



Web  
HTML

Catarina Oliveira

DCT DEPARTAMENTO CIÊNCIA  
E TECNOLOGIA

## CONTENT

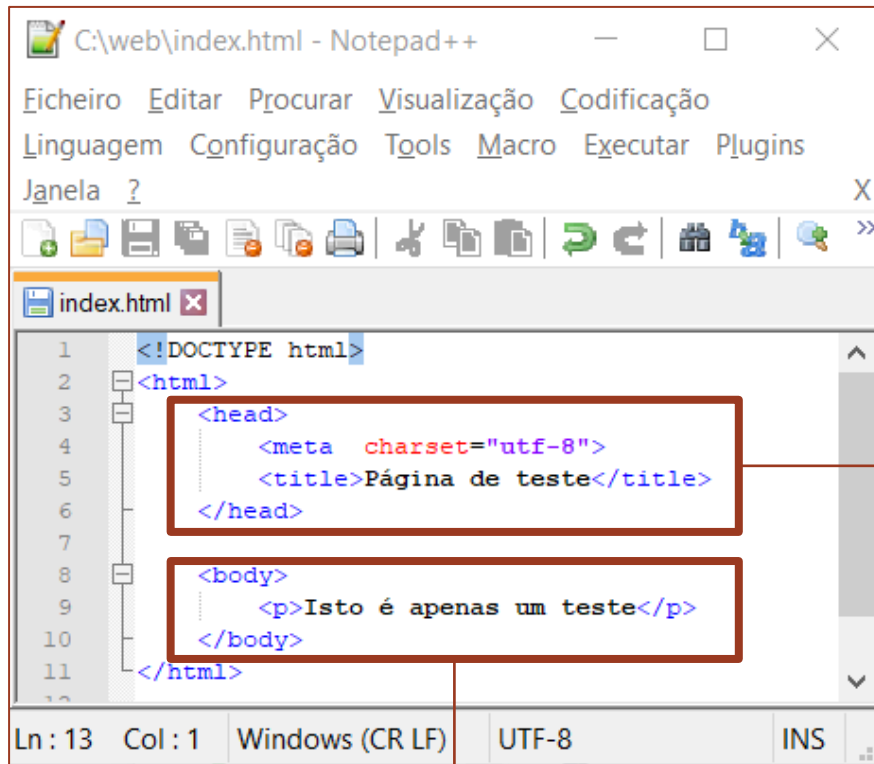
1. Context
2. Simple example
3. Headers and paragraphs
4. Formatting
5. Images and links
6. Lists
7. Tables
8. HTML 5: Semantic elements
9. Forms
10. Forms - elements
11. HTML 5 Forms
12. Media
13. Best Practices

## Context

### HTML: *HyperText Markup Language*

- Created by Tim Berners-Lee
- Used to describe and define the content in a web page
- Current version: 5.3 <https://www.w3.org/TR/html53/>
- Maintained by the W3C consortium
- Text **markup** language (**not a programming language**)
  - Markup used to mark text, images and other content to be shown in a browser
- **Hipertext** or **hiperlinks** (links): allow the connection between several pages
- Tutorial, element list and examples at:  
<https://www.w3schools.com/html/>

