Comparison Operators in SQL

abhisri459

In SQL, there are six comparison operators available which help us run queries to perform various operations. We will use the WHERE command along with the conditional operator to achieve this in SQL. For this article, we will be using the Microsoft SQL Server as our database.

Syntax:

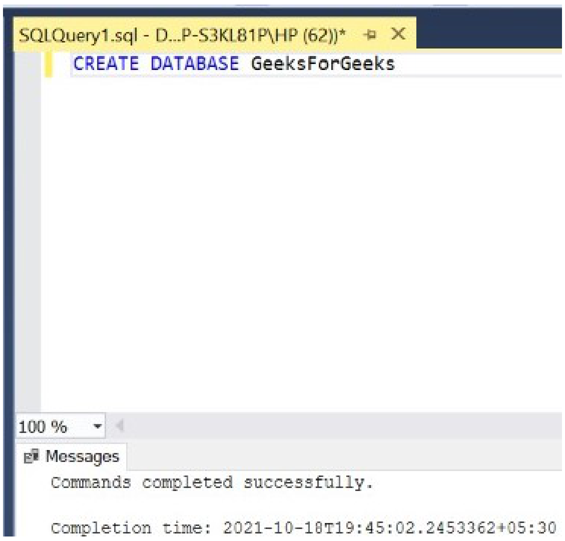
```
SELECT * FROM TABLE_NAME WHERE
ATTRIBUTE CONDITION_OPERATOR GIVEN_VALUE;
```

Step 1: Create a Database. For this use the below command to create a database named GeeksForGeeks.

Query:

```
CREATE DATABASE GeeksForGeeks
```

Output:



```
CREATE DATABASE GeeksForGeeks
```

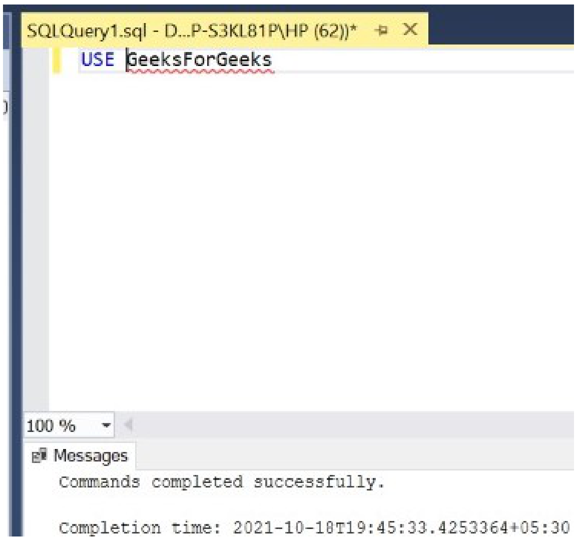
```
Commands completed successfully.

Completion time: 2021-10-18T19:45:02.2453362+05:30
```

Step 2: Use the GeeksForGeeks database. For this use the below command.

Query:

```
USE GeeksForGeeks
```

Output:



```
USE GeeksForGeeks
```

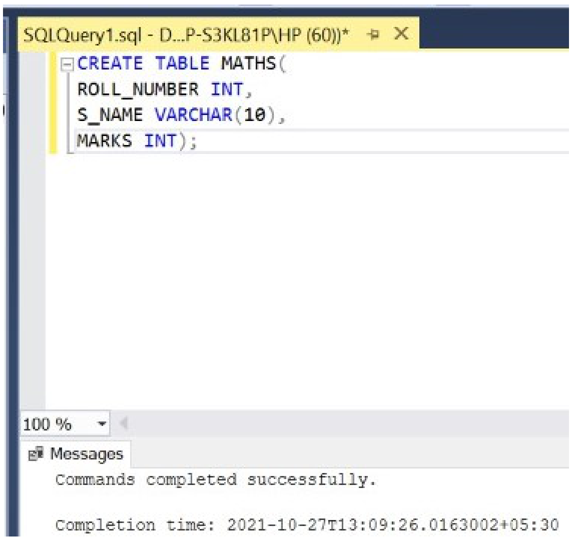
```
Commands completed successfully.

Completion time: 2021-10-18T19:45:33.4253364+05:30
```

Step 3: Create a table MATHS inside the database GeeksForGeeks. This table has 3 columns namely ROLL_NUMBER, S_NAME and MARKS containing roll number, student name, and marks obtained in math's subject by various students.

