologist | 9876567821 | 13 jusddx 2swhv |
| 2 | 2 | Rashmi | Female | Cardiologist | 8751537485 | 67 dhjs dsdsj |
| 3 | 3 | Jayesh | Male | Dentist | 9898760912 | jeak aukh wdj |
| 4 | 4 | Sumit | Male | Cardiologist | 9876567821 | 13 jusddx 2swhv |
| 5 | 5 | Rashmi | Female | Gynaecologist | 8751537485 | 67 dhjs dsdsj |
| 6 | 6 | Ram | Male | Audiologist | 9898760912 | jeak aukh wdj |
| 7 | 7 | Sunita | Female | Gynaecologist | 9966715243 | Surat |
| 8 | 8 | Sayam | Male | Lab Technician | 9966715243 | Ahmedabad |

**Query:(<= operator)**

SELECT * FROM t1_bill WHERE pat_id<=50;

**Output**:

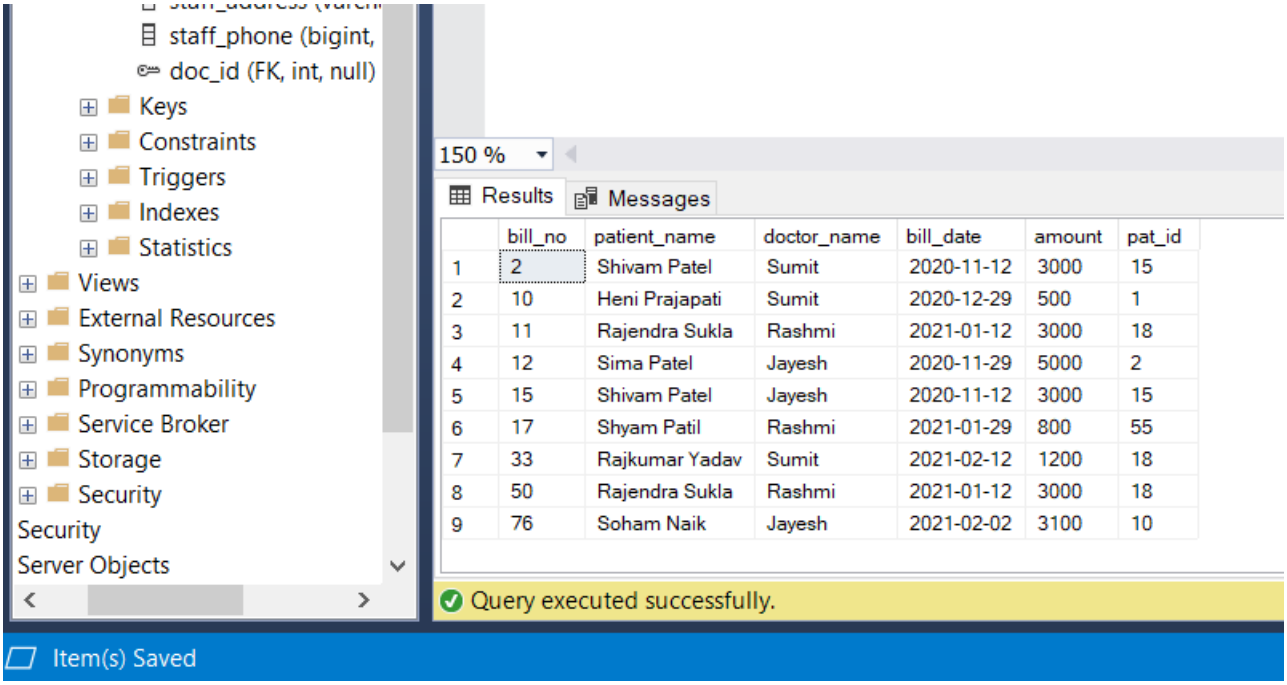


| | bill_no | patient_name | doctor_name | bill_date | amount | pat_id |
|---|---|---|---|---|---|---|
