JavaScript Operators - Lesson

In JavaScript, operators are special symbols used to perform operations on operands (values and variables). They are essential building blocks of programming logic, allowing us to manipulate data, perform calculations, and control program flow.

Types of JavaScript Operators:

- Arithmetic Operators: Perform mathematical operations (e.g., +, -, *, /, %, **).
- Assignment Operators: Assign values to variables (e.g., =, +=, -=, *=, /=, %=).
- Comparison Operators: Compare two values and return a boolean (e.g., ==, ===, !=, !==, >, <, >=, <=).
- Logical Operators: Combine or invert conditions (e.g., &&, ||, !).
- Bitwise Operators: Perform operations at the binary level (e.g., &, |, ^, ~, <<, >>, >>>).
- String Operators: The + operator is used to concatenate strings.
- Conditional (Ternary) Operator: A shorthand for if-else (condition ? value1 : value2).
- Type Operators: Used to check or manipulate types (e.g., typeof, instanceof).

Examples of Operators in JavaScript:

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Arithmetic Example:
let a = 10; let b = 3;
console.log(a + b); // 13
console.log(a % b); // 1

Comparison Example:
console.log(5 == '5'); // true (loose equality)
console.log(5 === '5'); // false (strict equality)

Logical Example:
let x = true; let y = false;
console.log(x && y); // false
console.log(x || y); // true
console.log(!x); // false

Ternary Example:
let age = 18;
let canVote = (age >= 18) ? "Yes" : "No";
console.log(canVote); // Yes
```