JavaScript Operators

Topics Covered
- JavaScript Operators
- Types of Operators
    - Arithmetic Operator
    - Comparison (or) Relational Operator
    - Bitwise Operator
    - Logical Operator
    - Assignment Operator
    - Miscellaneous Operator
        - Conditional (or) Ternary Operator
        - TypeOf Operator
    - String Operators

Topics in Detail

JavaScript Operators
- An **Operator** is a **symbol** reserved for performing a special task.
- Operators perform operations on one or more **operands**. Operands can be variables, string or numeric literals.

Types of Operators
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- Miscellaneous Operator
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Arithmetic Operator

Arithmetic Operators perform **arithmetic operations** on numbers.

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation
/	Division
%	Modulus(Division Remainder)
++	Increment
–	Decrement

Comparison / Relational Operator

Relational Operators perform **comparison** between two operands. A **boolean** value will be returned as a result of this operation.

Operator	Description
==	Is equal to
===	Identical (equal & of same type)
!=	Not equal to
!==	Not Identical
>	Greater than
>=	Greater than or equal to
<	Less than
<=	Less than or equal to

Bitwise Operator

Bitwise Operators perform **bitwise** operations on operands.

Operator	Description
&	Bitwise AND
|	Bitwise OR
^	Bitwise XOR
~	Bitwise NOT
<<	Bitwise Left Shift
>>	Bitwise Right Shift
>>>	Bitwise Right Shift with Zero

Logical Operator

Logical Operators perform **logical** operations on the operands.

Operator	Description
&&	Logical AND
||	Logical OR
!	Logical NOT

Assignment Operator

Assignment Operators assign values to the **JavaScript variables.**

Operator	Description
=	Assign
+=	Add and assign
-=	Subtract and assign
*=	Multiply and assign
/=	Divide and assign
%=	Modulus and assign

Miscellaneous Operator

Conditional or Ternary Operator

- Conditional Operator returns value based on the **condition**. It is similar to an **if-else** statement.
- Syntax:

    (Condition) ? value x : value y;

- Example:

```
var a = 10;
var b = 20;
result = (a > b) ? 100 : 200;
```

TypeOf Operator

TypeOf Operator is a **Unary** Operator i.e it uses a **single operand**. This Operator evaluates the data type of the operand.

Type	String Returned by Typeof
Number	"number"
String	"string"
Boolean	"boolean"
Object	"object"
Function	"function"
Undefined	"undefined"
Null	"object"

String Operators

- **(+)** Operator is used to **concatenate** strings.

```
let text1 = "John";
let text2 = "Doe";
let text3 = text1 + " " + text2;
```

- **Assignment Operator (+=)** is also used to **concatenate** strings.

```
let text1 = "What a very ";
text1 += "nice day";
```

- **(+)** operator when used on **strings** it is also known as **Concatenation Operator**.

- The **Concatenation Operator** also allows us to **add a number and string**.

```
let y = "5" + 5;
let z = "Hello" + 5;
```