| 1 | 2 | Shivam Patel | Sumit | 2020-11-12 | 3000 | 15 |
| 2 | 4 | Shivani Khanna | Rajesh | 2020-12-12 | 100 | 1 |
| 3 | 10 | Heni Prajapati | Sumit | 2020-12-29 | 500 | 1 |
| 4 | 11 | Rajendra Sukla | Rashmi | 2021-01-12 | 3000 | 18 |
| 5 | 12 | Sima Patel | Jayesh | 2020-11-29 | 5000 | 2 |
| 6 | 15 | Shivam Patel | Jayesh | 2020-11-12 | 3000 | 15 |
| 7 | 30 | Shivani Khanna | Rajesh | 2020-12-12 | 100 | 1 |
| 8 | 33 | Rajkumar Yadav | Sumit | 2021-02-12 | 1200 | 18 |
| 9 | 50 | Rajendra Sukla | Rashmi | 2021-01-12 | 3000 | 18 |
| 10 | 76 | Soham Naik | Jayesh | 2021-02-02 | 3100 | 10 |

**Query:(>= operator)**

SELECT * FROM t1_bill WHERE amount>=300;

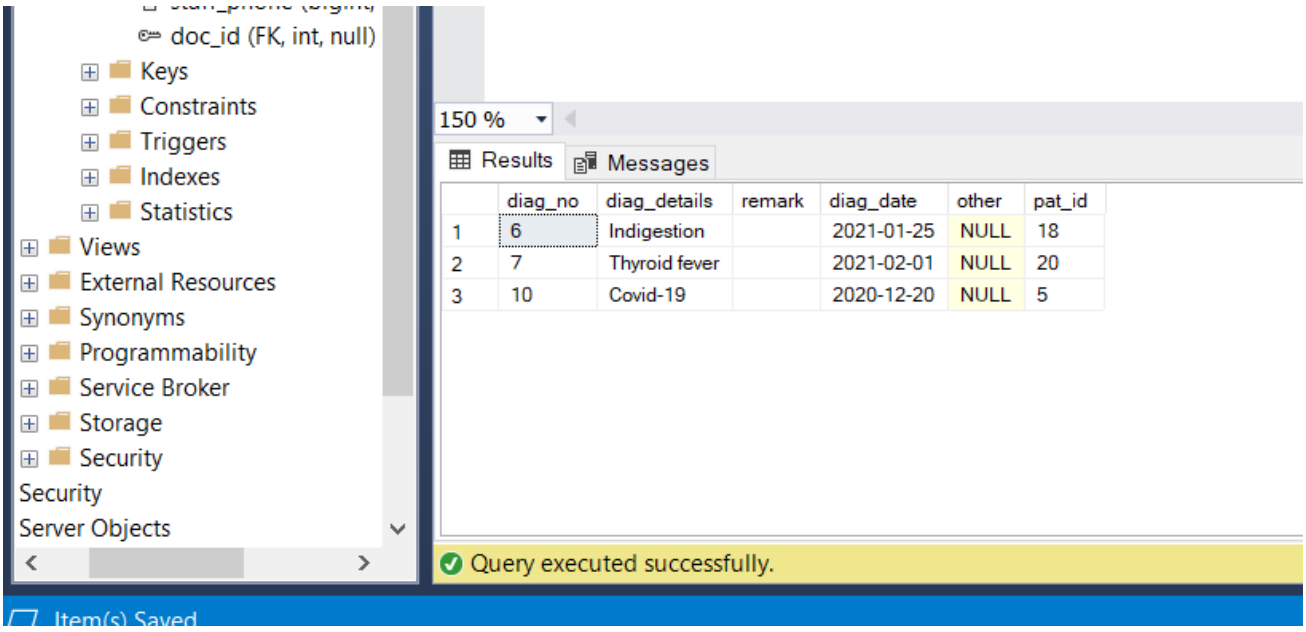
**Output**:




**Query:(>= operator)**

SELECT * FROM t1_patient_diagnosis WHERE diag_no>=5;

