

PRO 3151 – L03

Sistemas de Informação

JavaScript – JS

Prof. Marcelo Pessoa

Prof. Marco Mesquita

Ver. Abril 2023

profs. marcelo pessoa - marco mesquita

Agenda

1. Onde estamos?
2. Estrutura do HTML – DOM
3. Sintaxe do JS
4. Lab. 03 – Calculadora
5. Próximos passos

1.ONDE ESTAMOS?

profs. marcelo pessoa - marco mesquita

3

Onde estamos?

- Sabemos elaborar uma página HTML
- Sabemos aplicar estilos à página com CSS
- **Vamos aprender a incluir interatividade na página com o JavaScript – JS**



Onde estamos?

- Com o JS, fechamos uma trinca:
 - **HTML** – conteúdo
 - **CSS** – formato
 - **JS** – interação
- Essas três linguagens permitem criar páginas **dinâmicas** que rodam no navegador do **cliente** (*front-end*)!

JavaScript e Java não são a mesma coisa



profs. marcelo pessoa - marco mesquita

<https://www.w3schools.com/whatis>



HTML CSS JAVASCRIPT SQL PYTHON JAVA PHP BOOTSTRAP HOW TO W3.CSS

Web Development

What is Roadmap
What is HTTP
What is HTML
What is CSS
What is Responsive
What is JavaScript
What is ES5
What is HTML DOM
What is Google Maps
What is Google Fonts
What is Google Charts
What is XML
What is AJAX
What is JSON
What is CSS Icons
What is Bootstrap
What is W3.CSS
What is CLI
What is npm
What is GitHub

What is JavaScript?

◀ Previous Next ▶



JavaScript is the **Programming Language** for the Web.
JavaScript can update and change both **HTML** and **CSS**.
JavaScript can **calculate**, **manipulate** and **validate** data.

JavaScript Quickstart Tutorial

This tutorial will take a quick look at the most important JavaScript data types.

JavaScript variables can be:

Numbers

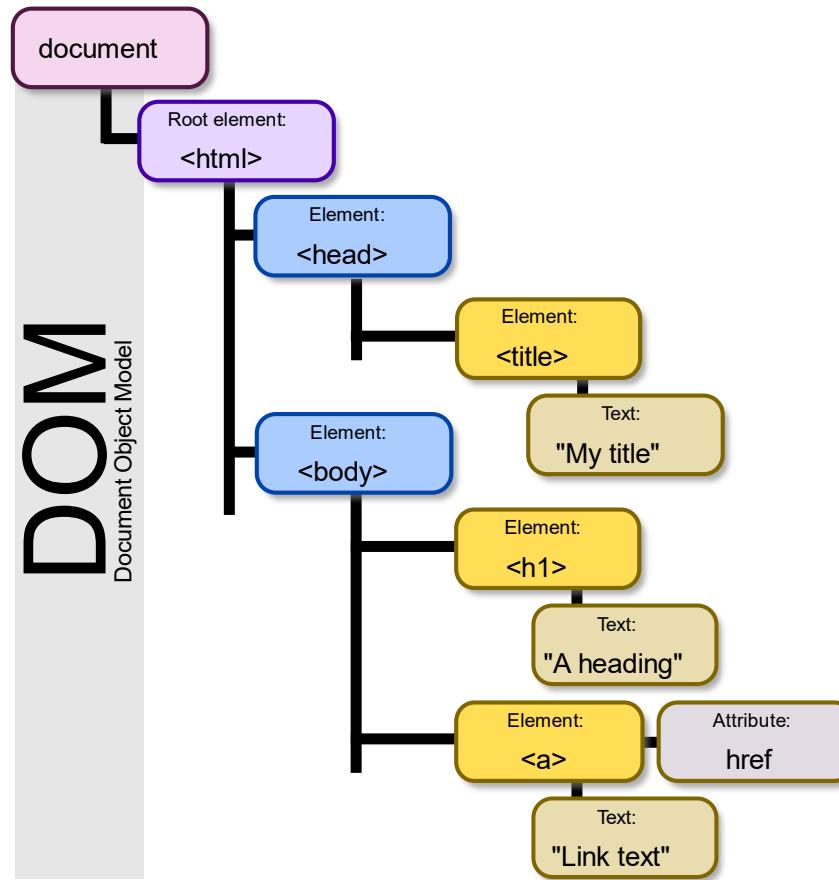
profs. marcelo pessôa - marco mesquita

2. ESTRUTURA DO HTML

profs. marcelo pessoa - marco mesquita

8

Document Object Model



By Birger Eriksson - Own work, CC BY-SA 3.0,
<https://commons.wikimedia.org/w/index.php?curid=18034500>



