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Javascript Operators

Arithmetic Operators
+ - * /

Logical Operators
&& ||

Comparison Operators
== === !=
<= >=

Operators in Javascript

Assigment Operators
= += -=
*= /= <= >=

Bitwise Operators
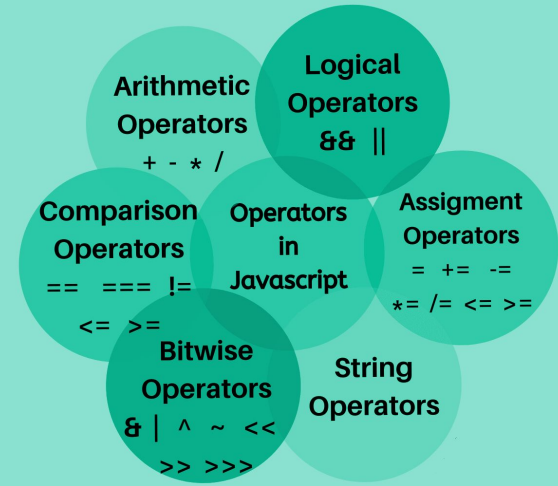& | ^ ~ <<
>> >>>

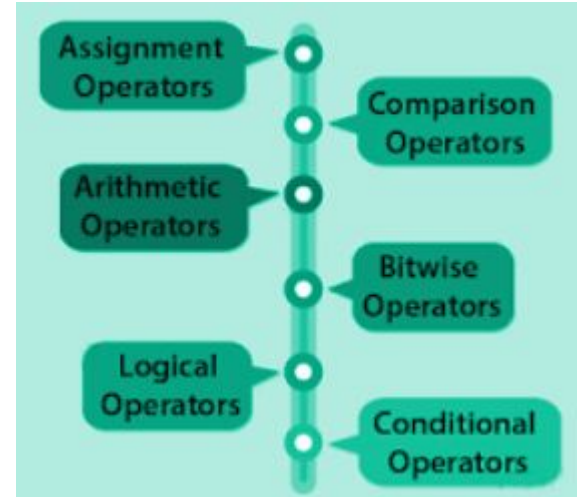String Operators

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.

| JS Operators | Types of Operators | Operators Example |

Types of Operators

- Arithmetic Operators
- Comparison (Relational) Operators
- Bitwise Operators
- Logical Operators
- Assignment Operators
- Miscellaneous Operator
  - Conditional (or) Ternary Operator
  - TypeOf Operator
- String Operators

Js Operators | **Types of Operators** | Operators Example

Arithmetic Operator

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

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

JS Operators | **Types of Operators** | Operators Example

Comparison / Relational Operator

Relational Operators perform **comparison** between two operands, and **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

JS Operators   **Types of Operators**   Operators Example

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

JS Operators | **Types of Operators** | Operators Example

Logical Operator

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

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

| JS Operators | **Types of Operators** | Operators Example |

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

JS Operators | **Types of Operators** | Operators Example

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;
```

Miscellaneous Operator

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"

JS Operators → **Types of Operators** → Operators Example

String Operator

- **(+)** 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";
```

JS Operators | **Types of Operators** | Operators Example

String Operator

- **(+)** 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;
```

JS Operators   **Types of Operators**   Operators Example

Operators Example

Example of Arithmetic Operator

```
//Arithmetic Operator use +, -, *, / //
    var x = 5;
    var y = 2;
    var z = x + y;
    document.getElementById("demo").innerHTML = z;
```

Output

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Example of Comparison Operator

```
// Comparison operator use ==, ===, !=, !==, >, >=, <, <= //
    var a = y < x;
    document.getElementById("demo1").innerHTML = a;
```

Output

true

JS Operators　　Types of Operators　　**Operators Example**

Operators Example

Example of Bitwise Operator

```
// Bitwise operator use &,|, ^, ~, <<, >>, >>> //
  var b = ~x;
  document.getElementById("demo2").innerHTML = b;
```

Output

-6

Example of Logical Operator

```
//Logical operator use &&, ||, ! //
  var c = x && y;
  document.getElementById("demo3").innerHTML = c;
```

Output

2

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Operators Example

Example of Ternary Operator

```
// Conditional operator//
    var d = (x > y) ? 100 : 200;
    document.getElementById("demo5").innerHTML = d;
```

Output

100

Example of Assignment Operator

```
// Assignment operator use =, +=, -=, *=, /=, %= //
    x += 4;
  document.getElementById("demo4").innerHTML = x;
```

Output

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Operators Example

Example of TypeOf Operator

```
//TypeOf operator//
    var str = "hello";
    var result1 = (typeof str == "string" ? "str is String" : "str is Numeric");
    var result2 = (typeof x == "string" ? "x is String" : "x is Numeric");
    document.write(result1);
    document.write("<br>");
    document.write(result2);
```

Output

```
str is String
x is Numeric
```

Operators Example

Example of String Operator

```
//String operator//
    var string1 = "Hello";
    var string2 = "JS";
    var string = string1 +" "+ string2;
    document.write("<br>");
    document.write(string);
    document.write("<br>");
    document.write("Hello" + y);
    document.write("<br>");
    string += "Operators";
    document.write(string);
```

Output

```
Hello JS
Hello2
Hello JSOperators
```

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