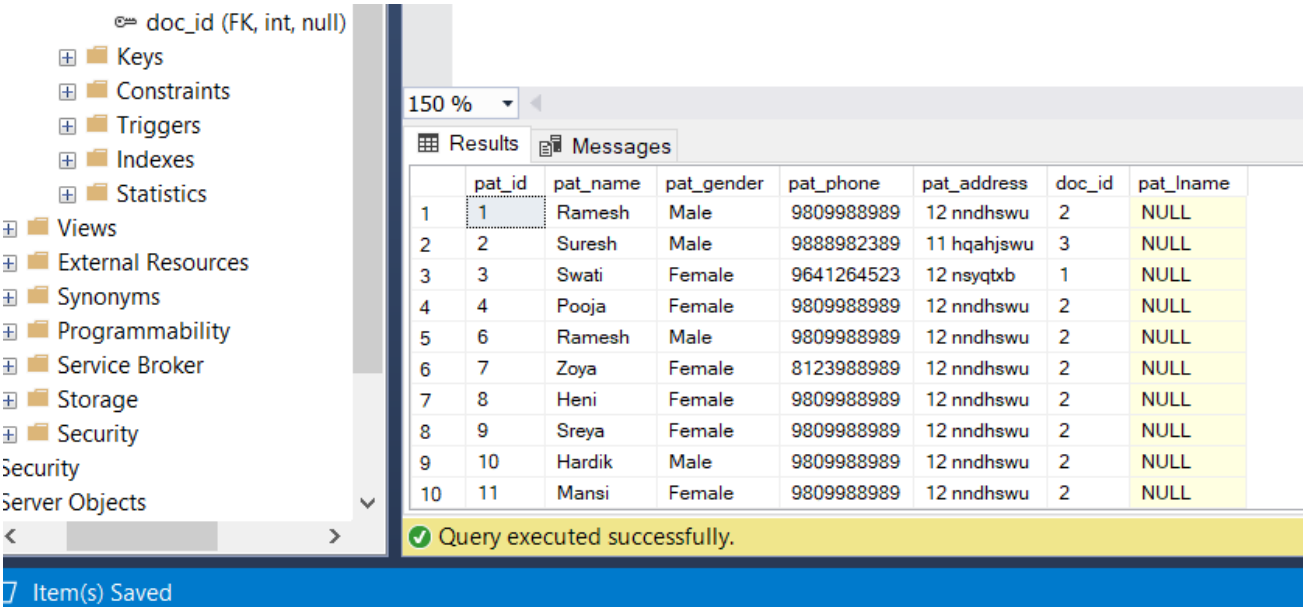
**Output**:




**Query:(<> operator)**

SELECT * FROM t1_patients WHERE pat_id<>5;