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0010 js inner.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>What Can JavaScript Do?</h2>
6
7  <p id="p1">JavaScript can change HTML content.</p>
8
9  <button onclick="document.getElementById('p1').innerHTML =
10 'Hello JavaScript!'">Click here</button>
11
12 </body>
</html>
```

length : 244 lines : 12 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0010 js inner.html Arquivo

What Can JavaScript Do?

Hello JavaScript!

[Click here](#)

document.getElementById('p1').innerHTML = 'Hello JavaScript!'



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0020 js style.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>What Can JavaScript Do?</h2>
6
7  <p id="p1">JavaScript can change the style of an HTML
8  element.</p>
9
10 <button onclick=
11 "document.getElementById('p1').style.fontSize='32px'">
12 Click here</button>
13
14 </body>
15 </html>
```

length : 250 lines : 12 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0020 js style.html Arquivo

What Can JavaScript Do?

JavaScript can change the style of an HTML element.

Click here

document.getElementById('p1').style.fontSize='32px'



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0030 js hide.html

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>What Can JavaScript Do?</h2>
6
7 <p id="p1">JavaScript can hide HTML elements.</p>
8
9 <button onclick=
"document.getElementById('p1').style.display='none'">Click
here</button>
10
11 </body>
12 </html>
```

length : 233 lines : 12 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS



What Can JavaScript Do?

Click here

document.getElementById('p1').style.display='none'



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0040 js source.html

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>What Can JavaScript Do?</h2>
6
7 <p>JavaScript can change HTML attribute values.</p>
8
9 <p>In this case JavaScript changes the source attribute of
an image.</p>
10
11 <button onclick="document.getElementById('image').src='pic
0040 BulbOff.jpg'">Turn off the light</button>
12
13 
14
15 <button onclick="document.getElementById('image').src='pic
0040 BulbOn.jpg'">Turn on the light</button>
16
17 </body>
18 </html>
```

document.getElementById('image').

w3js 0040 js source.html

Arquivo

What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the source attribute of an image.



Turn off the light

Turn on the light

w3js 0040 js source.html

Arquivo

What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the source attribute of an image.



Turn off the light

Turn on the light



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0050 js events.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>What Can JavaScript Do?</h2>
6
7  <p>JavaScript reacts to HTML events.</p>
8
9  <button onclick=
"document.getElementById('p1').innerHTML=Date()">What time
is it?</button>
10
11 <p id="p1"></p>
12
13 </body>
14 </html>
15
16
```



Date Get Methods: `getFullYear()`, `getMonth()`, `getDay()`, `getHours()`, `getMinutes()`, ...

<https://www.w3schools.com/js/default.asp>

3. SINTAXE JS



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0060 js body.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5      <h2>JavaScript in Body</h2>
6
7      <p id="p1">A Paragraph.</p>
8
9      <script>
10         document.getElementById("p1").innerHTML = "Paragraph
11             changed.";
12     </script>
13
14 </body>
15 </html>
```

length : 204 lines : 15 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS



JavaScript in Body

Paragraph changed.



Screenshot of a code editor showing an HTML file named "w3js 0070 js head.html". The code demonstrates how JavaScript can be placed in the head section of an HTML document to affect the body content.

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <script>
5      function editPar() {
6          document.getElementById("p1").innerHTML = "Paragraph
7              changed.";
8      }
9  </script>
10 </head>
11 <body>
12
13 <h2>JavaScript in Head</h2>
14
15 <p id="p1">A Paragraph.</p>
16
17 <button onclick="editPar()">Try it</button>
18
19 </body>
20 </html>
21
22
```

Screenshot of a browser window titled "w3js 0070 js head.html". The page displays the heading "JavaScript in Head" and a paragraph with the text "A Paragraph.". Below the paragraph is a button labeled "Try it". A tooltip or status message above the button says "Paragraph changed.".



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0080 js file.html x

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>External JavaScript</h2>
6
7 <p id="p1">A Paragraph.</p>
8
9 <button type="button" onclick="editPar()">Try it</button>
10
11 <script src="script 0080.js"></script>
12
13 </body>
14 </html>
```

w3js 0080 js file.html x

External JavaScript

Paragraph changed.

