JavaScript Operators

## **JavaScript Arithmetic Operators**

Arithmetic operators are used to perform arithmetic on numbers:

|  |  |
| --- | --- |
| **Operator** | **Description** |
| + | Addition |
| - | Subtraction |
| \* | Multiplication |
| \*\* | Exponentiation ([ES2016](https://www.w3schools.com/js/js_2016.asp)) |
| / | Division |
| % | Modulus (Division Remainder) |
| ++ | Increment |
| -- | Decrement |

## **JavaScript 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 |

## **JavaScript Comparison Operators**

|  |  |
| --- | --- |
| **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 |

## **JavaScript Logical Operators**

|  |  |
| --- | --- |
| **Operator** | **Description** |
| && | logical and |
| || | logical or |
| ! | logical not |

# JavaScript Variables

## **What are Variables?**

Variables are containers for storing data (storing data values).

In this example, x, y, and z, are variables, declared with the var keyword:

## **When to Use JavaScript var?**

Always declare JavaScript variables with var,let, orconst.

The var keyword is used in all JavaScript code from 1995 to 2015.

The let and const keywords were added to JavaScript in 2015.

If you want your code to run in older browser, you must use var.

## **JavaScript Identifiers**

All JavaScript **variables** must be **identified** with **unique names**.

These unique names are called **identifiers**.

Identifiers can be short names (like x and y) or more descriptive names (age, sum, totalVolume).

The general rules for constructing names for variables (unique identifiers) are:

* Names can contain letters, digits, underscores, and dollar signs.
* Names must begin with a letter
* Names can also begin with $ and \_ (but we will not use it in this tutorial)
* Names are case sensitive (y and Y are different variables)
* Reserved words (like JavaScript keywords) cannot be used as names

## **JavaScript Data Types**

JavaScript variables can hold numbers like 100 and text values like "John Doe".

In programming, text values are called text strings.

JavaScript can handle many types of data, but for now, just think of numbers and strings.

Strings are written inside double or single quotes. Numbers are written without quotes.

If you put a number in quotes, it will be treated as a text string.

why javascript called loosely coupled language?

JavaScript is a **loosely typed** language, meaning you don’t have to specify what type of information will be stored in a variable in advance.

JavaScript automatically types a variable based on what kind of information you assign to it

It accepts many type of data to a same variable