**Output**:

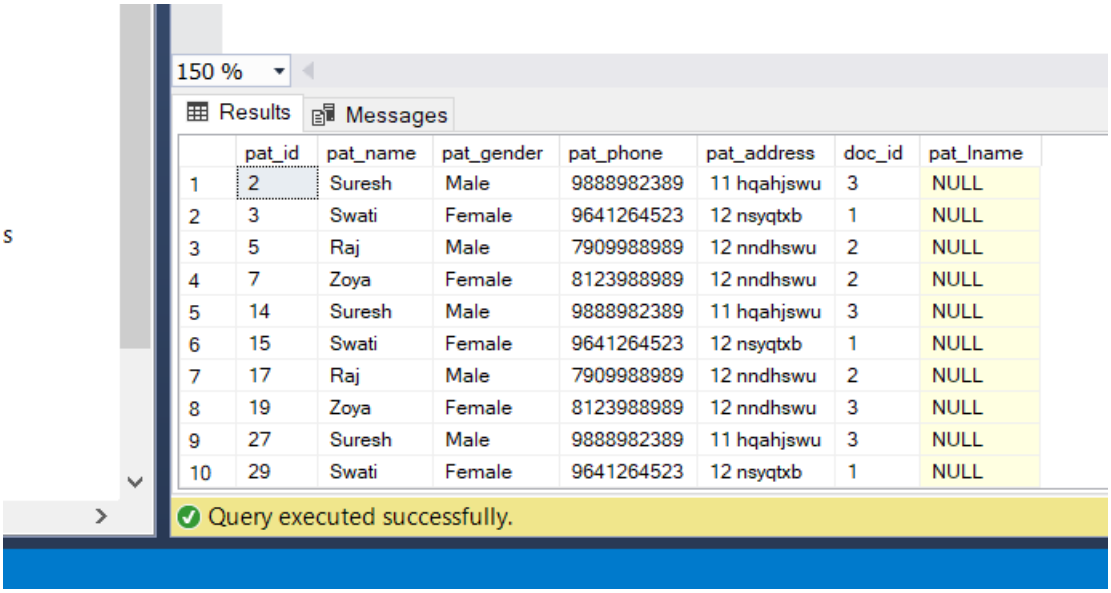



| | pat_id | pat_name | pat_gender | pat_phone | pat_address | doc_id | pat_lname |
|---|---|---|---|---|---|---|---|
| 1 | 1 | Ramesh | Male | 9809988989 | 12 nndhswu | 2 | NULL |
| 2 | 2 | Suresh | Male | 9888982389 | 11 hqahjswu | 3 | NULL |
| 3 | 3 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |
| 4 | 4 | Pooja | Female | 9809988989 | 12 nndhswu | 2 | NULL |
| 5 | 6 | Ramesh | Male | 9809988989 | 12 nndhswu | 2 | NULL |
| 6 | 7 | Zoya | Female | 8123988989 | 12 nndhswu | 2 | NULL |
| 7 | 8 | Heni | Female | 9809988989 | 12 nndhswu | 2 | NULL |
| 8 | 9 | Sreya | Female | 9809988989 | 12 nndhswu | 2 | NULL |
| 9 | 10 | Hardik | Male | 9809988989 | 12 nndhswu | 2 | NULL |
| 10 | 11 | Mansi | Female | 9809988989 | 12 nndhswu | 2 | NULL |

**Query:(<>operator)**

SELECT * FROM t1_patients WHERE pat_phone<>9809988989;