Query:

```
CREATE TABLE MATHS(
ROLL_NUMBER INT,
S_NAME VARCHAR(10),
MARKS INT);
```

Output:



```
CREATE TABLE MATHS(
ROLL_NUMBER INT,
S_NAME VARCHAR(10),
MARKS INT);
```

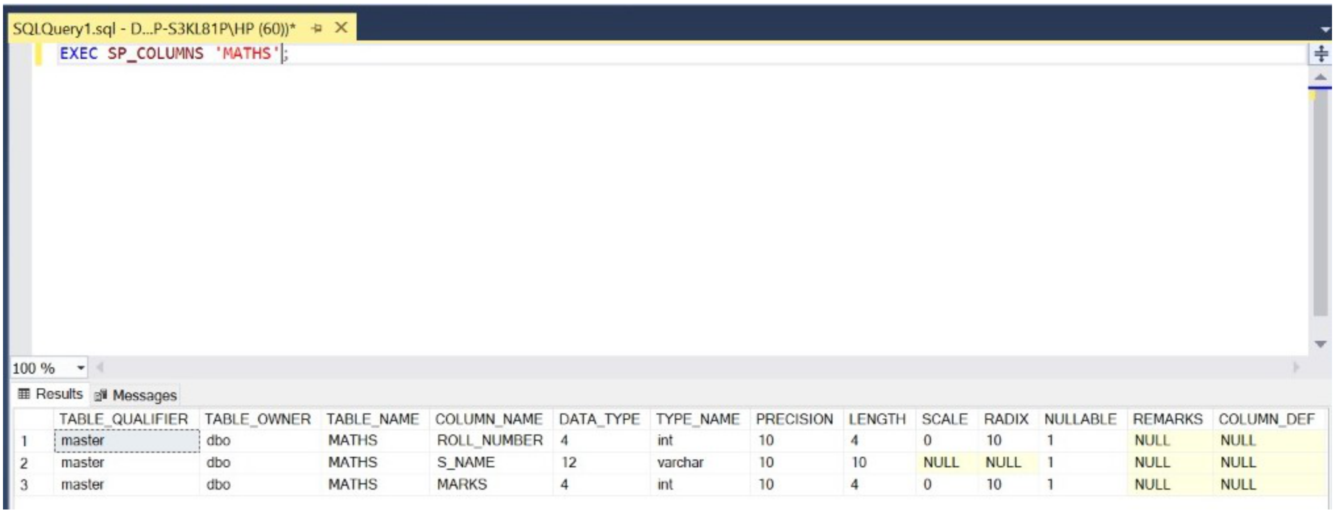
```
Commands completed successfully.

Completion time: 2021-10-27T13:09:26.0163002+05:30
```

Step 4: Display the structure of the MATHS table.

Query:

```
EXEC SP_COLUMNS 'MATHS';
```

Output:



```
EXEC SP_COLUMNS 'MATHS';
```

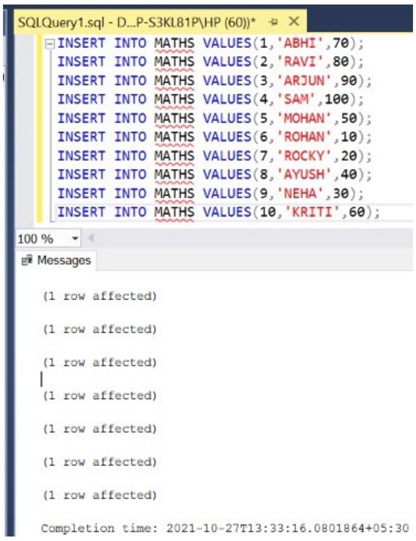
	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH	SCALE	RADIX	NULLABLE	REMARKS	COLUMN_DEF
1	master	dbo	MATHS	ROLL_NUMBER	4	int	10	4	0	10	1	NULL	NULL
2	master	dbo	MATHS	S_NAME	12	varchar	10	10	NULL	NULL	1	NULL	NULL
3	master	dbo	MATHS	MARKS	4	int	10	4	0	10	1	NULL	NULL

Step 5: Insert 10 rows into the MATHS table.

Query:

```
INSERT INTO MATHS VALUES(1,'ABHI',70);
INSERT INTO MATHS VALUES(2,'RAVI',80);
INSERT INTO MATHS VALUES(3,'ARJUN',90);
INSERT INTO MATHS VALUES(4,'SAM',100);
INSERT INTO MATHS VALUES(5,'MOHAN',50);
INSERT INTO MATHS VALUES(6,'ROHAN',10);
INSERT INTO MATHS VALUES(7,'ROCKY',20);
INSERT INTO MATHS VALUES(8,'AYUSH',40);
INSERT INTO MATHS VALUES(9,'NEHA',30);
INSERT INTO MATHS VALUES(10,'KRITI',60);
```