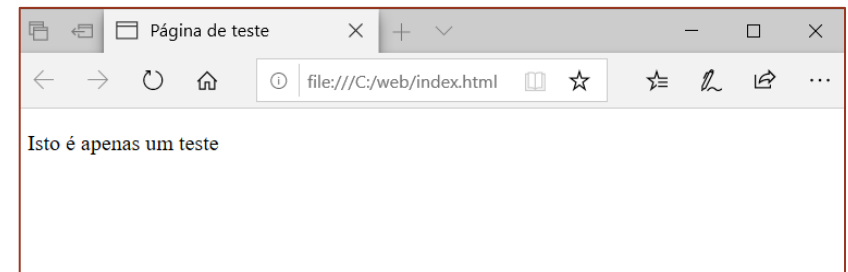
## Simple example



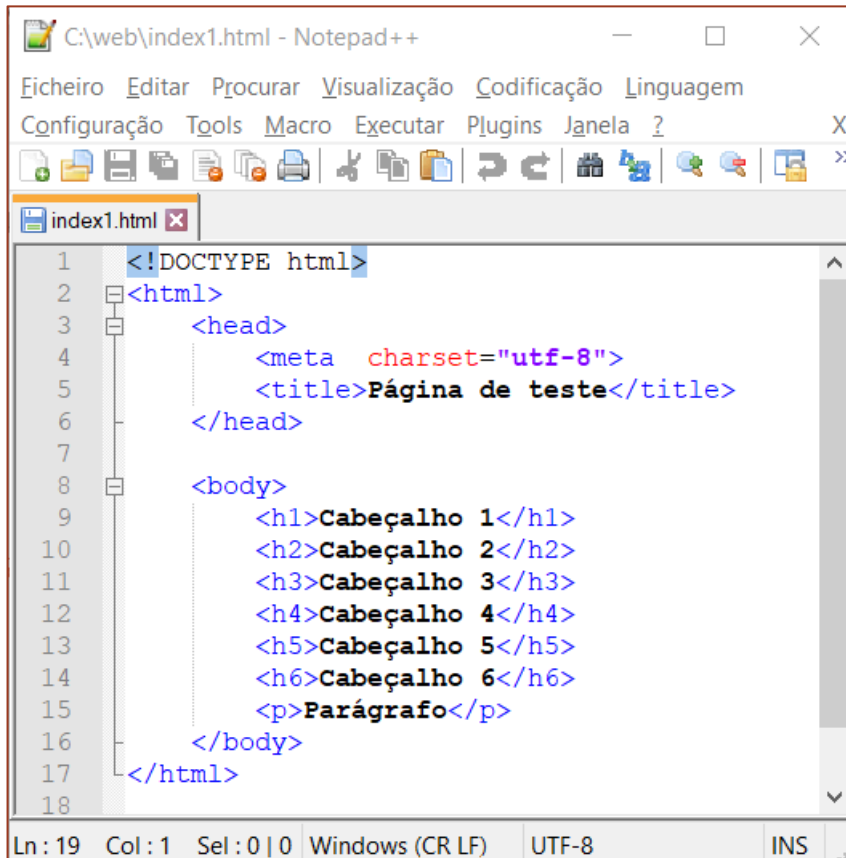
```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Página de teste</title>
6 </head>
7
8 <body>
9 <p>Isto é apenas um teste</p>
10 </body>
11 </html>
12
```

Body

Header



## Headers and paragraphs



```

1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset="utf-8">
5      <title>Página de teste</title>
6  </head>
7
8  <body>
9      <h1>Cabeçalho 1</h1>
10     <h2>Cabeçalho 2</h2>
11     <h3>Cabeçalho 3</h3>
12     <h4>Cabeçalho 4</h4>
13     <h5>Cabeçalho 5</h5>
14     <h6>Cabeçalho 6</h6>
15     <p>Parágrafo</p>
16 </body>
17 </html>
18