**Output**:



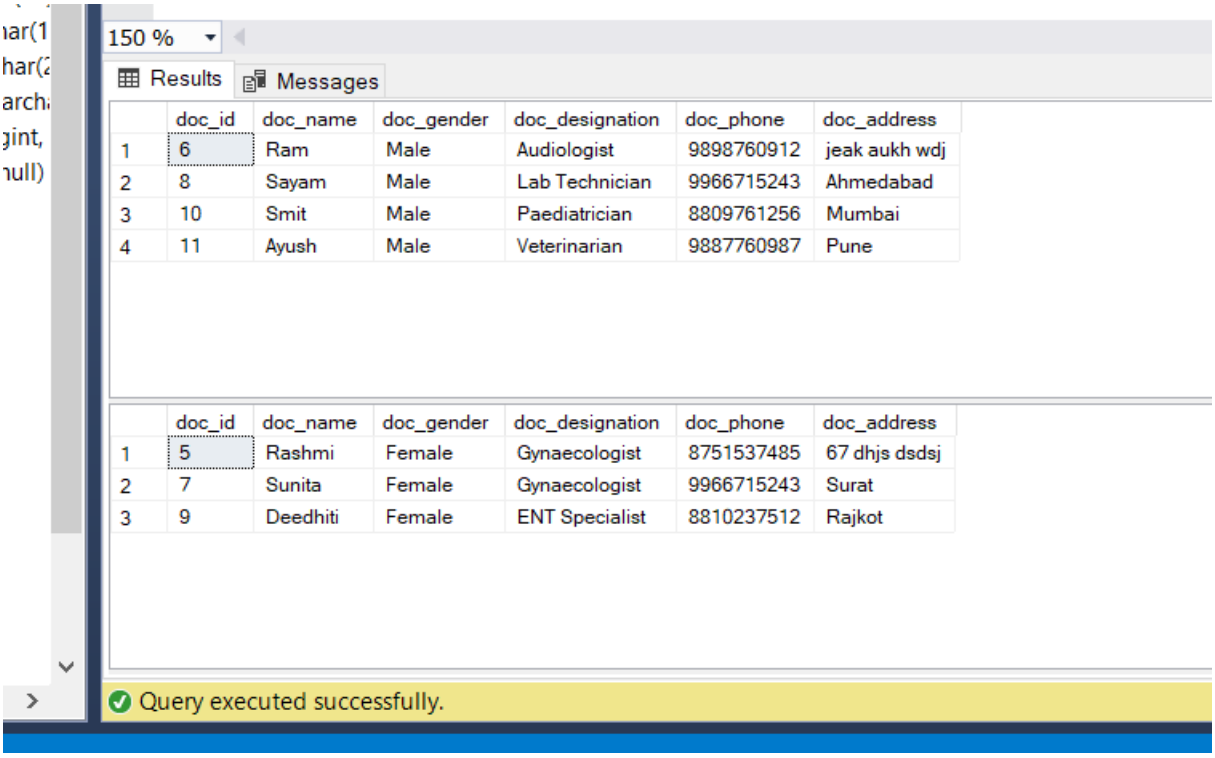

| | pat_id | pat_name | pat_gender | pat_phone | pat_address | doc_id | pat_lname |
|---|---|---|---|---|---|---|---|
| 1 | 2 | Suresh | Male | 9888982389 | 11 hqahjswu | 3 | NULL |
| 2 | 3 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |
| 3 | 5 | Raj | Male | 7909988989 | 12 nndhswu | 2 | NULL |
| 4 | 7 | Zoya | Female | 8123988989 | 12 nndhswu | 2 | NULL |
| 5 | 14 | Suresh | Male | 9888982389 | 11 hqahjswu | 3 | NULL |
| 6 | 15 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |
| 7 | 17 | Raj | Male | 7909988989 | 12 nndhswu | 2 | NULL |
| 8 | 19 | Zoya | Female | 8123988989 | 12 nndhswu | 3 | NULL |
| 9 | 27 | Suresh | Male | 9888982389 | 11 hqahjswu | 3 | NULL |
| 10 | 29 | Swati | Female | 9641264523 | 12 nsyqtxb | 1 | NULL |

## 4. Illustrate Logical operators except ANY, ALL and Like

**Query:(AND operator)**

```
SELECT * FROM t1_doctor WHERE doc_gender = 'Male' AND doc_id>=5;

SELECT * FROM t1_doctor WHERE doc_gender = 'Female' AND doc_id>=5;
```

**Output:**



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Results | Messages

| | doc_id | doc_name | doc_gender | doc_designation | doc_phone | doc_address |
|---|---|---|---|---|---|---|
| 1 | 6 | Ram | Male | Audiologist | 9898760912 | jeak aukh wdj |
| 2 | 8 | Sayam | Male | Lab Technician | 9966715243 | Ahmedabad |
| 3 | 10 | Smit | Male | Paediatrician | 8809761256 | Mumbai |
| 4 | 11 | Ayush | Male | Veterinarian | 9887760987 | Pune |

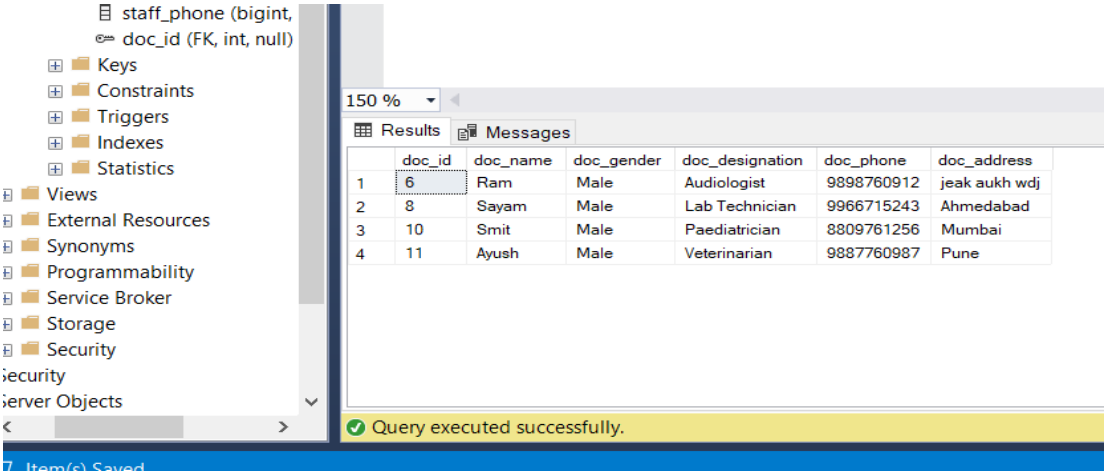
| | doc_id | doc_name | doc_gender | doc_designation | doc_phone | doc_address |
|---|---|---|---|---|---|---|
| 1 | 5 | Rashmi | Female | Gynaecologist | 8751537485 | 67 dhjs dsdsj |
| 2 | 7 | Sunita | Female | Gynaecologist | 9966715243 | Surat |
| 3 | 9 | Deedhiti | Female | ENT Specialist | 8810237512 | Rajkot |

