**Arithmetic Operators**

In JavaScript, arithmetic operators are used to perform mathematical operations on numbers.

+ : Addition

- : Subtraction

\* : Multiplication

/ : Division

% : Modulus (remainder)

\*\* : Exponentiation (power)

++ : Increment

-- : Decrement

**Example :**

**// Addition**

**let sum = 5 + 3;**

**console.log("Sum (5 + 3):", sum);**

**// Subtraction**

**let difference = 5 - 3;**

**console.log("Difference (5 - 3):", difference);**

**// Multiplication**

**let product = 5 \* 3;**

**console.log("Product (5 \* 3):", product);**

**// Division**

**let quotient = 6 / 3;**

**console.log("Quotient (6 / 3):", quotient);**

**// Modulus**

**let remainder = 5 % 3;**

**console.log("Remainder (5 % 3):", remainder);**

**// Increment**

**let num1 = 5;**

**num1++;**

**console.log("Increment (num1++):", num1);**

**// Decrement**

**let num2 = 5;**

**num2--;**

**console.log("Decrement (num2--):", num2);**

**Assignment Operator**

In JavaScript, assignment operators are used to assign values to variables.

**=** : Assigns a value.

**+=** : Adds and assigns.

**-=** : Subtracts and assigns.

**\*=** : Multiplies and assigns.

**/=** : Divides and assigns.

**%=** : Takes modulus and assigns.

**Example :**

**// Basic Assignment**

**let x = 5;**

**console.log("Basic Assignment (x = 5):", x);**

**// Addition Assignment**

**x += 3; // x = x + 3**

**console.log("Addition Assignment (x += 3):", x);**

**// Subtraction Assignment**

**x -= 2; // x = x - 2**

**console.log("Subtraction Assignment (x -= 2):", x);**

**// Multiplication Assignment**

**x \*= 4; // x = x \* 4**

**console.log("Multiplication Assignment (x \*= 4):", x);**

**// Division Assignment**

**x /= 2; // x = x / 2**

**console.log("Division Assignment (x /= 2):", x);**

**// Modulus Assignment**

**x %= 3; // x = x % 3**

**console.log("Modulus Assignment (x %= 3):", x);**

**Comparison Operator / Relational Operator**

In JavaScript, comparison operators are used to compare two values and return a Boolean result (true or false). They are often used in conditional statements to determine whether a condition is true or false.

**==: Equal to**

**!=: Not equal to**

**>: Greater than**

**<: Less than**

**>=: Greater than or equal to**

**<=: Less than or equal to**

**// Define variables**

**let a = 10;**

**let b = 5;**

**let c = '10';**

**let d = '5';**

**// Comparison using equal to (==)**

**console.log("Equal to (a == c):", a == c); // true, because '10' is converted to a number**

**// Comparison using not equal to (!=)**

**console.log("Not equal to (a != d):", a != d); // true, because 10 is not equal to '5'**

**// Comparison using greater than (>)**

**console.log("Greater than (a > b):", a > b); // true, because 10 is greater than 5**

**// Comparison using less than (<)**

**console.log("Less than (b < a):", b < a); // true, because 5 is less than 10**

**// Comparison using greater than or equal to (>=)**

**console.log("Greater than or equal to (a >= c):", a >= c); // true, because 10 is greater than or equal to '10'**

**// Comparison using less than or equal to (<=)**

**console.log("Less than or equal to (b <= a):", b <= a); // true, because 5 is less than or equal to 10**