```

Ln : 19 Col : 1 Sel : 0 | 0 Windows (CR LF) UTF-8 INS

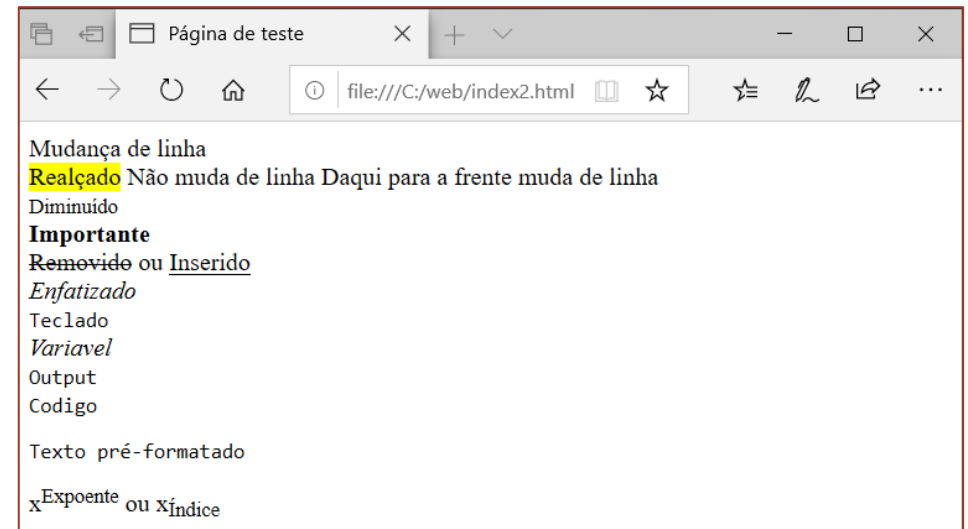


# Formatting

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <title>Página de teste</title>
6   </head>
7
8   <body>
9     Mudança de linha <br/>
10    <mark>Realçado</mark> Não muda de linha
11    Daqui para a frente muda de linha<br/>
12    <small>Diminuído</small><br/>
13    <strong>Importante</strong><br/>
14    <del>Removido</del> ou <ins>Inserido</ins><br/>
15    <em>Enfatizado</em><br/>
16    <code>Teclado</code><br/>
17    <var>Variavel</var><br/>
18    <samp>Output</samp><br/>
19    <pre>Texto pré-formatado </pre>
20    x<sup>Expoente</sup> ou x<sub>índice</sub>
21  </body>
22 </html>
23
24
length: 596 Ln: 25 Col: 1 Sel: 0 | 0 Windows (CR LF) UTF-8 INS

```

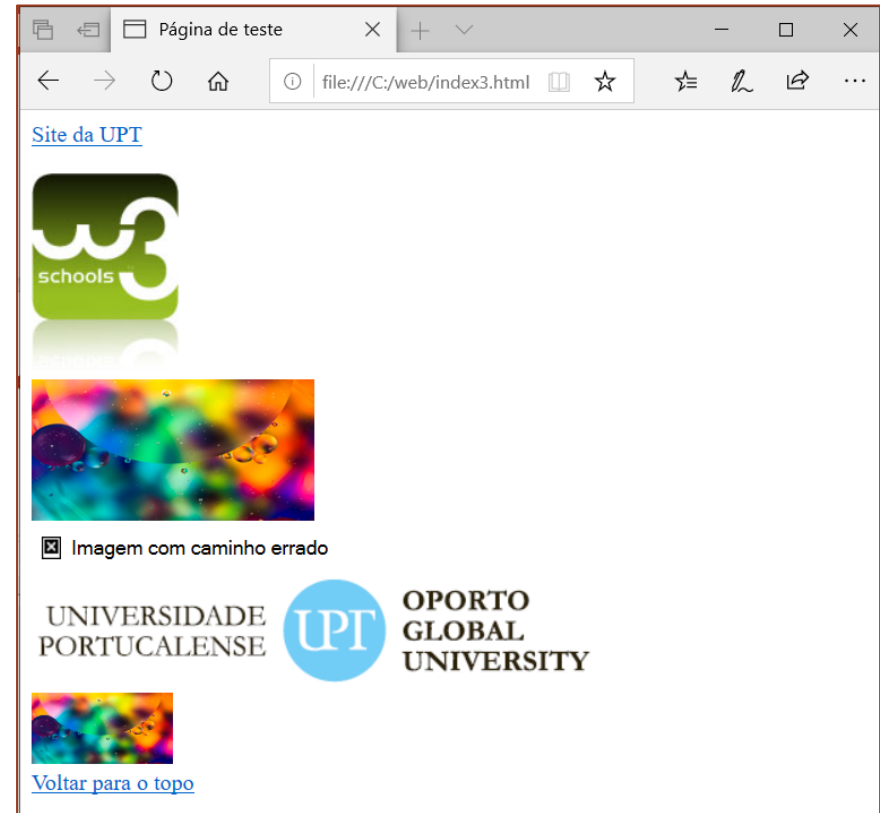


# Images and Links