Query executed successfully.

**Query:(AND operator)**

```
SELECT * FROM t1_doctor WHERE doc_gender = 'Male' AND doc_id>=5;
```

**Output:**

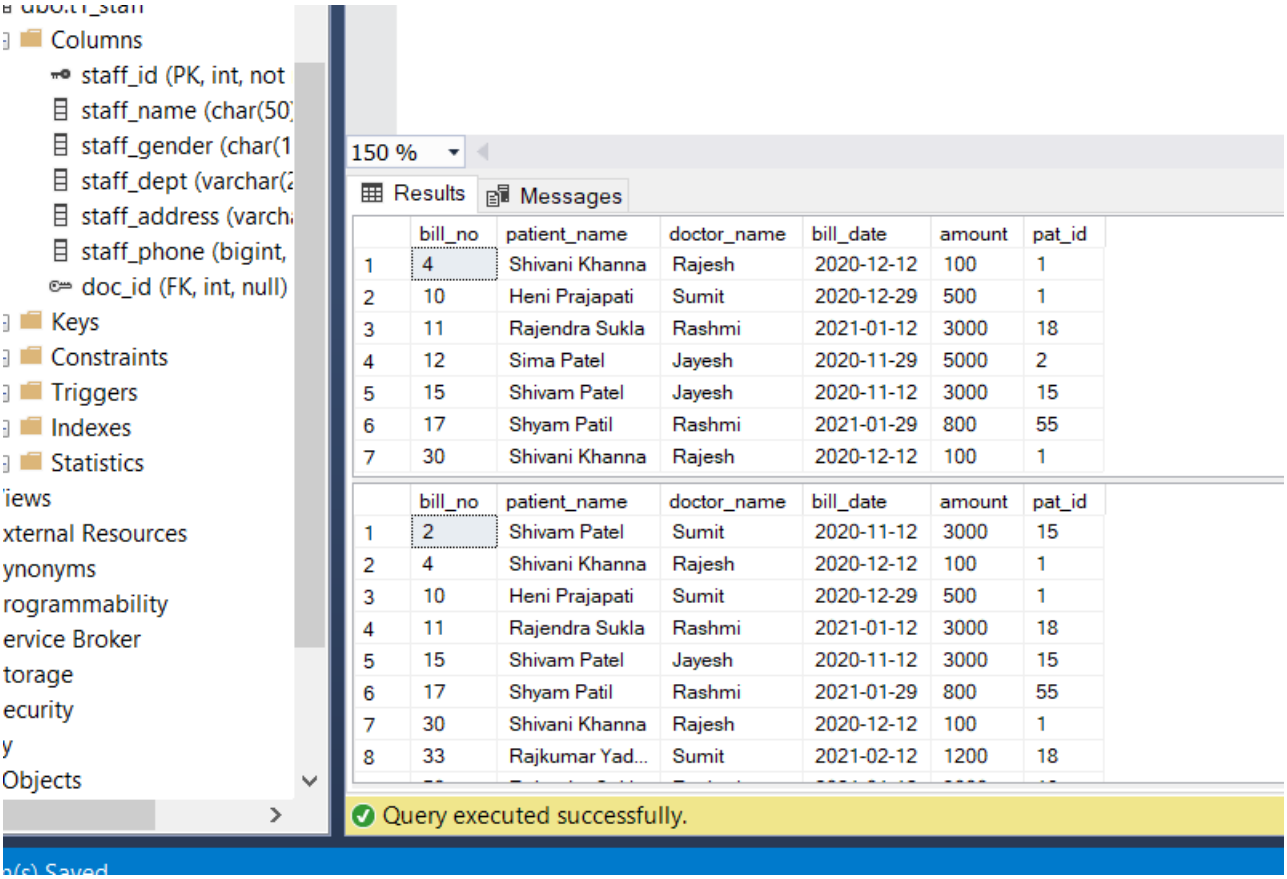



**Query:(BETWEEN operator)**

SELECT * FROM t1_bill WHERE bill_no BETWEEN 3 and 30;