Try it

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

script 0080.js x

```
1 /* 
2 In this script, we define the function "editPar()", 
3 which is called by the page "w3js 0080"
4 */
5
6 function editPar() {
7   document.getElementById("p1").innerHTML = "Paragraph
changed.";
8 }
```

length : 219 lines : 15 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0090 output.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Output</h2>
6
7  <p>Using innerHTML.</p>
8
9  <p id="p1"></p>
10
11 <script>
12   document.getElementById("p1").innerHTML = "5! = " + 5 *
13     4 * 3 * 2 * 1;
14 </script>
15
16 </body>
</html>
```

length : 223 lines : 16 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0090 output.html Arquivo

JavaScript Output

Using innerHTML.

$5! = 120$

document.getElementById('p1').innerHTML = '...'



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0100 output.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Output</h2>
6
7  <p>Using document.write()</p>
8
9  <script>
10    document.write("5! = " + 5 * 4 * 3 * 2 * 1);
11  </script>
12
13 </body>
14 </html>
```

length : 184 lines : 14 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS



JavaScript Output

Using document.write()

5! = 120

document.write('...')



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0110 output.html x

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Output</h2>
6
7  <p>Using window.alert()</p>
8
9  <script>
10    window.alert("5! = " + 5 * 4 * 3 * 2 * 1);
11  </script>
12
13 </body>
14 </html>
```

w3js 0110 output.html x Arquivo |

Essa página diz
5! = 120

OK

window.alert('...')

length : 180 lines : 14 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

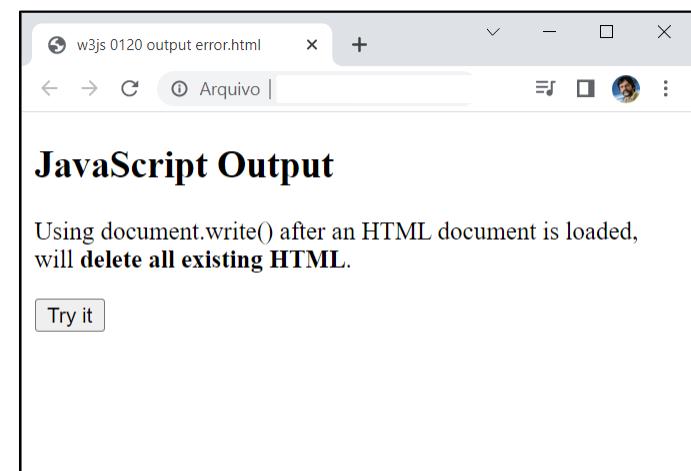


File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0120 output error.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Output</h2>
6
7  <p>Using document.write() after an HTML document is
8  loaded, will <b>delete all existing HTML</b>.</p>
9
10 <button onclick="document.write('5! = ' + 5 * 4 * 3 * 2 *
11 1)">Try it</button>
12
</body>
</html>
```

length : 267 lines : 12 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS





File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0130 output print.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5      <h2>The window.print() Method</h2>
6
7      <p>Click the button to print the current page.</p>
8
9      <button onclick="window.print()">Print this page</button>
10
11 </body>
12 </html>
```

length : 204 lines : 12 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0130 output print.html Arquivo

The window.print() Method
Click the button to print the current page.

Imprimir 1 página

Destino

Páginas

Layout

Mais definições

Salvar Cancelar



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0140 keywords.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5      table, td {
6          border: 1px solid black;
7      }
8  </style>
9  </head>
10 <body>
11
12 <h2>JavaScript Keywords</h2>
13
14 <p>Here is a list of some of the <b>keywords</b> of JavaScript
15 </p>
16 <table>
17     <tr><td>Keyword</td><td>Description</td></tr>
18     <tr><td>var</td><td>Declares a variable</td></tr>
19     <tr><td>let</td><td>Declares a block variable</td></tr>
20     <tr><td>const</td><td>Declares a block constant</td></tr>
21     <tr><td>if</td><td>Marks a block of statements to be
22     executed on a condition</td></tr>
23     <tr><td>switch</td><td>Marks a block of statements to be
24     executed in different cases</td></tr>
25     <tr><td>for</td><td>Marks a block of statements to be
26     executed in a loop</td></tr>
27     <tr><td>function</td><td>Declares a function</td></tr>
28     <tr><td>return</td><td>Exits a function</td></tr>
29     <tr><td>try</td><td>Implements error handling to a block of
30     statements</td></tr>
31 </table>
32
33 </body>
34 </html>
```

length : 968 lines : 30 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0140 keywords.html Arquivo