Output:



```
INSERT INTO MATHS VALUES(1,'ABHI',70);
INSERT INTO MATHS VALUES(2,'RAVI',80);
INSERT INTO MATHS VALUES(3,'ARJUN',90);
INSERT INTO MATHS VALUES(4,'SAM',100);
INSERT INTO MATHS VALUES(5,'MOHAN',50);
INSERT INTO MATHS VALUES(6,'ROHAN',10);
INSERT INTO MATHS VALUES(7,'ROCKY',20);
INSERT INTO MATHS VALUES(8,'AYUSH',40);
INSERT INTO MATHS VALUES(9,'NEHA',30);
INSERT INTO MATHS VALUES(10,'KRITI',60);
```

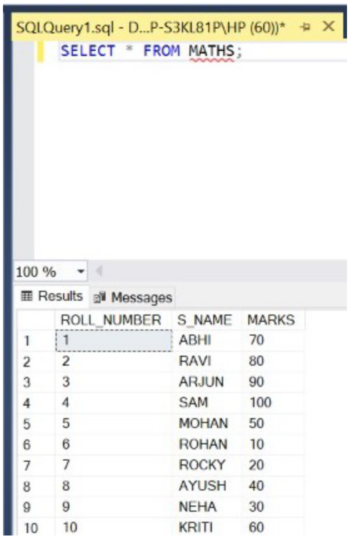
```
(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

Completion time: 2021-10-27T13:33:16.0801864+05:30
```

Step 6: Display all the rows of the MATHS table.

Query:

```
SELECT * FROM MATHS;
```

Output:



```
SELECT * FROM MATHS;
```

	ROLL_NUMBER	S_NAME	MARKS
1	1	ABHI	70
2	2	RAVI	80
3	3	ARJUN	90
4	4	SAM	100
5	5	MOHAN	50
6	6	ROHAN	10
7	7	ROCKY	20
8	8	AYUSH	40
9	9	NEHA	30
10	10	KRITI	60

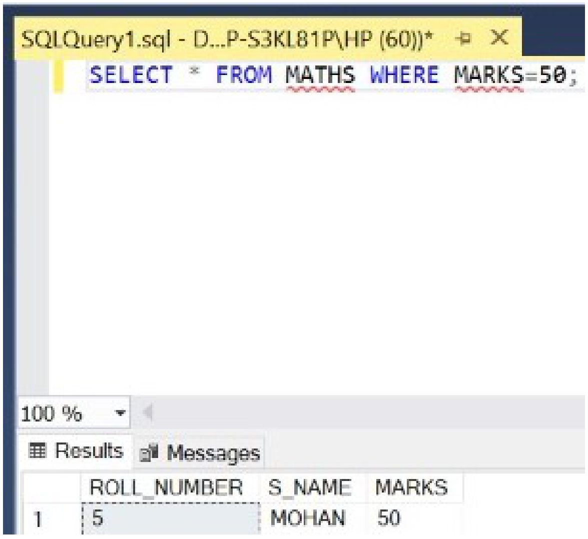
Demonstration of various Comparison Operators in SQL:

- **Equal to (=) Operator**: It returns the rows/tuples which have the value of the attribute equal to the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS=50;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS=50;
```

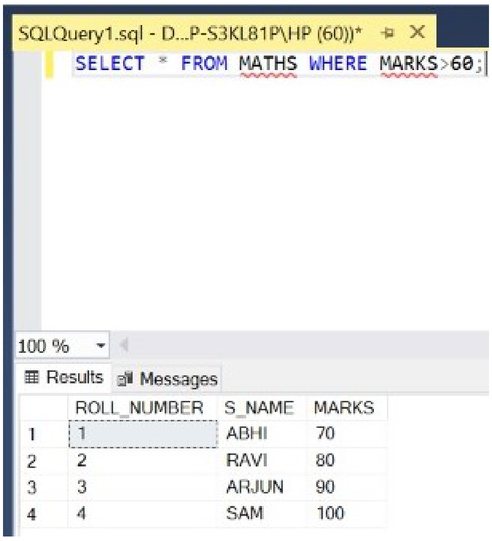
	ROLL_NUMBER	S_NAME	MARKS
1	5	MOHAN	50

- **Greater than (>) Operator:** It returns the rows/tuples which have the value of the attribute greater than the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS>60;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS>60;
```

