Automation Testing

Built-in Functions

A Day in the Life of an Automation Test Engineer

Jake is now able to work with various Joins in SQL.

Now he wants to explore several built-in functions that are present in SQL that will help in calculating values and manipulating data in a database.

To achieve the above, he will learn a few concepts in this lesson that will help him to learn and use the built-in functions.

Learning Objectives

By the end of this lesson, you will be able to:

- Explain built-in functions
- Classify different types of Math and Aggregate functions
- Outline String and Date functions

Built-in Functions: Overview

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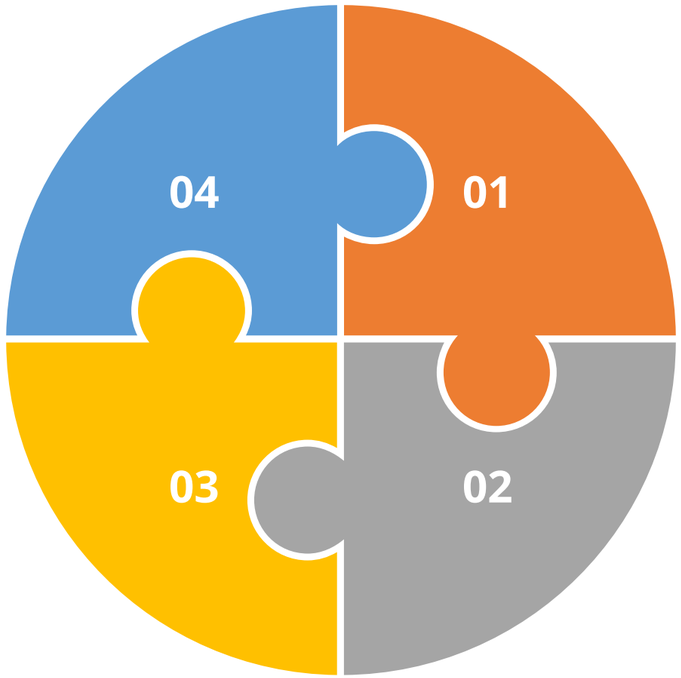
A built-in function is a function that accepts zero or more inputs and returns an output.

Built-in Functions: Overview

The following are the different types of built-in functions:

Date functions

Math functions



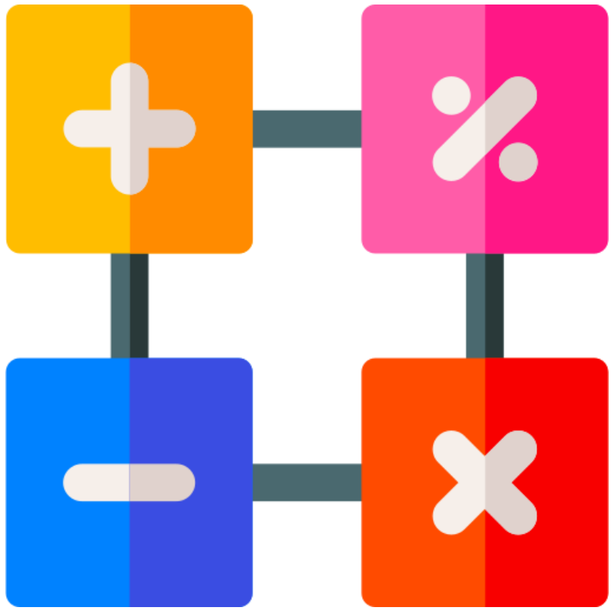
String functions

Aggregate functions

Math Functions

Math Functions

A Math function in SQL is used to execute arithmetic operations.



Math Functions

The following are the different types of Math functions:

Math Functions: MOD()

The MOD() function is used to return a remainder of a number that is divided by another number.

The following is the syntax for the MOD() function:

SQL Query

```
SELECT MOD(x, y);
```

Math Functions: POWER()

The POWER() function is used to find the value of a number that has been raised to the power of another number.

The following is the syntax for the POWER() function:

SQL Query

```
SELECT POWER(x, y);
```

Math Functions: ROUND()

The ROUND() function is used to round off a number to a certain decimal point.

The following is the syntax for the ROUND() function:

SQL Query

```
SELECT ROUND(number, decimals, operation);
```

Math Functions: SQRT()

The SQRT() function is used to find the square root of a number.