JavaScript Keywords

Here is a list of some of the **keywords** of JavaScript

Keyword	Description
var	Declares a variable
let	Declares a block variable
const	Declares a block constant
if	Marks a block of statements to be executed on a condition
switch	Marks a block of statements to be executed in different cases
for	Marks a block of statements to be executed in a loop
function	Declares a function
return	Exits a function
try	Implements error handling to a block of statements



w3js 0150 data types.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Data Types</h2>
6  <p>Examples: string, number, boolean, date, array, object etc.</p>
7
8  <p id="string"></p><p id="number1"></p><p id="number2"></p>
9  <p id="boolean"></p><p id="date"></p><p id="array"></p>
10 <p id="object"></p>
11
12 <script>
13 // Strings:
14 let name = "John";
15 document.getElementById("string").innerHTML = "Name: " + name;
16
17 // Numbers:
18 let age = 16, height = 1.75;
19 document.getElementById("number1").innerHTML = "Age: " + age;
20 document.getElementById("number2").innerHTML = "Height: " +
21     height;
22
23 // Booleans
24 let x = true, y = false;
25 document.getElementById("boolean").innerHTML = x || y;
26
27 // Date object:
28 const date = new Date();
29 document.getElementById("date").innerHTML =
30     date.toLocaleDateString();
31
32 // Array object:
33 const cars = ["Saab", "Volvo", "BMW"];
34 document.getElementById("array").innerHTML = cars[2];
35
36 // Object:
37 const person = {firstName:"John", lastName:"Doe"};
38 document.getElementById("object").innerHTML = person.firstName
39     + " " + person.lastName;
40
```

length : 1.083 lines : 44

Ln : 1 Col : 1 Pos : 1

Windows (CR LF)

UTF-8

INS

w3js 0150 data types.html

JavaScript Data Types

Examples: string, number, boolean, date, array, object etc.

Name: John

Age: 16

Height: 1.75

true

08/04/2023

BMW

John Doe



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0160 const let var.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript Variables</h2>
6
7  <p>Strings are written with quotes.</p>
8
9  <p>Numbers are written without quotes.</p>
10
11 <p id="p1"></p>
12
13 <script>
14   const pi = 3.14;      // block constant
15   let person = "John Doe";    // block variable
16   var answer = 5*4*3*2*1;
17
18   if (answer==120) {
19     document.getElementById("p1").innerHTML =
20       pi + "<br>" + person + "<br>" + answer;
21   }
22 </script>
23
24 </body>
25 </html>
```

length : 446 lines : 25 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0160 const let var.html Arquivo

JavaScript Variables

Strings are written with quotes.

Numbers are written without quotes.

3.14

John Doe

120



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0170 array.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4  <h2>JavaScript Array</h2>
5
6  <p>We can change the elements of a constant array.</p>
7
8  <p id="p1"></p>
9
10 <p>Then, we can sort the array.</p>
11
12 <p id="p2"></p>
13
14 <script>
15   // Create an Array:
16   const cars = ["Saab", "Volvo", "BMW"];
17
18   // Change an element:
19   cars[0] = "Toyota";
20
21   // Add an element:
22   cars.push("Audi");
23
24   // Display the Array:
25   document.getElementById("p1").innerHTML = "<b>" + cars +
26   " </b>";
27
28   // Sorting the Array:
29   cars.sort();
30   document.getElementById("p2").innerHTML = "<i>" + cars +
31   " </i>";
32</script>
33</body>
34</html>
```

length: 582 lines: 32 Ln: 1 Col: 1 Pos: 1 Windows (CR LF) UTF-8 INS

w3js 0170 array.html Arquivo

JavaScript Array

We can change the elements of a constant array.

Toyota,Volvo,BMW,Audi

Then, we can sort the array.

Audi,BMW,Toyota,Volvo



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0180 operators.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5      <h2>Types of JavaScript Operators</h2>
6
7      <p>There are different types of JavaScript operators:</p>
8
9      <ul>
10         <li>Arithmetic Operators</li>
11         <li>Assignment Operators</li>
12         <li>Comparison Operators</li>
13         <li>String Operators</li>
14         <li>Logical Operators</li>
15         <li>Type Operators</li>
16     </ul>
17
18 </body>
19 </html>
```