SELECT * FROM t1_bill WHERE amount BETWEEN 100 and 3000;

**Output:**

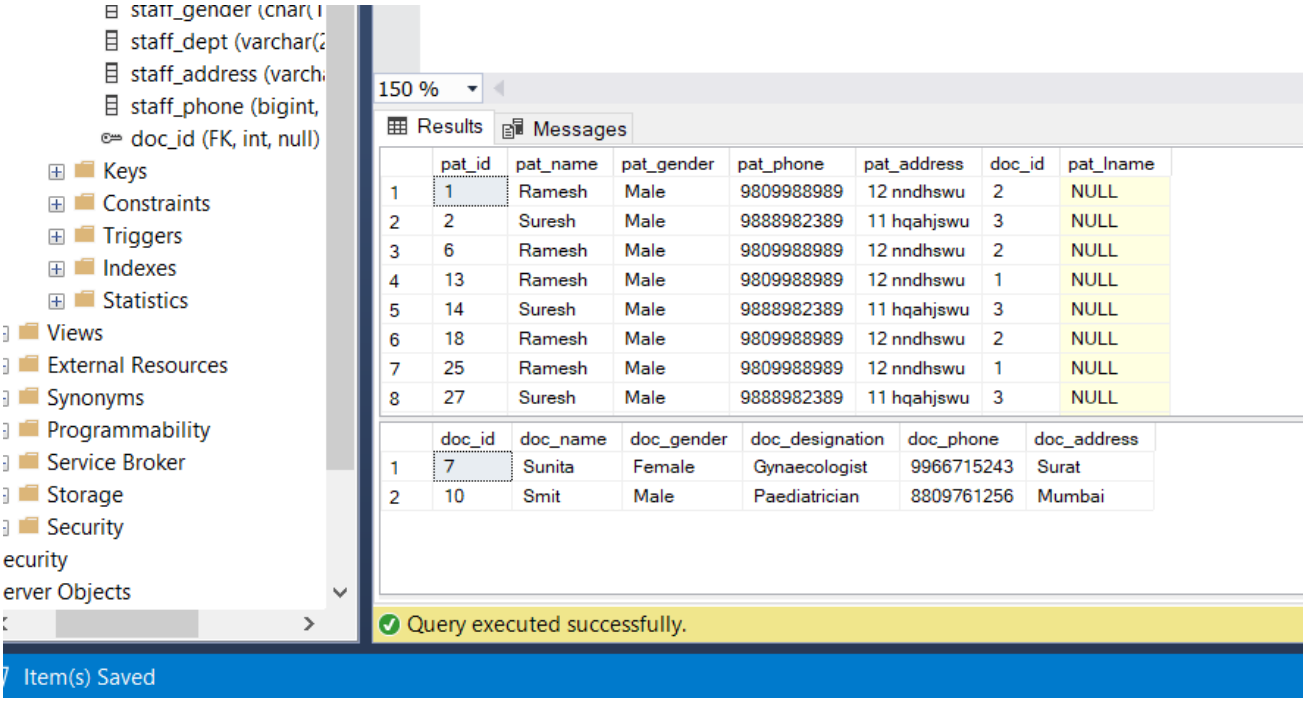


**Query:(IN operator)**

SELECT * FROM t1_patients WHERE pat_name In ('Ramesh','Suresh');

SELECT * FROM t1_doctor WHERE doc_address In ('Surat','Mumbai');

