About Operators

Module1 – JS - Handout 3

Types

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Arithmetic

Addition – works as expected with numbers but when used with a string results in string concatenation.
let a=10; let b =20; let c = a+b; //30

let p=”hello”; var q=” world”; var r = p +q; //hello world

```
let x = 5;

let y = 3;

// addition

console.log('x + y = ', x + y);  // 8

// subtraction

console.log('x - y = ', x - y);  // 2

// multiplication

console.log('x * y = ', x * y);  // 15

// division

console.log('x / y = ', x / y);  // 1.6666666666666667

// remainder

console.log('x % y = ', x % y);   // 2


// increment

console.log('++x = ', ++x); // x is now 6

console.log('x++ = ', x++); // prints 6 and then increased to 7

console.log('x = ', x);     // 7
```

```
// decrement
console.log('--x = ', --x); // x is now 6
console.log('x-- = ', x--); // prints 6 and then decreased to 5
console.log('x = ', x);     // 5
//exponentiation
console.log('x ** y =', x ** y);
```

Assignment

Operator	Name	Example
=	Assignment operator	a = 7; // 7
+=	Addition assignment	a += 5; // a = a + 5
-=	Subtraction Assignment	a -= 2; // a = a - 2
*=	Multiplication Assignment	a *= 3; // a = a * 3
/=	Division Assignment	a /= 2; // a = a / 2
%=	Remainder Assignment	a %= 2; // a = a % 2
**=	Exponentiation Assignment	a **= 2; // a = a**2

Relational or Comparison

Operator	Description	Example
==	Equal to: returns true if the operands are equal	x == y
!=	Not equal to: returns true if the operands are not equal	x != y
===	Strict equal to: true if the operands are equal and of the same type	x === y

!==	Strict not equal to: true if the operands are equal but of different type or not equal at all	x !== y
>	Greater than: true if left operand is greater than the right operand	x > y
>=	Greater than or equal to: true if left operand is greater than or equal to the right operand	x >= y
<	Less than: true if the left operand is less than the right operand	x < y
<=	Less than or equal to: true if the left operand is less than or equal to the right operand	x <= y

```
// equal operator
    console.log(2 == 2); // true
    console.log(2 == '2'); // true

    // not equal operator
    console.log(3 != 2); // true
    console.log('hello' != 'Hello'); // true

    // strict equal operator
    console.log(2 === 2); // true
    console.log(2 === '2'); // false

    // strict not equal operator
    console.log(2 !== '2'); // true
    console.log(2 !== 2); // false
```

Logical Operator

Logical operators perform logical operations and return a boolean value, either true or false.

```
// logical AND
console.log(true && true); // true
console.log(true && false); // false
// logical OR
console.log(true || false); // true
// logical NOT
console.log(!true); // false
```

Operator	Description	Example
&&	Logical AND	(10==20 && 20==33) = false
||	Logical OR	(10==20 || 20==33) = false
!	Logical Not	!(10==20) = true