length : 342 lines : 19 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS



Types of JavaScript Operators

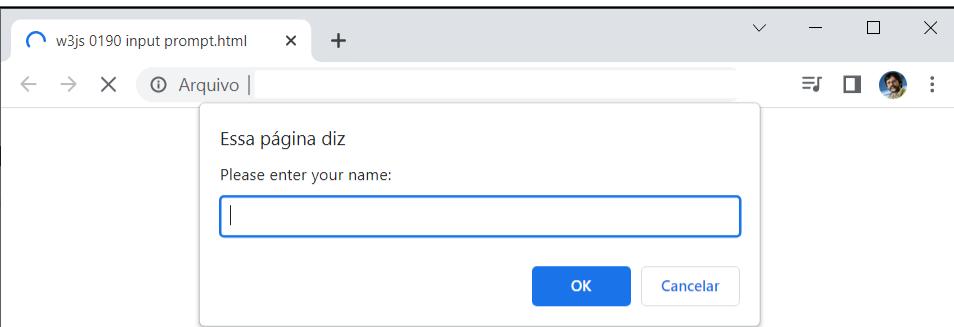
There are different types of JavaScript operators:

- Arithmetic Operators
- Assignment Operators
- Comparison Operators
- String Operators
- Logical Operators
- Type Operators



w3js 0190 input prompt.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>The prompt() Method</h2>
6
7  <p>Entering text, integers and floats</p>
8
9  <p id="name"></p>
10 <p id="age"></p>
11 <p id="height"></p>
12
13 <script>
14
15 let input='', name='', age=0, height=0.0;
16
17 input=prompt("Please enter your name:");
18 name=input;
19
20 input=prompt("Please enter your age:");
21 age=parseInt(input);
22
23 input=prompt("Please enter your height:");
24 height=parseFloat(input);
25
26 document.getElementById("name").innerHTML="Name: " + name;
27 document.getElementById("age").innerHTML="Age: " + age;
28 document.getElementById("height").innerHTML = "Height: " +
height;
29
30 </script>
31 </body>
32 </html>
```





File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0200 input object.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <script>
5  function _write() {
6      document.getElementById("p1").innerHTML = "Name: " +
7      document.getElementById("input1").value;
8      document.getElementById("p2").innerHTML = "Age: " +
9      parseInt(document.getElementById("input2").value);
10     document.getElementById("p3").innerHTML = "Height: " +
11     parseFloat(document.getElementById("input3").value);
12     document.getElementById("input1").value = '';
13     document.getElementById("input2").value = '';
14     document.getElementById("input3").value = '';
15 }
16 </script>
17 </head>
18
19 <body>
20 <h2>The Input Object</h2>
21 <p>Enter your name: <input id="input1"></p>
22 <p>Enter your age: <input id="input2"></p>
23 <p>Enter your height: <input id="input3"></p>
24 <button onclick="_write()">Submit</button>
25
26 <p id="p1"></p>
27 <p id="p2"></p>
28 <p id="p3"></p>
29
30 </body>
31 </html>
```

length: 836 lines: 31

Ln: 1 Col: 1 Pos: 1

Windows (CR LF)

UTF-8

INS

w3js 0200 input object.html Arquivo

The Input Object

Enter your name:

Enter your age:

Enter your height:

Name: John Doe

Age: 16

Height: 1.75



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0210 input validation.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <script>
5      function validate() {
6          // Get the value of the input field with id="numb"
7          let x = document.getElementById("numb").value;
8          // If x is Not a Number or less than one or
9          greater than 10
10         let text;
11         if (isNaN(x) || x < 1 || x > 10) {
12             text = "Input not valid.";
13         } else {
14             text = "The number is " + x + ".";
15         }
16         document.getElementById("numb").value="";
17         document.getElementById("p1").innerHTML = text;
18     }
19 </script>
20 </head>
21 <body>
22 <h2>JavaScript Validation</h2>
23
24 <p>Please input a number between 1 and 10:</p>
25
26 <input id="numb">
27
28 <button onclick="validate()">Submit</button>
29
30 <p id="p1"></p>
31
32 </body>
33 </html>
```

length: 688 lines: 33 Ln: 1 Col: 1 Pos: 1 Windows (CR LF) UTF-8 INS

w3js 0210 input validation.html Arquivo

JavaScript Validation

Please input a number between 1 and 10:

 Submit

The number is 5.



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0220 if else.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript if ... else</h2>
6
7  <p id="p1"></p>
8
9  <p id="p2"></p>
10
11 <script>
12   const time = new Date().getHours();
13   let greeting;
14   if (time < 12) {
15     greeting = "Good morning";
16   } else if (time < 18) {
17     greeting = "Good afternoon";
18   } else {
19     greeting = "Good evening";
20   }
21   document.getElementById("p1").innerHTML = Date();
22   document.getElementById("p2").innerHTML = greeting;
23 </script>
24
25 </body>
26 </html>
```

length : 464 lines : 27 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0220 if else.html Arquivo

JavaScript if ... else

Sat Apr 08 2023 16:55:00 GMT-0300 (Horário Padrão de Brasília)

Good afternoon



w3js 0230 for.html

```
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
+ ×
```

```
<!DOCTYPE html>
<html>
<body>
<h2>JavaScript for loop</h2>
<p>Fibonacci Series</p>
<script>
    let n = parseInt(prompt("Fibonacci Series\nEnter the
        number of terms (between 1 and 50):"));
    let a=[]; // Array to store the series
    if (isNaN(n) || n<1) {
        n=1;
    } else if (n>50) {
        n=50;
    }
    // Series calculation
    if (n==1) {
        a.push(0);
    } else {
        a.push(0,1);
    }
    for(let i= 2; i<n; i++) {
        a.push(a[i-2] + a[i-1]);
    }
    // Output
    if (n==1) {
        document.write("The first term:<br><br>");
        document.write(a[0]+<br>);
    } else {
        document.write("First " + n + " terms:<br><br>");
        for(let i=0; i<n; i++) {
            document.write(a[i]+<br>);
        }
    }
</script>
```

length: 715 lines: 36 Ln: 1 Col: 1 Pos: 1 Windows (CR LF) UTF-8 INS

w3js 0230 for.html

Arquivo

JavaScript for loop

Fibonacci Series

First 10 terms:

0
1
1
2
3
5
8
13
21
34



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0240 while.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>JavaScript while loop</h2>
6
7  <p>Fibonacci Series</p>
8
9  <script>
10     let n = parseInt(prompt("Fibonacci Series\nEnter the
11     series limit (max 1 mi):"));
12     if (isNaN(n) || n<10) {
13         n=10;
14     } else if (n>1e06) {
15         n=1e06;
16     }
17     let a=[0,1];      // array to store the series
18     let k=2;          // current series length
19     let b=0+1;        // next term of the series
20     while (b<=n) {
21         a.push(b);
22         k++;
23         b=a[k-2] + a[k-1];
24     }
25     document.write("First terms lower than " + n +
26     ":<br><br>");
27     for (let i=0; i<a.length; i++) {
28         document.write(a[i]+"<br>");
29     }
30
31     </script>
32
33     </body>
34     </html>
```

length : 625 lines : 32 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0240 while.html Arquivo

JavaScript while loop

Fibonacci Series

First terms lower than 1000:

0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0250 func temp.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <script>
5      function toCelsius() {
6          let tempF, tempC;
7          tempF=parseFloat(prompt("Enter the temperature in
Fahrenheit (between -100 e +200):"));
8          if (isNaN(tempF) || tempF < -100 || tempF > +200) {
9              document.getElementById("p1").innerHTML = '';
10             alert("Please enter a temperature between -100
and +200");
11         } else {
12             tempC=(5/9) * (tempF-32);
13             document.getElementById("p1").innerHTML = tempF +"
&deg;F is equal to " + tempC.toFixed(1) + "
&deg;C.";
14         }
15     }
16 </script>
17 </head>
18 <body>
19
20 <h2>JavaScript Functions</h2>
21
22 <p>This example calls a function to convert from
Fahrenheit to Celsius:</p>
23
24 <button onclick="toCelsius()">Click here</button>
25
26 <p id="p1"></p>
27
28 </body>
29 </html>
```

length: 735 lines: 29 Ln: 1 Col: 1 Pos: 1 Windows (CR LF) UTF-8 INS

w3js 0250 func temp.html

Arquivo

JavaScript Functions

This example calls a function to convert from Fahrenheit to Celsius:

[Click here](#)

32 °F is equal to 0.0 °C.