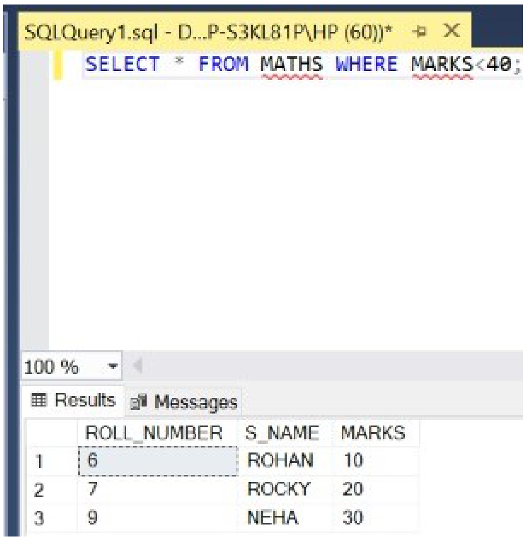
	ROLL_NUMBER	S_NAME	MARKS
1	1	ABHI	70
2	2	RAVI	80
3	3	ARJUN	90
4	4	SAM	100

- **Less than (<) Operator:** It returns the rows/tuples which have the value of the attribute lesser than the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS<40;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS<40;
```

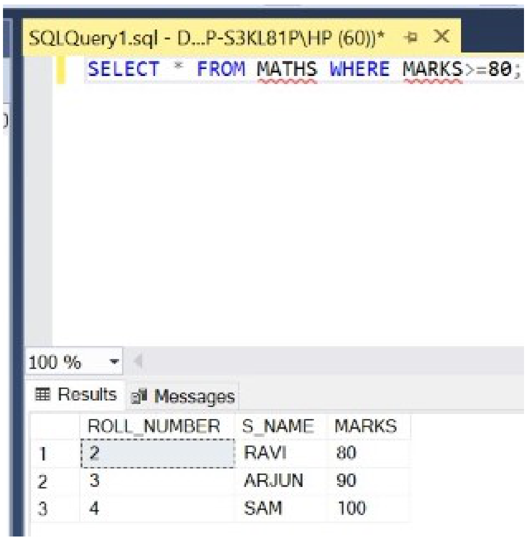
	ROLL_NUMBER	S_NAME	MARKS
1	6	ROHAN	10
2	7	ROCKY	20
3	9	NEHA	30

- **Greater than or equal to (>=) Operator:** It returns the rows/tuples which have the value of the attribute greater or equal to the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS>=80;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS>=80;
```

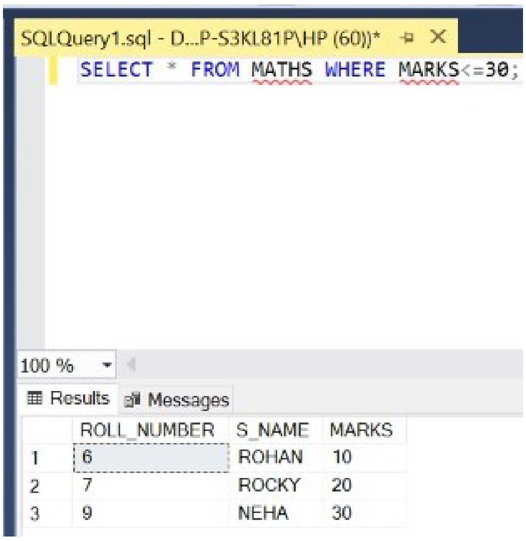
	ROLL_NUMBER	S_NAME	MARKS
1	2	RAVI	80
2	3	ARJUN	90
3	4	SAM	100

- **Less than or equal to (<=) Operator**: It returns the rows/tuples which have the value of the attribute lesser or equal to the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS<=30;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS<=30;
```

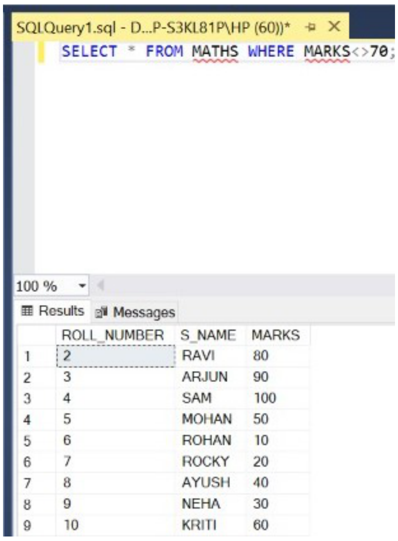
	ROLL_NUMBER	S_NAME	MARKS
1	6	ROHAN	10
2	7	ROCKY	20
3	9	NEHA	30

- **Not equal to (<>) Operator:** It returns the rows/tuples which have the value of the attribute not equal to the given value.

Query:

```
SELECT * FROM MATHS WHERE MARKS<>70;
```

Output:



```
SELECT * FROM MATHS WHERE MARKS<>70;
```

	ROLL_NUMBER	S_NAME	MARKS
1	2	RAVI	80
2	3	ARJUN	90
3	4	SAM	100
4	5	MOHAN	50
5	6	ROHAN	10
6	7	ROCKY	20
7	8	AYUSH	40
8	9	NEHA	30
9	10	KRITI	60

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