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SQL Server Mathematical functions (SQRT, PI, SQUARE, ROUND, CEILING & FLOOR)



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Mathematical functions are present in SQL server which can be used to perform mathematical calculations. Some commonly used mathematical functions are given below:

1. SQRT():

SQRT() function is the most commonly used function. It takes any numeric values and returns the square root value of that number.

Syntax:

```
SELECT SQRT(..value..)
```

Example:

```
SELECT SQRT(100)

SELECT PI()

SELECT SQUARE(25)
SELECT SQUARE(10.12)

SELECT ROUND(125.315, 2);
SELECT ROUND(125.315, 1);

SELECT CEILING(45.56)
SELECT FLOOR(45.56)
```

Results Messages

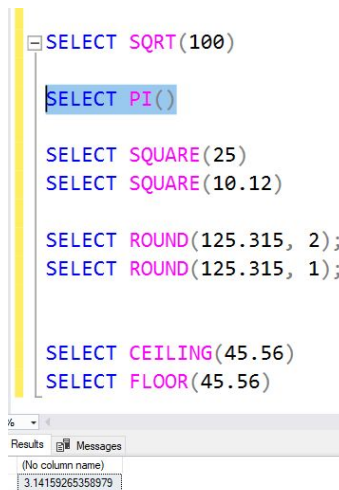
(No column name)
10

2. PI(): There are calculations which require use of pi. Using pi() function, value of PI can be used anywhere in the query.

AD

Syntax:

```
SELECT PI()
```

Example:

```
SELECT SQRT(100)

SELECT PI()

SELECT SQUARE(25)
SELECT SQUARE(10.12)

SELECT ROUND(125.315, 2);
SELECT ROUND(125.315, 1);

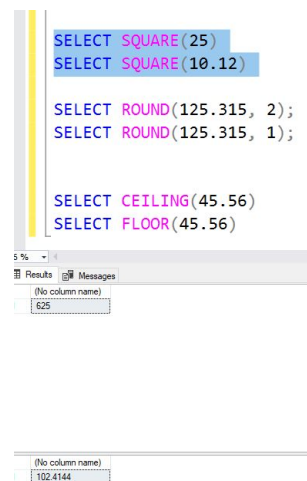
SELECT CEILING(45.56)
SELECT FLOOR(45.56)
```

Results Messages
(No column name)
3.14159265358979

3. SQUARE(): SQUARE() function is used to find the square of any number.

Syntax:

```
SELECT SQUARE(..value..)
```

Example:

```
SELECT SQUARE(25)
SELECT SQUARE(10.12)

SELECT ROUND(125.315, 2);
SELECT ROUND(125.315, 1);

SELECT CEILING(45.56)
SELECT FLOOR(45.56)
```

Results Messages
(No column name)
625

(No column name)
102.4144

4. ROUND(): ROUND() function is used to round a value to the nearest specified decimal place.

Syntax:

```
SELECT ROUND(..value.., number_of_decimal_places)
```

Example:

The screenshot shows a SQL Server query window with the following queries and results:

```
SELECT ROUND(125.315, 2);
SELECT ROUND(125.315, 1);

SELECT CEILING(45.56)
SELECT FLOOR(45.56)
```

The results pane shows two tables. The first table, titled '(No column name)', has one row with the value 125.320. The second table, also titled '(No column name)', has one row with the value 125.300.

5. CEILING() and FLOOR()

CEILING(): CEILING() function is used to find the next highest value (integer).

Syntax:

```
SELECT CEILING(..value..)
```

FLOOR(): FLOOR() function returns the next lowest value (integer).

Syntax:

```
SELECT FLOOR(..value..)
```

Example:

The screenshot shows a SQL Server query window with the following queries and results:

```
SELECT CEILING(45.56)
SELECT FLOOR(45.56)
```

The results pane shows two tables. The first table, titled '(No column name)', has one row with the value 46. The second table, also titled '(No column name)', has one row with the value 45.

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