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0260 object.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5      <h2>JavaScript Objects</h2>
6
7      <p>Object methods are functions defined in the object properties.</p>
8
9      <p id="p1"></p>
10
11     <script>
12         // Create an object
13         const car = {
14             type:"Fiat",
15             model:"500",
16             color:"white",
17             fullDescription:
18                 function() {
19                     return this.type + " " + this.model + " " +
20                         this.color + ".";
21                 }
22             };
23
24         // Display data from the object:
25         document.getElementById("p1").innerHTML =
26             car.fullDescription();
27     </script>
28
29     </body>
29     </html>
```

Length : 507 Lines : 29 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0260 object.html

Arquivo

JavaScript Objects

Object methods are functions defined in the object properties.

Fiat 500 white.



File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

w3js 0270 class.html

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5      <h2>JavaScript Class Methods</h2>
6
7      <p>How to define and use a Class method.</p>
8
9      <p id="p1"></p>
10
11     <script>
12         class Car {
13             constructor(name, year) {
14                 this.name = name;
15                 this.year = year;
16             }
17             age() {
18                 const date = new Date();
19                 return date.getFullYear() - this.year;
20             }
21         }
22
23         const myCar = new Car("Ford", 2014);
24         document.getElementById("p1").innerHTML =
25             "My car is " + myCar.age() + " years old.";
26     </script>
27
28     </body>
29     </html>
30
```

length : 496 lines : 30 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

w3js 0270 class.html Arquivo

JavaScript Class Methods

How to define and use a Class method.

My car is 9 years old.

<https://www.w3schools.com/js>

Home HTML CSS **JAVASCRIPT** SQL PYTHON JAVA PHP BOOTSTRAP HOW TO W3.CSS

JS Iterables
JS Sets
JS Maps
JS Typeof
JS Type Conversion
JS Bitwise
JS RegExp
JS Precedence
JS Errors
JS Scope
JS Hoisting
JS Strict Mode
JS this Keyword
JS Arrow Function
JS Classes
JS Modules
JS JSON
JS Debugging
JS Style Guide
JS Best Practices
JS Mistakes

JavaScript Best Practices

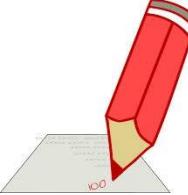
[« Previous](#) [Next »](#)

Avoid global variables, avoid `new`, avoid `==`, avoid `eval()`

Avoid Global Variables

Minimize the use of global variables.
This includes all data types, objects, and functions.
Global variables and functions can be overwritten by other scripts.
Use local variables instead, and learn how to use [closures](#).

Always Declare Local Variables



Entrega ao final da aula

4. LAB 03 – EXERCÍCIO

profs. marcelo pessoa - marco mesquita

39

Lab. 03

- Desenvolver uma calculadora com
 - **HTML, CSS e JS**
- A calculadora deve receber **dois números** e executar as **quatro operações** básicas e **raiz quadrada**
- Entrega ao final da aula (uma entrega por grupo)

5. Próximos passos

profs. marcelo pessoa - marco mesquita

Próximos passos

- Com o aprendizado do JS, fechamos a trinca: **HTML** (conteúdo), **CSS** (formato) e **JS** (interação).
- Essa trinca permite desenvolver páginas que rodam no navegador do cliente (**front-end**)
- Próximos passos:
 - Aplicações rodando no servidor (**back-end**)
 - Ambientes de Desenvolvimento – XAMPP
 - Servidores – Apache
 - Bancos de Dados – MySQL
 - Linguagens de Programação – PHP

PRO 3151 – L03

Sistemas de Informação

JavaScript – JS

profs. marcelo pessoa - marco mesquita

43