JAVASCRIPT OPERATORS

What is Operator ?

An Operator is a special symbol used to perform operations on operands (values and variables).

There are different types of JavaScript operators:

1. Arithmetic Operators
2. Assignment Operators
3. Comparison Operators
4. Logical Operators
5. Conditional Operators
6. Typeof Operators

Arithmetic Operators ?

An Arithmetic Operators are used to perform arithmetic on numbers:

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation (ES2016)
/	Division
%	Modulus (Division Remainder)
++	Increment
--	Decrement

Exponentiation Operator?

The addition Operator (+ adds numbers):

```
let x = 5;
let y = 2;
let z = x ** y;
```

output 5 ^ 2 : 25

Modulus (Division Remainder) Operator?

The addition Operator (+ adds numbers):

```
let x = 5;
let y = 2;
let z = x % y;
```

output : 1

Assignment Operators ?

Assignment operators assign values to JavaScript variables.

Operator	Example	Same As
=	x = y	x = y
+=	x += y	x = x + y
-=	x -= y	x = x - y
*=	x *= y	x = x * y
/=	x /= y	x = x / y
%=	x %= y	x = x % y
**=	x **= y	x = x ** y

(=) Operator :

The addition Operator (+ adds numbers):

```
let x = 5;
let y = 2;
document.write((x=y));
```

output x : 2

(x+=y) Operator :

The addition Operator (+ adds numbers):

```
let x = 5;
let y = 2;
document.write((x+=y));
```

output : x = x+y;

Comparison Operators ?

Comparison operators are used in logical statements to determine equality or difference between variables or values.

Operator	Description
==	equal to
===	equal value and equal type
!=	not equal
!==	not equal value or not equal type
>	greater than
<	less than
>=	greater than or equal to
<=	less than or equal to
?	ternary operator

Logical Operators ?

Logical operators are used to determine the logic between variables or values.

Operator	Description	Example
&&	and	(x < 10 && y > 1) is true
||	or	(x == 5 || y == 5) is false
!	not	!(x == y) is true

Conditional Operators -: (Ternary Operator)

The conditional operator assigns a value to a variable based on a condition.

Syntax	Example
(condition) ? x : y	(z < 18) ? x : y

(?) Ternary Operator :

A ternary operator evaluates a condition and executes a block of code based on the condition.

```
x = 3 ;
y = 4 ;
z = x > y ? “yes x is greater than y” : “no x is not greater than y”;
```

Output x : no

The Typeof Operator -:

The typeof operator returns the type of a variable,

```
typeof "John"                 'John' is string
typeof 3.14                   3.14 is number
typeof NaN                    NaN is number
typeof false                  false is boolean
typeof [1, 2, 3, 4]           [1, 2, 3, 4] is object
typeof {name:'John', age:34}  {name:'John', age:34} is object
typeof new Date()             new Date() is object
typeof function () {}         function () {} is function
typeof myCar                  myCar is undefined
typeof null                   null is object
```

Exercise Operator

- WHAT IS THE RESULT?

  1 + 2 * 3 + "2" * 3 + "1" + "2" * 3.

- WHAT IS THE RESULT? TRUE / FALSE.

  1 == 1 AND 1 === “1”

  1 == 1 OR 1 === “1”