```

C:\web\index3.html - Notepad++
Eicheiro Editar Procurar Visualização Codificação Linguagem Configuração Tools Macro Executar Plugins Janela 2
index3.html x
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <title>Página de teste</title>
6   </head>
7   <body>
8     <a id="aquiEoTopo"></a>
9     <a href="https://www.upt.pt/">Site da UPT</a><br/><br/>
10     <br/>
11     <br/>
12     <br/>
13    <a href="https://www.upt.pt/">
14      
15    </a>
16    <br/>
17    <a href="index2.html">
18      
19    </a>
20    <br/>
21    <a href="#aquiEoTopo">Voltar para o topo</a>
22  </body>
23 </html>
24
Hyper Text Markup Language length : 767 lines : 26 Ln : 26 Col : 1 Sel : 0 | 0 Windows (CR LF) UTF-8 INS

```



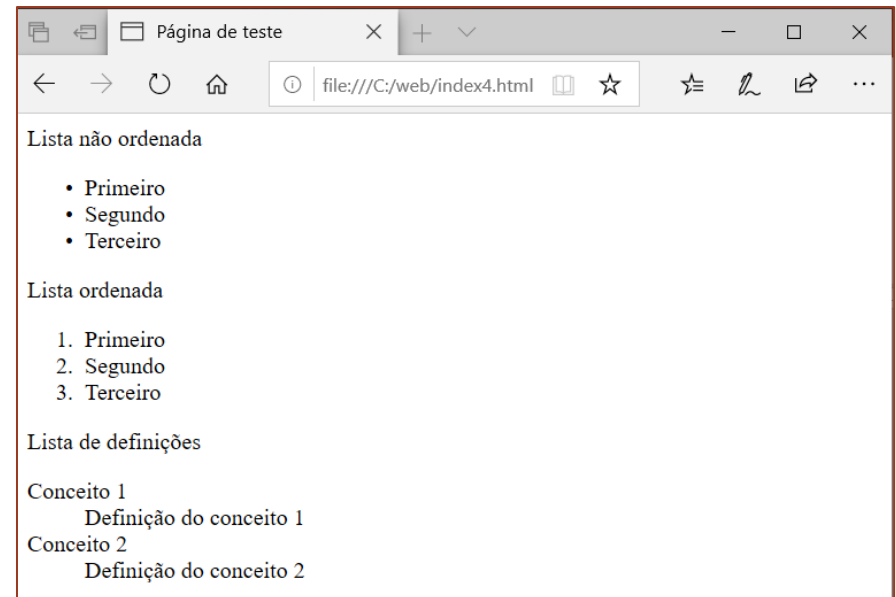
## Lists

