JavaScript Operator Precedence

Operator precedence describes the order in which operations are performed in an arithmetic expression.

Multiplication (*) and division (/) have higher **precedence** than addition (+) and subtraction (-).

As in traditional mathematics, multiplication is done first:

```
let x = 100 + 50 * 3;
```

Try it Yourself »

When using parentheses, operations inside the parentheses are computed first:

```
let x = (100 + 50) * 3;
```

Try it Yourself »

Operations with the same precedence (like * and /) are computed from left to right:

```
let x = 100 / 50 * 3;
```

Try it Yourself »

Operator Precedence Values

Expressions in parentheses are computed **before** the rest of the expression
Function are executed **before** the result is used in the rest of the expression

Val	Operator	Description	Example
18	( )	Expression Grouping	(100 + 50) * 3
17	.	Member Of	person.name
17	[]	Member Of	person["name"]
17	?.	Optional Chaining ES2020	x ?. y
17	()	Function Call	myFunction()
17	new	New with Arguments	new Date("June 5,2022")
16	new	New without Arguments	new Date()

Increment Operators

Posfix increments are executed **before** prefix increments

15	++	Postfix Increment	i++
15	--	Postfix Decrement	i--
14	++	Prefix Increment	++i
14	--	Prefix Decrement	--i

NOT Operators

14	!	Logical NOT	!(x==y)
14	~	Bitwise NOT	~x

Unary Operators

14	+	Unary Plus	+x
14	-	Unary Minus	-x
14	typeof	Data Type	typeof x
14	void	Evaluate Void	void(0)

14	delete	Property Delete	delete myCar.color

Arithmetic Operators

Exponentiations are executed **before** multiplications
Multiplications and divisions are executed **before** additions and subtractions

13	**	Exponentiation ES2016	10 ** 2
12	*	Multiplication	10 * 5
12	/	Division	10 / 5
12	%	Division Remainder	10 % 5
11	+	Addition	10 + 5
11	-	Subtraction	10 - 5
11	+	Concatenation	"John" + "Doe"

Shift Operators

10	<<	Shift Left	x << 2
10	>>	Shift Right (signed)	x >> 2
10	>>>	Shift Right (unsigned)	x >>> 2

Relational Operators

9	in	Property in Object	"PI" in Math
9	instanceof	Instance of Object	x instanceof Array

Comparison Operators

9	<	Less than	x < y
9	<=	Less than or equal	x <= y
9	>	Greater than	x > y
9	>=	Greater than or equal	x >= Array
8	==	Equal	x == y
8	===	Strict equal	x === y

8	!=	Unequal	x != y
8	!==	Strict unequal	x !== y

Bitwise Operators

7	&	Bitwise AND	x & y
6	^	Bitwise XOR	x ^ y
5	|	Bitwise OR	x | y

Logical Operators

4	&&	Logical AND	x && y
3	||	Logical OR	x || y
3	??	Nullish Coalescing ES2020	x ?? y

Conditional (ternary) Operator

2	? :	Condition	? "yes" : "no"

Assignment Operators

Assignments are executed **after** other operations

2	=	Simple Assignment	x + y
2	:	Colon Assignment	x: 5
2	+=	Addition Assignment	x += y
2	-=	Subtraction Assignment	x -= y
2	*=	Multiplication Assignment	x *= y
2	**=	Exponentiation Assignment	x **= y
2	/=	Division Assignment	x /= y
2	%=	Remainder Assignment	x %= y
2	<<=	Left Shift Assignment	x <<= y
2	>>=	Right Shift Assignment	x >>= y
2	>>>=	Unsigned Right Shift	x >>>= y

2	&=	Bitwise AND Assignment	x &= y
2	|=	Bitwise OR Assignment	x |= y
2	^=	Bitwise XOR Assignment	x ^= y
2	&&=	Logical AND Assignment	x &= y
2	||=	Logical OR Assignment	x ||= y
2	=>	Arrow	x => y
2	yield	Pause / Resume	yield x
2	yield*	Delegate	yield* x
2	...	Spread	... x
1	,	Comma	x , y

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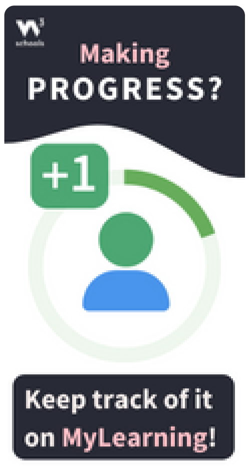
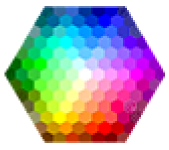


COLOR PICKER



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