

27 years of JavaScript

JavaScript, often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. As of 2022, 98% of websites use JavaScript on the client side for webpage behavior, often incorporating third-party libraries. [Wikipedia](#)

First appeared: December 4, 1995; 27 years ago

- The Original JavaScript ES1 ES2 ES3 (1997-1999)
- The First Main Revision ES5 (2009)
- The Second Revision ES6 (2015)
- The Yearly Additions (2016, 2017, 2018)

1,444,231

libraries and counting... <https://www.javascript.com/>

- How do I get JavaScript?
- Where can I download JavaScript?
- Is JavaScript Free?

JavaScript and [Java](#) are completely different languages, both in concept and design.

JavaScript was invented by Brendan Eich in 1995, and became an ECMA standard in 1997.

ECMA-262 is the official name of the standard. ECMAScript is the official name of the language.

JavaScript Line Length and Line Breaks

For best readability, programmers often like to avoid code lines longer than 80 characters.

Basic syntax example :

- document.write()
- window.alert()
- window.print()
- console.log()
- prompt()

javascript is casensitive!

Javascript locations for write

1. Inline (=> by event and html attr)
2. Internal
3. External
 - a. It separates HTML and code
 - b. It makes HTML and JavaScript easier to read and maintain
 - c. Cached JavaScript files can speed up page loads

A script that will be downloaded in parallel to parsing the page, and executed after the page has finished parsing:

```
4. <script src="demo_defer.js" defer></script>
```

A script that will be downloaded in parallel to parsing the page, and executed as soon as it is available:

```
5. <script src="demo_async.js" async></script>
```

The Referrer-Policy HTTP header controls how much referrer information (sent with the Referer header) should be included with requests. Aside from the HTTP header, you can set this policy in HTML

```
6. <script src="myscripts.js" referrerpolicy="origin"></script>
```

Single Line Comments => // test

Multi-line Comments =>

```
/*
```

The code below will change

the heading with...

```
*/
```

Variable => var, let, const

- Names can contain letters, digits, underscores, and dollar signs.
- Names must begin with a letter
- Names can also begin with \$ and _
- Names are case sensitive (y and Y are different variables)
- Reserved words (like JavaScript keywords) cannot be used as names

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

The let and const keywords were added to JavaScript in 2015

JavaScript Data Types

JavaScript can handle many types of data

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

1. String

2. Number

3. BigInt

4. Boolean

5. Undefined

6. Null

7. Symbol

8. Object

9. Array

- typeof
- instanceof

Let

- The let keyword was introduced in ES6 (2015).
- Variables defined with let can not be redeclared.
- Variables defined with let must be declared before use.
- Variables defined with let have block scope.

Const

- The const keyword was introduced in ES6 (2015).
- Variables defined with const cannot be Redeclared.
- Variables defined with const cannot be Reassigned.
- Variables defined with const have Block Scope.

++++ Sample var by **string**, **number** and **calculate** them and **concat**.

JavaScript Operators

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

= $x = y$ $x = y$
+= $x += y$ $x = x + y$
-= $x -= y$ $x = x - y$
*= $x *= y$ $x = x * y$
/= $x /= y$ $x = x / y$
%= $x \% = y$ $x = x \% y$
**= $x ** = y$ $x = x ** y$

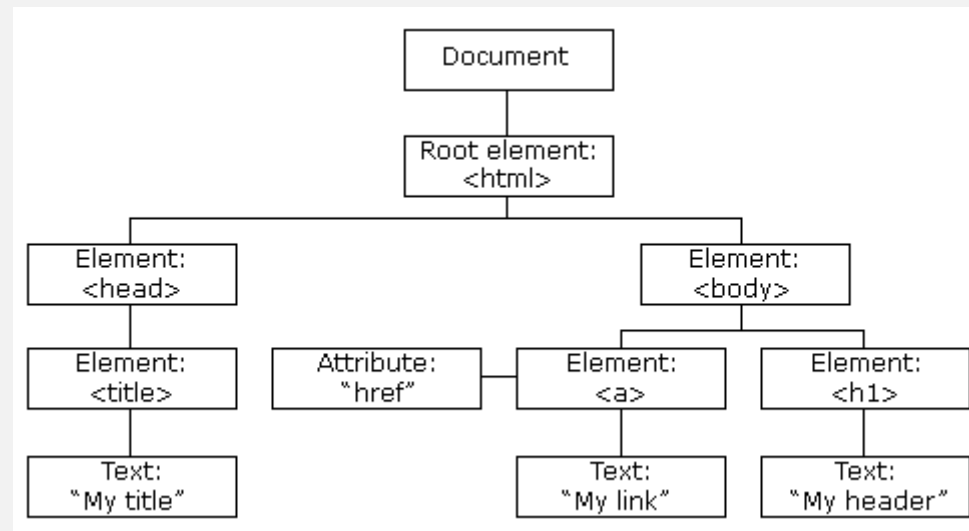
Return top and practice by basic syntax

JavaScript HTML DOM

Document Object Model

With the HTML DOM, JavaScript can access and change all the elements of an HTML document.

The HTML DOM Tree of Objects



- JavaScript can change all the HTML elements in the page
- JavaScript can change all the HTML attributes in the page
- JavaScript can change all the CSS styles in the page
- JavaScript can remove existing HTML elements and attributes
- JavaScript can add new HTML elements and attributes
- JavaScript can react to all existing HTML events in the page
- JavaScript can create new HTML events in the page

The HTML DOM is a standard object model and programming interface for HTML. It defines:

- The HTML elements as objects
- The properties of all HTML elements
- The methods to access all HTML elements
- The events for all HTML elements

- document.getElementById(id)
- document.getElementsByTagName(name)[n]
- document.getElementsByClassName(name)[n]
- document.querySelector("...")
- document.querySelectorAll("...")
- select.innerHTML
- select.attribute
- select.style.property
- select.setAttribute
- select.getAttribute
- select.src
- select.classList.add('dark', 'white')
- select.classList.remove('dark')
- select.classList.toggle('dark')
- select.classList
- select.classList.item(0)
- classList.contains('white')
- document.createElement(element)
- document.createTextNode('sample text')

- document.removeChild(element)
- document.appendChild(element)
- document.replaceChild(new, old)
- document.write(text)
- select.childElementCount
- temp = document.body.children;alert(temp[1].tagName)
- select.className = 'para1'
- select.hasAttribute('class')
- select.nextSibling.innerHTML
- select.nextElementSibling.innerHTML
- select.previousElementSibling.innerHTML
- select.nodeName
- select.nextElementSibling.remove()
- insertBefore()
- appendChild()

```
<div id="div1">
```

```
    <p id="p1">This is a paragraph.</p>
```

```
</div>
```

```
<script>
```

```
    const para = document.createElement("h2");
    const node = document.createTextNode("This is new.");
    para.appendChild(node);
    const element = document.getElementById("div1");
    const child = document.getElementById("p1");
    element.insertBefore(para,child);
```

```
</script>
```

- document.getElementById(id).onclick = function()
- document.anchors.length;
- document.body.innerHTML;
- document.documentElement.innerHTML;
- document.embeds.length;
- document.forms.length;
- document.images.length;
- document.links.length;
- document.scripts.length;
- document.title;
- document.cookie;
- document.domain;
- document.images;