JavaScript 101

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```javascript
var x; //typeof x === "undefined"
x = "Hello, world!"; //typeof x === "string"
x = 42; //typeof x === "number"
x = false; //typeof x === "boolean"
x = {}; //typeof x === "object"
```

```javascript
// 2 maneiras diferentes de declarar um objecto

// Literal (curly braces):
var profile = {
    first_name: 'Daniel',
    last_name: 'Leal',
    age: 21,
    job: 'Freelance Hitman'
};

// Using the Object constructor:
var profile = new Object();
profile.first_name = 'Daniel';
profile.last_name = 'Leal';
profile.age = 21;
profile.job = 'Freelance Hitman'
```

```javascript
daniel['first_name']
// => 'Daniel'


daniel['last_name']
// => 'Leal'



daniel.first_name
// => 'Daniel'


daniel.last_name
// => 'Leal'
```

```javascript
var daniel = { first_name: 'Daniel',
               last_name: 'Leal',
               age: 21,
               job: 'Freelance Hitman'

               // Returns the full name of object.
             , get name() {
                   return this.first_name + ' ' + this.last_name }

               // Sets the name components of the object,
               // from a full name.
             , set name(new_name) {
                   var names = new_name.trim().split(/\s+/)
                   this.first_name = names['0'] || ''
                   this.last_name  = names['1'] || '' }
             }
```

```javascript
daniel.name
// => 'Daniel Leal'


daniel.first_name
// => 'Daniel'


daniel.last_name
// => 'Leal'


daniel.last_name = 'Loyal'
daniel.name
// => 'Daniel Loyal'
```

```javascript
var daniel = { first_name: 'Daniel',
               last_name: 'Leal',
               age: 21,
               job: 'Freelance Hitman'

               // Returns the full name of object.
             , get name() {
                   return this.first_name + ' ' + this.last_name }

               // Sets the name components of the object,
               // from a full name.
             , set name(new_name) {
                   var names = new_name.trim().split(/\s+/)
                   this.first_name = names['0'] || ''
                   this.last_name  = names['1'] || '' }
               }

// Greets a random person
daniel.greet = function(person) {
    return this.name + ': Why, hello there, ' + person + '.'
}
```
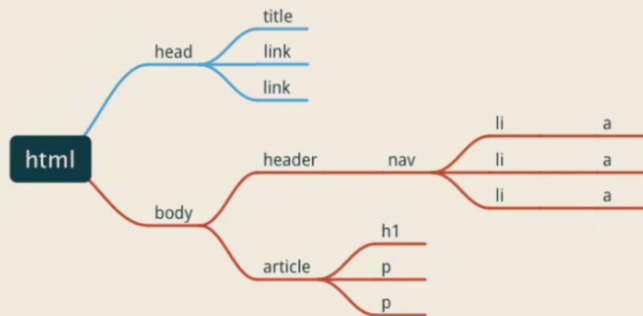
```javascript
daniel.greet('Inês')
// => 'Daniel Leal: Why,
hello there, Inês.'
```

HTML DOM (Document Object Model)

```html
<!DOCTYPE html>
<html>
<head>
  <title>Javascript 101</title>
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/
  bootstrap/3.3.1/css/bootstrap.min.css">
  <link rel="stylesheet" href="css/style.css">
</head>
<body>
    <header>
        <nav>
            <li><a href="/blog"></a></li>
            <li><a href="/events"></a></li>
            <li><a href="/contact"></a></li>
        </nav>
    </header>
    <article>
        <h1>Hello World!</h1>
        <p>Paragraph 1</p>
        <p>Paragraph 2</p>
    </article>
</body>
</html>
```

Get elements

```
document.getElementById("xyz");
document.getElementsByTagName("p");
document.getElementsByClassName("abc");
document.getElementsByName("xyz");
```

Get elements

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```

Get DOM elements