**Output:**

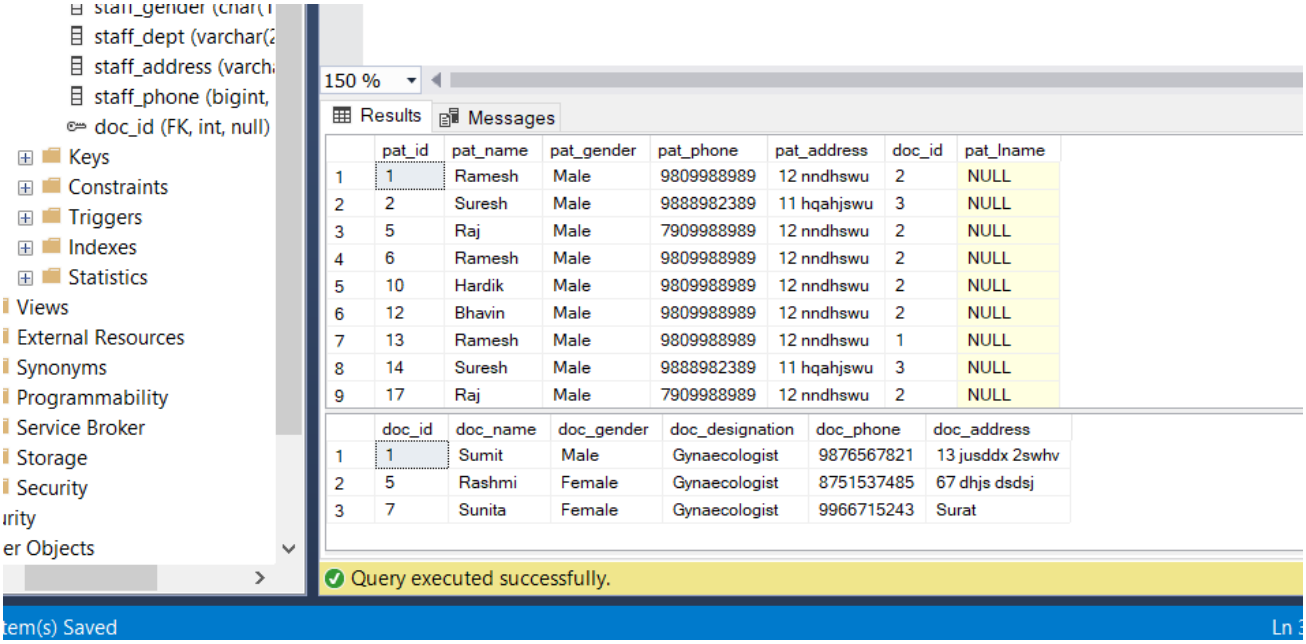



**Query:(OR operator)**

SELECT * FROM t1_patients WHERE pat_gender = 'Male' OR pat_name='Suresh';

SELECT * FROM t1_doctor WHERE doc_address = 'Surat' OR doc_designation='Gynaecologist';

## Output:


staff_dept (varchar(
staff_address (varch
staff_phone (bigint,
doc_id (FK, int, null)
Keys
Constraints
Triggers
Indexes
Statistics
Views
External Resources
Synonyms
Programmability
Service Broker
Storage
Security
150 %
Results
Messages
pat_id pat_name pat_gender pat_phone pat_address doc_id pat_lname
1 1 Ramesh Male 9809988989 12 nndhswu 2 NULL
2 2 Suresh Male 9888982389 11 hqahjswu 3 NULL
3 5 Raj Male 7909988989 12 nndhswu 2 NULL
4 6 Ramesh Male 9809988989 12 nndhswu 2 NULL
5 10 Hardik Male 9809988989 12 nndhswu 2 NULL
6 12 Bhavin Male 9809988989 12 nndhswu 2 NULL
7 13 Ramesh Male 9809988989 12 nndhswu 1 NULL
8 14 Suresh Male 9888982389 11 hqahjswu 3 NULL
9 17 Raj Male 7909988989 12 nndhswu 2 NULL
doc_id doc_name doc_gender doc_designation doc_phone doc_address
1 1 Sumit Male Gynaecologist 9876567821 13 jusddx 2swhv
2 5 Rashmi Female Gynaecologist 8751537485 67 dhjs dsdsj
3 7 Sunita Female Gynaecologist 9966715243 Surat
Query executed successfully.