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# SQL

## FUNCTIONS



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**SWIPE**

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Microsoft SQL Server provides a wide range of **built-in functions** that can be used to manipulate and analyze data in various ways.

Let's learn some of the commonly used types of built-in functions.

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# Date Time functions

SQL Date Time functions are used to manipulate and format date and time values.

## EXAMPLES

**GETDATE()**



Returns the current system date and time in the format YYYY-MM-DD HH:MI:SS.

**DATEPART()**



Returns a specific part of a date, such as the year, month, or day.

**DATEDIFF()**



Returns the difference between two dates in a specified unit, such as days or hours

**DATEADD()**



Adds or subtracts a specified time interval (such as days, hours, or minutes) to a date.

# Aggregate functions

SQL Aggregate functions are used to perform calculations on a set of rows and return a single value as the result.

## EXAMPLES

**COUNT()**



Returns the number of rows that match a specified condition.

**SUM()**



Returns the sum of a numeric column.

**AVG()**



Returns the average value of a numeric column.

**MIN()**



Returns the smallest value in a column.

**MAX()**



Returns the maximum value in a column.





# String Functions

SQL String functions help you modify and work with text data in your database, like combining words, finding specific words, trimming, and formatting.

## EXAMPLES

**CONCAT()**



Used to concatenate two or more strings into a single string.

**UPPER()**



Used to convert a specified string to all uppercase letters.

**LOWER()**



Used to convert a specified string to all lowercase letters.

**REPLACE()**



Used to replace all occurrences of a substring in a specified string with a new substring.



# Mathematical Functions

SQL Mathematical functions are used to perform calculations and operations on numerical data within a SQL query.

## EXAMPLES

**ABS()**



Returns the absolute (positive) value of a number, regardless of its sign.

**CEILING()**



Returns the smallest integer value that is greater than or equal to a given number.

**FLOOR()**



Returns the largest integer value that is less than or equal to a given number.

**SQRT()**



Returns the square root of a given number.



# Ranking Functions

SQL Ranking functions are used to assign a rank or row number to each row within a result set.

## EXAMPLES

**RANK()**



Assigns a unique ranking to each row within a result set, where ties are assigned the same rank and the next consecutive rank is not skipped.

**DENSE\_RANK()**



Assigns a unique ranking to each row within a result set, where ties are assigned the same rank and the next consecutive rank is skipped.

**ROW\_NUMBER()**



Returns the number of rows that match a specified condition.