```
// http://goo.gl/nto3PX

document.getElementById("xyz");
document.getElementsByTagName("p");
document.getElementsByClassName("abc");
document.getElementsByName("xyz");
```
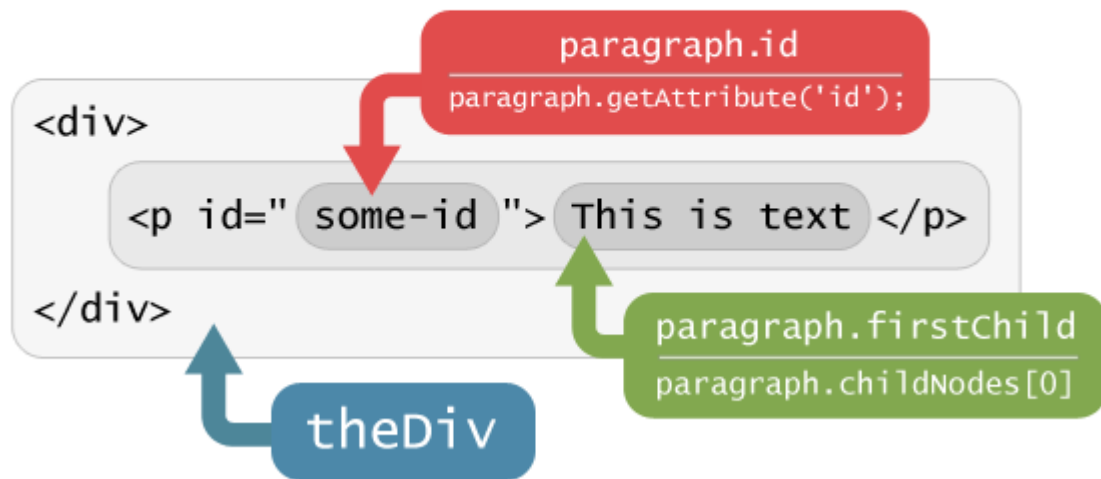
Get elements

```
document.getElementById("xyz");
document.getElementsByTagName("p");
document.getElementsByClassName("abc");
document.getElementsByName("xyz");

// http://flukeout.github.io/
document.querySelectorAll("span.a, span.c");
```

Transversing the DOM

```
var theDiv = document.getElementsByTagName('div')[0];
```

```
<div>

    var p = theDiv.firstChild;

    <p> This is text </p>


    var ul = p.nextSibling;

    <ul>

            <li>Apple</li>   ul.childNodes[0]

            <li>Pear</li>    ul.childNodes[1]

            <li>Melon</li>   ul.childNodes[2]

    </ul>

</div>
```

`Node.childNodes`

`Node.firstChild`

É o mesmo que aceder ao primeiro item do array 'childNodes' ('Element.childNodes[0]')

`Node.lastChild`

`Node.parentNode`

`Node.nextSibling`

`Node.previousSibling`

Events

Form Events
onblur
onchange
onfocus
onselect
onsubmit
onreset
onkeydown
onkeypress
onkeyup

Mouse Events
onmouseover/onmouseout
onmousedown

Click Events
onclick
ondblclick

Load Events
onload
onresize

Exercício #1 - Logo Hijack

http://google.com/

1. Encontrar o logo do Google e guardá-lo numa variável
2. Modificar a source da IMG (?) de modo que seja o logo do NEI
3. Encontrar o botão de pesquisa e guardá-lo numa variável
4. Modificar o texto do botão de modo a que diga "Yahooo!"

Exercício #2 - Bigger Button

http://www.portugalstartupjobs.pt/

Alterar o padding do botão I'M A STARTUP para 20px

- getElement(s)By?
- previousSibling
- childNodes

Exercise #3 - About me

https://jsfiddle.net/07Lw2Lg6/

1. Adicionar um script no fundo da página
2. Alterar a font-family do body para "Arial, sans-serif"
3. Substituir cada uma das spans (nickname, favorites, hometown) com a tua informação
4. Iterar cada <li> e mudar a class para "listitem"
5. Adicionar um estilo CSS "listitem" para uma cor à vossa escolha.
6. Criar um elemento <img> e definir o seu atributo src para uma imagem tua.
7. Juntar esse elemento à página

jQuery Selectors

```
$( ) || jQuery( )

$("#xyz")          // document.getElementById("xyz");
$("p")             // document.getElementsByTagName("p");
$(".abc")          // document.getElementsByClassName("abc");
$("[name='xyz']")  // document.getElementsByName("xyz");

// http://flukeout.github.io/
document.querySelectorAll("span.a, span.c");
```

Do's and don'ts

Ensure your site still works without JavaScript.

Scripts at the bottom

Reduce globals

Raw JavaScript is quicker*

Cache selectors

Keep DOM access to a minimum

```
var table = $('<table></table>');

$('body').append(table);

for (var i=0; i<10000; i++)
{

$('table').append
('<tr><td>1</td><td>2</td><td>3</td><td>4</td
><td>5</td></tr>');
}

alert("Done!");
```

VS

```
var table = $('<table></table>');

for (var i=0; i<10000; i++)
{
   $(table).append
('<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5<
/td></tr>');
}

$('body').append(table);

alert("Done!");
```

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