```

1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset="utf-8">
5      <title>Página de teste</title>
6  </head>
7
8  <body>
9      Lista não ordenada
10     <ul>
11         <li>Primeiro</li>
12         <li>Segundo</li>
13         <li>Terceiro</li>
14     </ul>
15     Lista ordenada
16     <ol>
17         <li>Primeiro</li>
18         <li>Segundo</li>
19         <li>Terceiro</li>
20     </ol>
21     Lista de definições
22     <dl>
23         <dt>Conceito 1</dt>
24         <dd>Definição do conceito 1</dd>
25         <dt>Conceito 2</dt>
26         <dd>Definição do conceito 2</dd>
27     </dl>
28 </body>
29 </html>

```

Ln : 31 Col : 1 Sel : 0 | 0 Windows (CR LF) UTF-8 INS





# Tables

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <title>Página de teste</title>
6   </head>
7
8   <body>
9     <table border="1">
10      <tr><th>Cabeçalho Coluna 1</th><th>Cabeçalho Coluna 2</th><th>Cabeçalho Coluna 3</th></tr>
11      <tr><td>Conteúdo 1-1</td><td>Conteúdo 1-2</td><td>Conteúdo 1-3</td></tr>
12      <tr><td colspan="2" align="center">Conteúdo 2-1 e 2-2</td><td>Conteúdo 2-3</td></tr>
13      <tr><td>Conteúdo 3-1</td><td>Conteúdo 3-2</td><td rowspan="2">Conteúdo 3-3 e 4-3</td></tr>
14      <tr><td>Conteúdo 4-1</td><td>Conteúdo 4-2</td></tr>
15    </table>
16  </body>
17 </html>

```

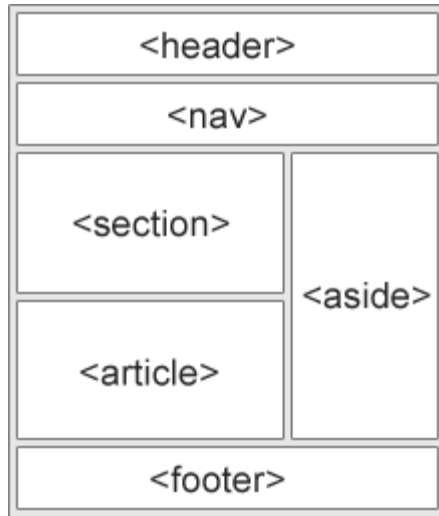
Hyper Text Markup Language f length : 594 lines : 19 Ln : 19 Col : 1 Sel : 0 | 0 Windows (CR LF) UTF-8 INS

Página de teste

file:///C:/web/index5.html

Cabeçalho Coluna 1	Cabeçalho Coluna 2	Cabeçalho Coluna 3
Conteúdo 1-1	Conteúdo 1-2	Conteúdo 1-3
Conteúdo 2-1 e 2-2		Conteúdo 2-3
Conteúdo 3-1	Conteúdo 3-2	Conteúdo 3-3 e 4-3
Conteúdo 4-1	Conteúdo 4-2	

## HTML 5: Semantic elements



**Objective:** besides structuring documents, also describe the documents' meanings

**Elementos:**

- `<header>` document or section header. May contain the elements `<h1>...<h6>`
- `<nav>` groups of links. May contain `<a>`, `<ul>` e `<ol>`
- `<section>` document section. Contains a title (`<h1>...<h6>`).
- `<article>` title identification recommended
- `<aside>` additional support content
- `<footer>` (author, contacts, date, ...)

```
C:\web\index6.html - Notepad++
Eicheiro Editar Procurar Visualização Codificação Linguagem Configuração
Tools Macro Executar Plugins Janela ?
index6.html x
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Página de teste</title>
6 </head>
7
8 <body>
9 <header>
10 <h1>Cabeçalho</h1>
11 </header>
12 <nav>
13 <a href="https://www.upt.pt/">Site da UPT</a><br><br>
14 Lista não ordenada
15 <ul>
16 <li>Primeiro</li>
17 <li>Segundo</li>
18 <li>Terceiro</li>
19 </ul>
20 </nav>
21 <section>
22 <h2>Secção 1</h2>
23 <h3>Conteúdo da secção 1</h3>
24 <article>
25 <h4>Primeiro artigo da secção 1</h4>
26 Texto 1
27 </article>
28 <article>
29 <h4>Segundo artigo da secção 1</h4>
30 Texto 2
31 </article>
32 </section>
33 <section>
34 <h2>Secção 2</h2>
35 <h3>Conteúdo da secção 2</h3>
36 <article>
37 <h4>Artigo da secção 2</h4>
38 Texto 3
39 </article>
40 </section>
41 <aside>
42 <article title="conteudoExtra1">
43 <h4>Conteúdo extra</h4>
44 Texto 4
45 </article>
46 </aside>
47 <footer>
48 Rodapé
49 </footer>
50 </body>
51 </html>
```