The following is the syntax for the SQRT() function:

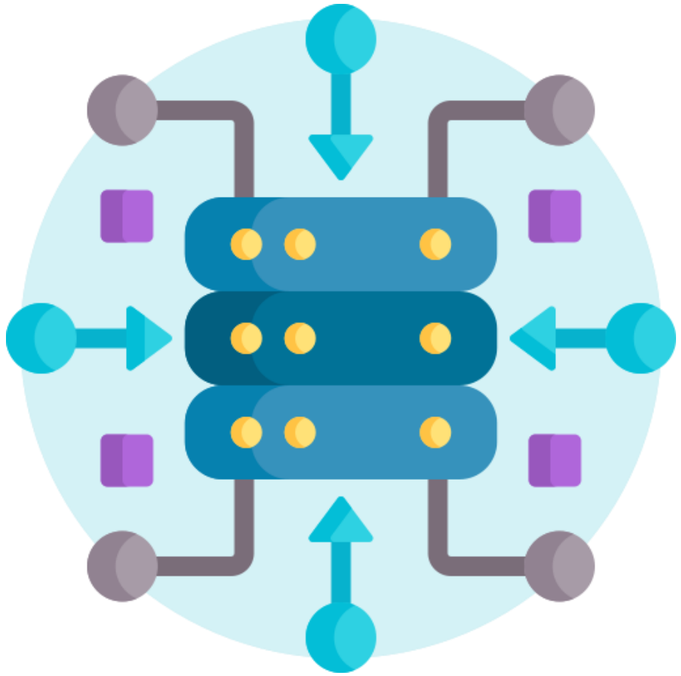
SQL Query

```
SELECT SQRT(Number);
```

Aggregate Functions

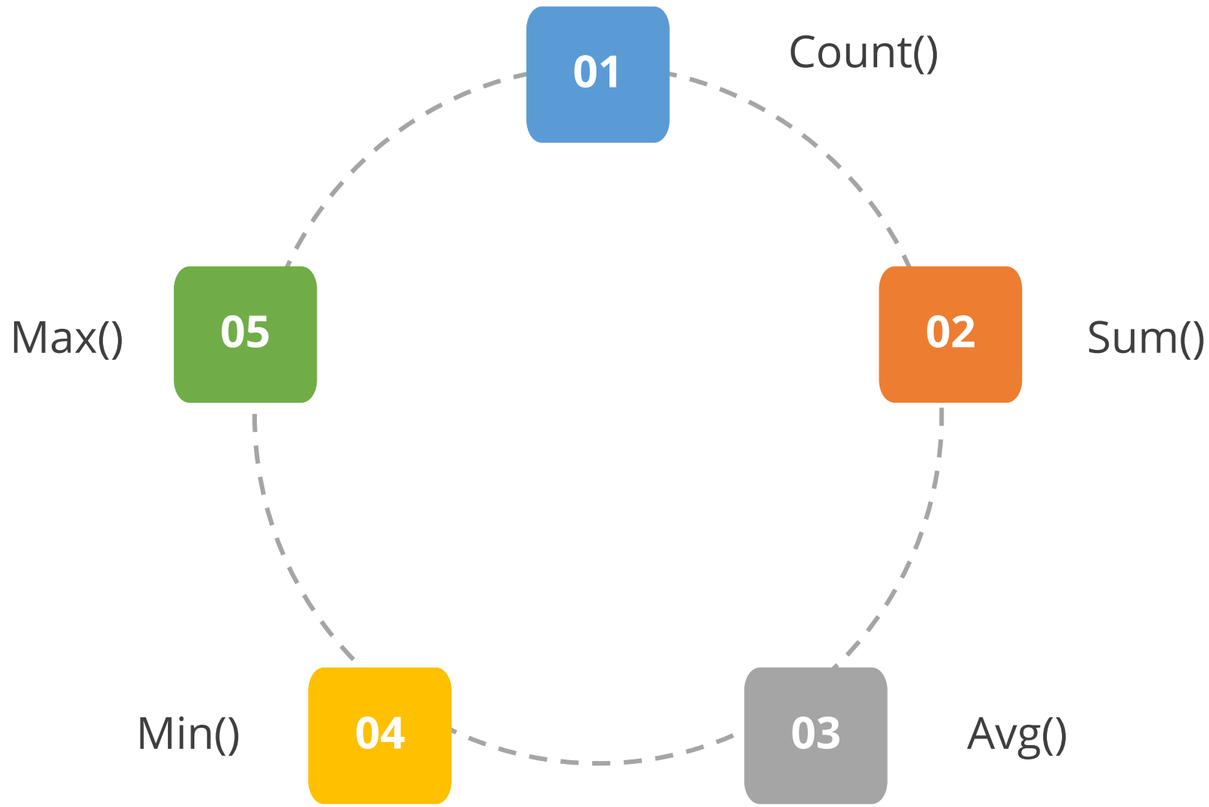
Aggregate Functions

An Aggregate function in SQL performs a calculation on multiple values and returns a single value.



Aggregate Functions

The following are the different types of Aggregate functions:



Aggregate Functions: COUNT()

The COUNT() function returns the number of rows that satisfy a given set of criteria.

The following is the syntax for the COUNT() function:

SQL Query

```
SELECT COUNT(column_name)
FROM table_name
WHERE condition;
```

Aggregate Functions: SUM()

The SUM() function returns the total sum of a column.

The following is the syntax for the SUM() function:

SQL Query

```
SELECT SUM(column_name)
FROM table_name
WHERE condition;
```

Aggregate Functions: AVG()

The AVG() function returns the average value of a column.

The following is the syntax for the AVG() function:

SQL Query

```
SELECT AVG(column_name)
FROM table_name
WHERE condition;
```

Aggregate Functions: MIN()

The MIN() function returns the smallest value of the selected column.

The following is the syntax for the MIN() function:

SQL Query

```
SELECT MIN(column_name)
FROM table_name
WHERE condition;
```

Aggregate Functions: MAX()

The MAX() function returns the largest value of the selected column.

The following is the syntax for the MAX() function:

SQL Query

```
SELECT MAX(column_name)
FROM table_name
WHERE condition;
```

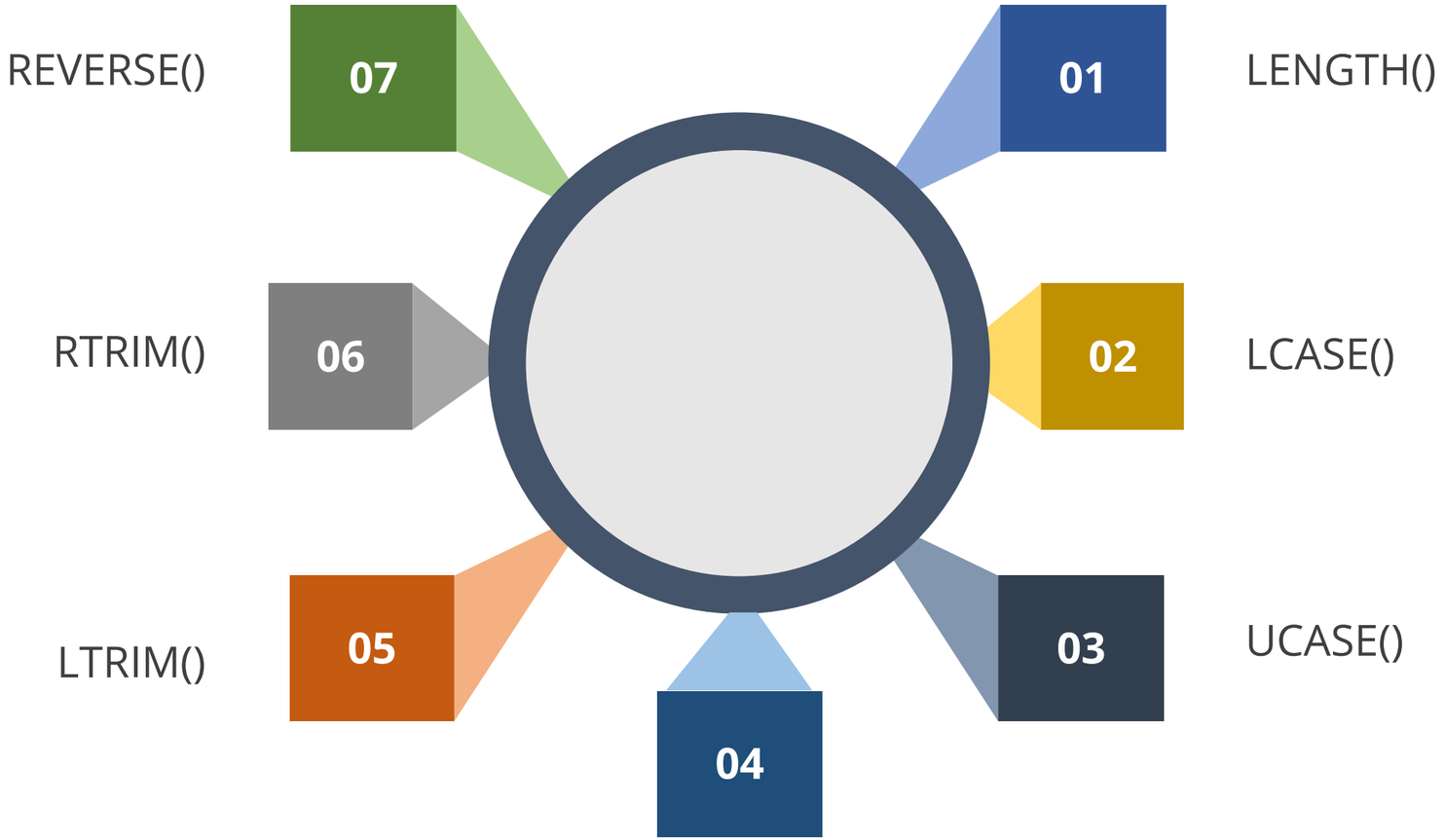
String Functions

String Functions

SQL string functions operate on input strings and return output strings.

String Functions

The following are the list of important String functions:



String Functions: LENGTH()

The LENGTH() function is used to determine the length of a word.

The following is the syntax for the LENGTH() function:

SQL Query

```
Syntax: LENGTH('Hello');

Output: 5
```

String Functions: LCASE()

The LCASE() function converts a string to lowercase.

The following is the syntax for the LCASE() function:

SQL Query

```
Syntax: LCASE ("Bootcamp and Certification Platform");

Output: bootcamp and certification platform
```

String Functions: UCASE()

The UCASE() function converts a string to uppercase.

The following is the syntax for the UCASE() function:

SQL Query

```
Syntax: UCASE ("Bootcamp and Certification Platform");

Output: BOOTCAMP AND CERTIFICATION PLATFORM
```

String Functions: SUBSTR()

The SUBSTR() function is used to extract a substring from a string at a specific position.

The following is the syntax for the SUBSTR() function:

SQL Query

```
Syntax: SUBSTR('Simplilearn', 1, 6);

Output: 'Simpli'
```

String Functions: LTRIM()

The LTRIM() function is used to remove a substring from a given string.

The following is the syntax for the LTRIM() function:

SQL Query

```
Syntax: LTRIM('123123Simplilearn', '123');

Output: Simplilearn
```

String Functions: RTRIM()

The RTRIM() function is used to remove a substring from a given string.

The following is the syntax for the RTRIM() function:

SQL Query

```
Syntax: RTRIM('Simplilearn123123', '123');

Output: Simplilearn
```

String Functions: REVERSE()

The REVERSE() function is used to reverse a string.

The following is the syntax for the REVERSE() function:

SQL Query

```
SELECT MAX(column_name)
FROM table_name
WHERE condition;
```

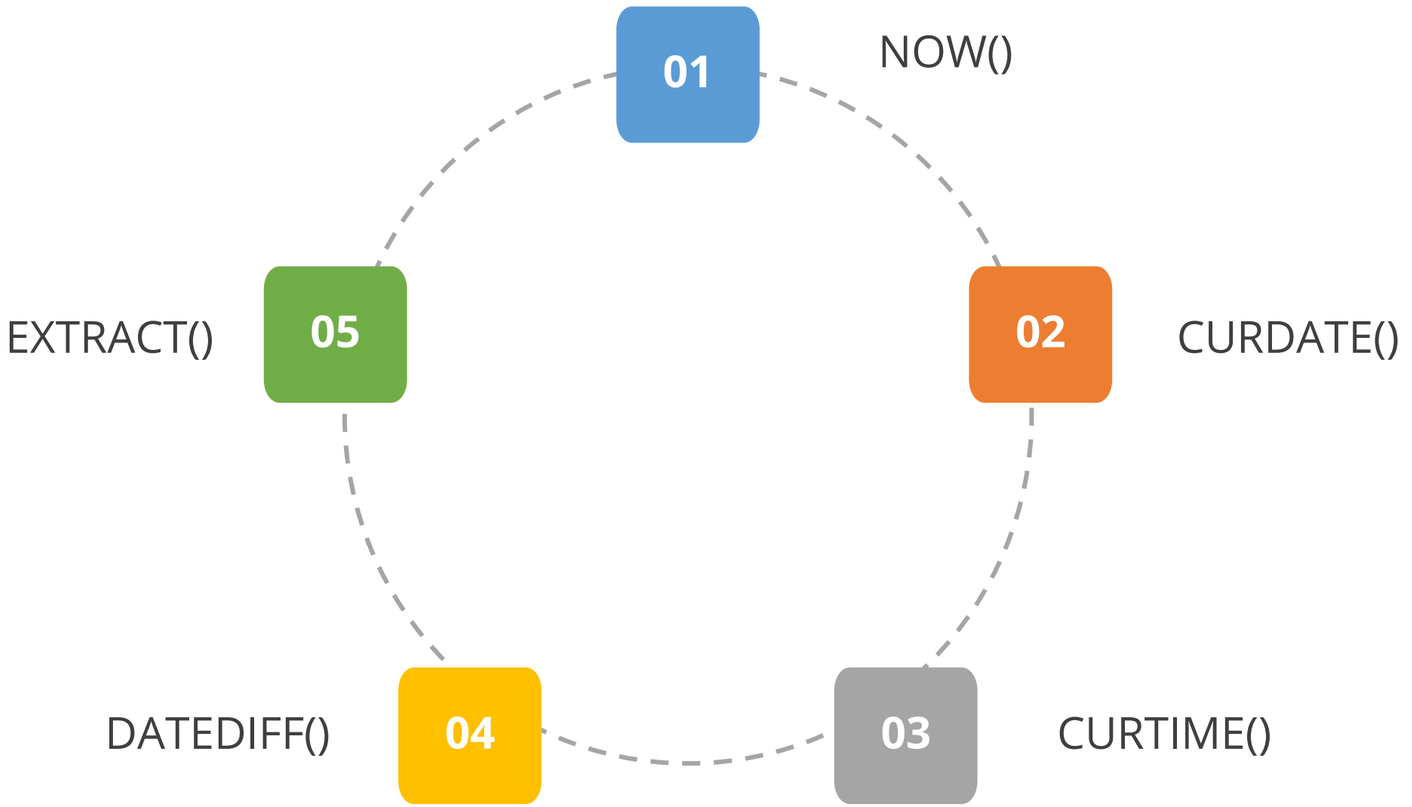
Date Functions

Date Functions

Date functions are used to format dates and perform date-related calculations.

Date Functions

The following are the different types of Date functions:



Date Functions: NOW()

The NOW() function returns the current system's date and time.

The following is the syntax for the NOW() function:

SQL Query

```
SELECT NOW ();
```

Date Functions: CURDATE()

The CURDATE() function returns the current system's date.

The following is the syntax for the CURDATE() function:

SQL Query

```
SELECT CURDATE ();
```

Date Functions: CURTIME()

The CURTIME() function returns the current system's date.

The following is the syntax for the CURTIME() function:

SQL Query

```
SELECT CURTIME ();
```

Date Functions: DATEDIFF()

The DATEDIFF() function returns the number of days from one date to another.

The following is the syntax for the DATEDIFF() function:

SQL Query

```
DATEDIFF(interval, date1, date2)
```

Date Functions: EXTRACT()

The EXTRACT() function extracts a single part of a date or time.

The following is the syntax for the EXTRACT() function:

SQL Query

```
EXTRACT(unit FROM date);
```

Working with Various Built-in SQL Functions

Problem Statement:

You have been asked to work with various built-in SQL functions.

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to work with various built-in SQL functions are:

1. Work with various built-in SQL functions

Key Takeaways

- A built-in function is a function that accepts zero or more inputs and returns an output.
- A Math function in SQL is used to execute arithmetic operations.
- An Aggregate function in SQL performs a calculation on multiple values and returns a single value.
- Date functions are used to format dates and perform date-related calculations.