

IMP SQL FUNCTIONS LIST

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SAVE FOR LATER



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IMP SQL String Functions



TRANSFORMATIONAL

SUBSTRING()	Extracts character from given string as per input position.
LTRIM()	Removes leading spaces from string.
RTRIM()	Removes trailing spaces from string.
LOWER()	Converts string to lower case.
UPPER()	Converts string to upper case.
CONCAT()	Combines 2 or more string to a single string.
REPLACE()	Replaces all occurrences of a substring with another string.
STUFF()	Deletes given section of string and replace with another string.
SPACE()	Returns a string with specified number of space characters.
REVERSE()	Reverse the sequence of the string.
REPLICATE()	Repeats the string with no. of times of given input parameter.

POSITIONAL

LEN()	Returns the total length of the string.
CHARINDEX()	Returns the first position of given character.
RIGHT()	Extracts no of given string characters from right position.
PATINDEX()	Returns the position of pattern in the string.

CONVERSION

ASCII()	Returns ASCII value of specific character.
CHAR()	Returns character based on ASCII code.
NCHAR()	Returns unicode character based on number code.
UNICODE()	Returns unicode value of first character of input expression.

IMPORTANT SQL DATE FUNCTIONS

GETDATE()	Returns current date and time of system's timezone
ISDATE(date)	Returns 1 if input parameter is a valid date else return 0
CURRENT_TIMESTAMP	Returns current date and time of database's timezone
CURRENT_TIMEZONE()	Returns timezone name
DATEADD(day,num,date)	It adds day, month or year in the date given based on number provided in second parameter. Negative number will subtract the days.
DATEDIFF(day,date1,date2)	It returns the day, month or year difference between the two dates provided. The output is integer.
DATEPART(year,date)	It returns the day , month or year of the date provided in input. The output is integer.
DAY(date)	It returns the day of the date provided in input. The output is integer.
MONTH(date)	It returns the month of the date provided in input. The output is integer.
YEAR(date)	It returns the Year of the date provided in input. The output is integer.

SQL Window Functions

ROW_NUMBER()

Assigns a unique sequential integer to each row within the result set, starting from 1.

RANK()

Assigns a rank to each row in a result set based on specified column values, with tied values receiving the same rank.

DENSE_RANK()

Assigns a rank to each row within a result set based on specified column values, with tied values receiving the same rank, but there are no gaps in the ranking.

NTILE(n)

Divides the result set into 'n' roughly equal parts and assigns a group number to each row.

LAG()

Accesses data from the previous row within result set.

LEAD()

Accesses data from the next row within the result set.

SUM() OVER()

Perform sum aggregation operations over a specified window or partition of rows.

AVG() OVER()

Perform Average aggregation operations over a specified window or partition of rows.

COUNT() OVER()

Counts the number of rows within a specified window or partition.



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SQL Conditional Functions

CASE

The CASE statement lets you apply conditional logic to one or multiple conditions, resulting in diverse outcomes.

ISNULL

Functions designed to address NULL values by returning a default value when a column or expression is NULL.

COALESCE

Returns first non-null expression from a list of expressions.

NULLIF

Compares two expressions and returns null if they are equal; otherwise, it returns the first expression.

CHOOSE

Selects a value based on an index.

BETWEEN

Used in where clause for range comparisons.

LIKE

Used in where clause for pattern matching

EXISTS

It checks for the existence of rows in a subquery.

ANY/ALL

Used for comparison operators in subqueries.

IF-ELSE

Conditional construct to check condition and return subsequent value.



SQL Aggregate and Arithmetic Functions

AGGREGATE FUNCTIONS

COUNT()	This function yields the count of rows within a database table.
SUM()	Provides the cumulative sum of a numerical column.
AVG()	The function computes the average of a collection of values.
MIN()	Finds the lowest value from given column.
MAX()	Finds the highest value from given column.

ARITHMATIC FUNCTIONS

ABS()	Provides the absolute value of a given numeric argument.
CEIL()	Rounds up positive or negative decimal value to next integer.
FLOOR()	Rounds up positive or negative decimal val to least integer.
EXP()	Computes e to the power of a numeric expression (n).
LN()	Returns the natural logarithm of a positive number (n).
MOD()	Function provides the remainder after division.
POWER()	Computes first parameter raised second parameter.
SQRT()	Calculates the square root of the provided argument.



USER DEFINED SQL FUNCTION

Syntax:

```
CREATE FUNCTION [schema_name.]function_name
    (@parameter1 data_type, @parameter2 data_type, ...)
RETURNS return_data_type
AS
BEGIN
    -- Function body: Define the logic of your function here
    -- Use parameters and local variables as needed

    -- Return a value or a result set
END;
```

Example:

```
CREATE FUNCTION dbo.AddNumbers
    (@num1 INT, @num2 INT)
RETURNS INT
AS
BEGIN
    DECLARE @result INT;
    SET @result = @num1 + @num2;
    RETURN @result;
END;
```



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