Página de teste

file:///C:/web/index6.html

# Cabeçalho

[Site da UPT](#)

Lista não ordenada

- Primeiro
- Segundo
- Terceiro

## Secção 1

### Conteúdo da secção 1

#### Primeiro artigo da secção 1

Texto 1

#### Segundo artigo da secção 1

Texto 2

## Secção 2

### Conteúdo da secção 2

#### Artigo da secção 2

Texto 3

#### Conteúdo extra

Texto 4  
Rodapé

# Forms

```

1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset="utf-8">
5   <title>Página de teste</title>
6 </head>
7
8 <body>
9   <form action="index7.html" method="post">
10     <fieldset>
11       <legend>Dados Pessoais:</legend>
12       <label>Email:</label><br/>
13       <input name="email" type="email"><br/>
14       <label>Password:</label><br/>
15       <input name="password" type="password"><br/>
16     </fieldset>
17     <fieldset>
18       <legend>Questionário</legend>
19       <label>Comentário:</label><br/>
20       <textarea name="comentario"></textarea><br/>
21       <label>Quando deseja:</label><br/>
22       <select>
23         <option value="ontem">Ontem</option>
24         <option value="hoje">Hoje</option>
25         <option value="amanha">Amanhã</option>
26       </select>
27       <br/>
28       <br/>
29       <label>Que meio(s) de transporte costuma usar?</label><br/>
30
31       <input type="checkbox" name="vehicle1" value="Bike">Bicicleta<br/>
32       <input type="checkbox" name="vehicle2" value="Car">Automóvel<br/>
33       <input type="checkbox" name="vehicle3" value="Public" checked="">Transportes Públicos<br/>
34       <br/>
35       <label>Quanto tempo demora?</label><br/>
36       <input type="radio" name="tempo" value="pouco"> Menos de 30 min<br/>
37       <input type="radio" name="tempo" value="muito"> Mais de 30 min<br/>
38       <br/>
39       <button type="button">Info</button>
40       <button type="reset">Limpar</button>
41       <button type="submit">Enviar</button>
42     </fieldset>
43   </form>
44 </body>
45 </html>

```

Página de teste

file:///C:/web/index7.html

**Dados Pessoais:**

Email:

Password:

**Questionário**

Comentário:

Quando deseja:

Ontem

Que meio(s) de transporte costuma usar?

☐ Bicicleta

☐ Automóvel

☒ Transportes Públicos

Quanto tempo demora?

☐ Menos de 30 min

☐ Mais de 30 min

Info Limpar Enviar

## Forms - elements

```
<form action="processar.php" method="post">
  <fieldset>
    <legend>Dados Pessoais:</legend>
    <label>Email:</label><br/>
    <input name="email" type="email"><br/>
    <label>Password:</label><br/>
    <input name="password" type="password"><br/>
  </fieldset>
  <fieldset>
    <legend>Questionário</legend>
    <label>Comentário:</label><br/>
    <textarea name="comentario"></textarea><br/>
    <label>Quando deseja:</label><br/>
    <select>
      <option value="ontem">Ontem</option>
      <option value="hoje">Hoje</option>
      <option value="amanha">Amanhã</option>
    </select>
    <br/>
    <br/>
    <label>Que meio(s) de transporte costuma usar?</label><br/>
    <br/>
    <input type="checkbox" name="vehicle1" value="Bike">Bicicleta<br/>
    <input type="checkbox" name="vehicle2" value="Car">Automóvel<br/>
    <input type="checkbox" name="vehicle3" value="Public" checked="">Transportes Públicos<br/>
    <br/>
    <label>Quanto tempo demora?</label><br/>
    <input type="radio" name="tempo" value="pouco"> Menos de 30 min<br/>
    <input type="radio" name="tempo" value="muito"> Mais de 30 min<br/>
    <br/>
    <button type="button">Info</button>
    <button type="reset">Limpar</button>
    <button type="submit">Enviar</button>
  </fieldset>
</form>
```

- **form:**
  - **action:** where the info goes after submission
  - **method:** submission method. Possible values:  
**POST, GET**

get	post
Appends the parameters and values to the URL	Appends the parameters and values to the HTTP request body
URL size is limited (3000)	No URL limit size
Allows saving an URL with parameters	Allows saving the URL without parameters

- **fieldset:** container to group elements
- **legend:** legend for the **fieldset** element
- **label**
- **input:** data input field
  - **type:** text | email | password | checkbox | radio
- **textarea:** large texto input field
- **select:** drop-down list
  - **option:** drop-down options
- **button**
  - **type:** button | reset | submit

## Formulários HTML 5

- New values for the type attribute:

[https://www.w3schools.com/html/html\\_form\\_input\\_types.asp](https://www.w3schools.com/html/html_form_input_types.asp)

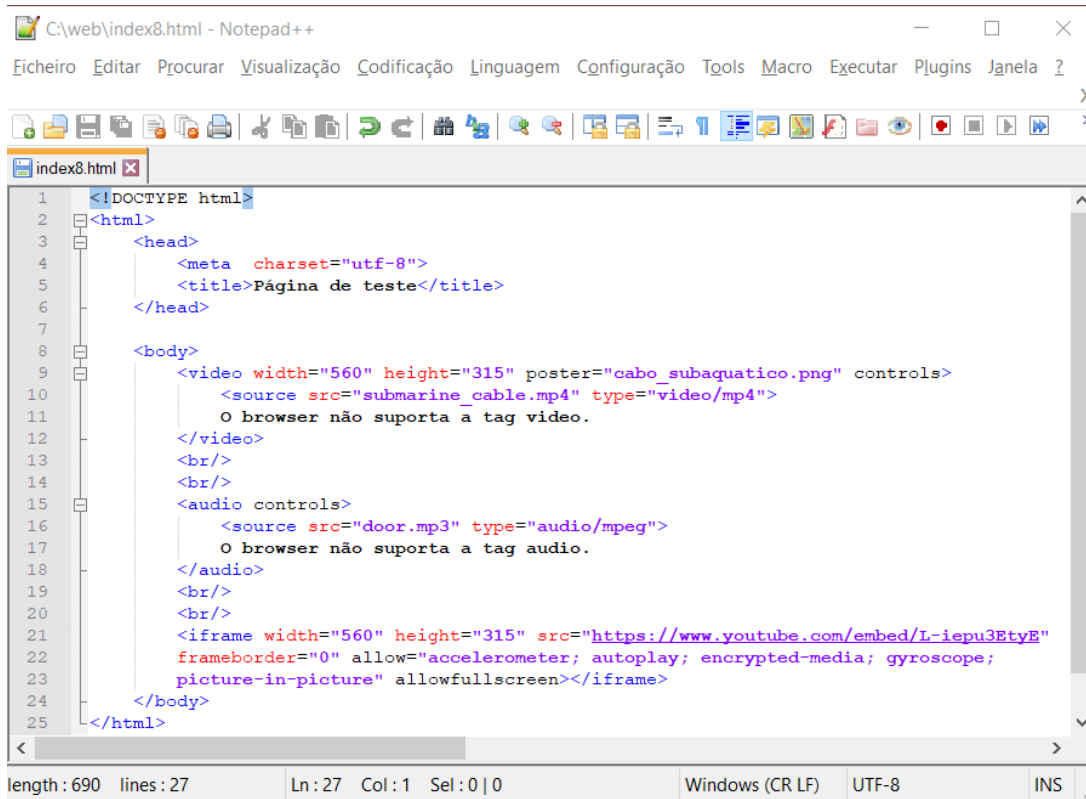
- color
- date
- datetime-local
- email
- month
- number
- range
- search
- tel
- time
- url
- week

- New attributes for the input tag:

[https://www.w3schools.com/html/html\\_form\\_attributes.asp](https://www.w3schools.com/html/html_form_attributes.asp)

- autocomplete
- autofocus
- form
- formaction
- formenctype
- formmethod
- formnovalidate
- formtarget
- height and width
- list
- min and max
- multiple
- pattern (regexp)
- placeholder
- required
- step

## Media

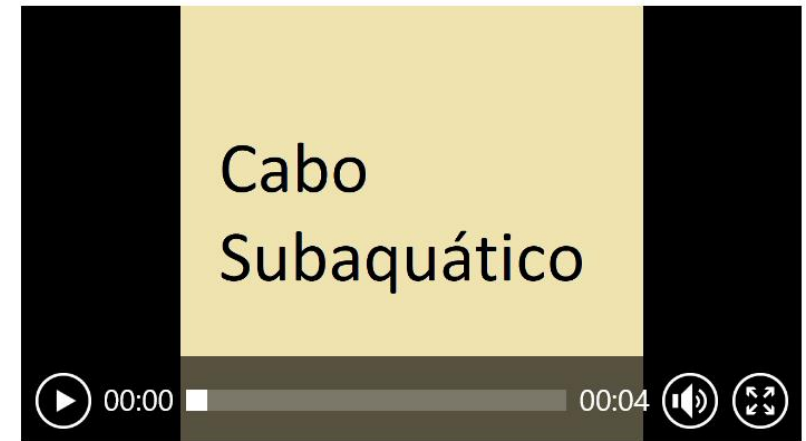
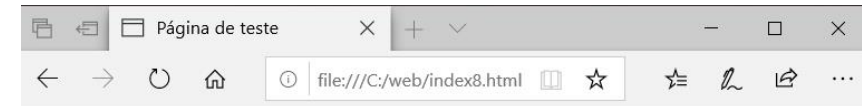


```

1  <!DOCTYPE html>
2  <html>
3    <head>
4      <meta charset="utf-8">
5      <title>Página de teste</title>
6    </head>
7
8    <body>
9      <video width="560" height="315" poster="cabo_subaquatico.png" controls>
10        <source src="submarine_cable.mp4" type="video/mp4">
11        O browser não suporta a tag video.
12      </video>
13      <br/>
14      <br/>
15      <audio controls>
16        <source src="door.mp3" type="audio/mpeg">
17        O browser não suporta a tag audio.
18      </audio>
19      <br/>
20      <br/>
21      <iframe width="560" height="315" src="https://www.youtube.com/embed/L-iepu3EtyE"
22        frameborder="0" allow="accelerometer; autoplay; encrypted-media; gyroscope;
23        picture-in-picture" allowfullscreen></iframe>
24    </body>
25  </html>

```

length : 690 lines : 27 Ln : 27 Col : 1 Sel : 0 | 0 Windows (CR LF) UTF-8 INS



# Best practices

## General

- Clearly document all code using `<!--comment-->`. The code is more readable.
- Use the global attribute `title`, containing text that represents information related to the element it belongs to

## Semantic elements

- Use HTML 5 semantic elements so that the content is clearer to programmers, browsers and software that automatically process the information
- Group and organise the content through the semantic elements

## Forms

- Use client-side validation as much as possible, in order to not overload the server
- When validating `input`, use the values of the attribute `type`
- Use the attributes of element `input` to simplify data validation
- Use the element `label` to define input labels
- Simplify the data insertion by using the attribute `placeholder`, that specifies a “tip”
- Make sure the data are being sent to the server the right way by defining the attribute `method`

## Media

- Use the elements `video` and `audio`





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Do conhecimento à prática.