



A <PROGRAMAÇÃO> PRECISA DE TI

Laboratório Web

Web

CSS - Cascading Style Sheets

- **Defines the appearance of the document**
- Alignment, size, colors, margins, styles, ...
- Placed at the beginning of an HTML document
- Embedded or referenced
- Allows to reuse the same styling code and to maintain consistency between different HTTP documents from the same domain
- Written in a markup language
- Cascading means that the latter definition of a style will be the one applied



CSS - Cascading Style Sheets

- How are CSS' applied to HTTP documents

- Inline (in the element <tag>)

- <p style="color:blue;margin-left:20px;">This is a paragraph.</p>

- Internal (in the document <head> section)

- Defined in the <style> tags

- External (in an external .css files)

- Reference to a .css file

```
<style>
body {
    background-color: linen;
}
```

```
h1 {
    color: maroon;
    margin-left: 40px;
}
</style>
```

```
<link rel="stylesheet" type="text/css" href="mys
tyle.css">
```

CSS - Internal Reference

- Should be avoided since most of the code will be **repeated** in each HTTP document of the server

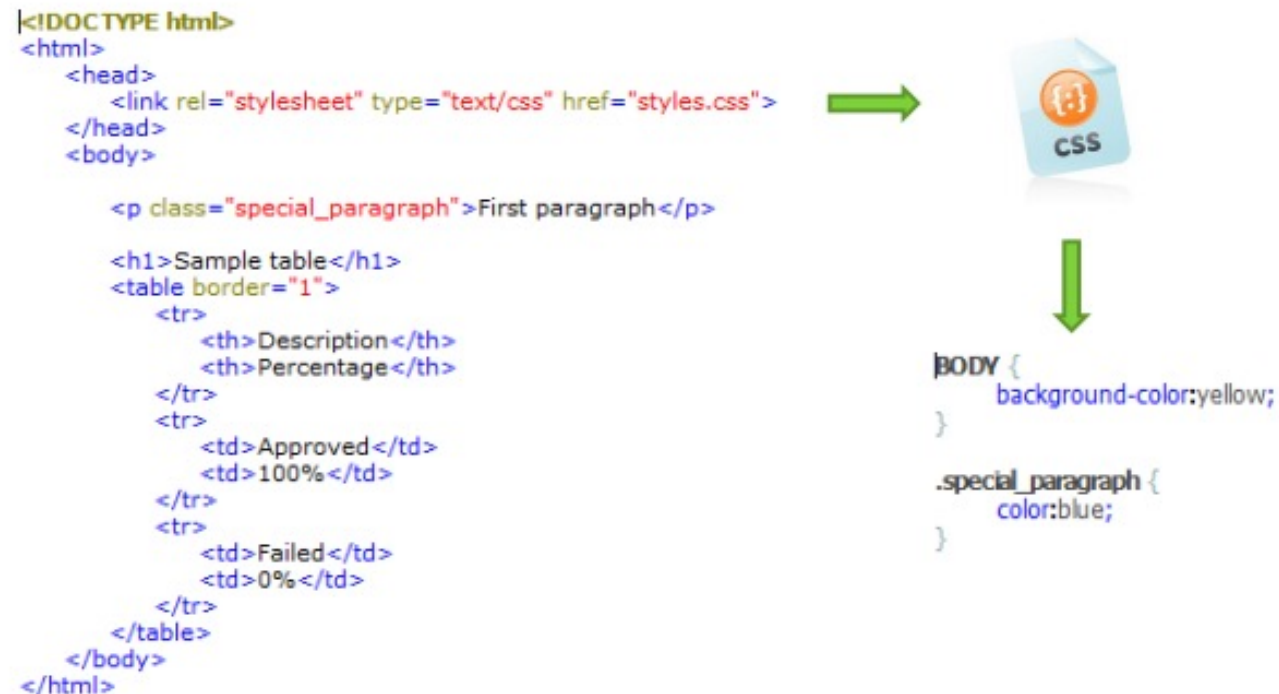
```
<!DOCTYPE html>
<html>
  <head>
    <style type="text/css">
      BODY{background-color:yellow;}
      p {color:blue;}
    </style>
  </head>
  <body>

    <p>First paragraph</p>

    <h1>Sample table</h1>
    <table border="1">
      <tr>
        <th>Description</th>
        <th>Percentage</th>
      </tr>
      <tr>
        <td>Approved</td>
        <td>100%</td>
      </tr>
      <tr>
        <td>Failed</td>
        <td>0%</td>
      </tr>
    </table>
  </body>
</html>
```


CSS - External Reference

- A page can link to multiple style sheet files
- In case of a **conflict** (two sheets define a style for the same HTML element), the **latter sheet's properties will be used**



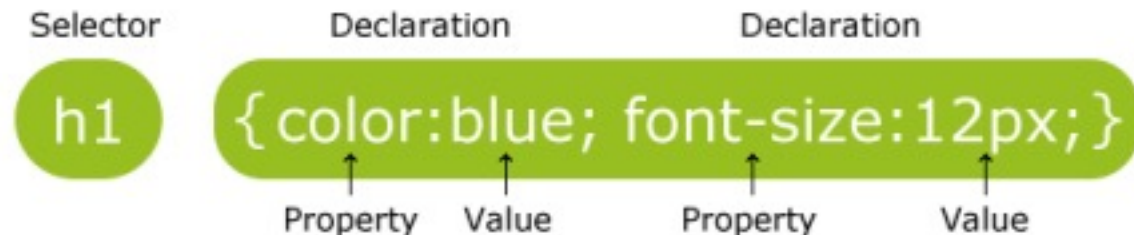
CSS

- Properties always small case
- Multi-word properties written with hyphens
- Multi-word font names written with ""
- Comments made with /* comment */

```
body {  
  background-color:red;  
  color : #000000;  
  font-size:20px;  
}  
h1 {  
  color:orange;  
  text-align:center;  
}  
p{  
  /*This is a comment*/  
  color:red;  
  text-align:center;  
  font-family:arial;  
  font-size:20px;  
}
```

CSS - Properties

- Color properties
- Font properties
- Text properties
- List properties
- Table properties
- Background properties
- Animation properties
- ...



CSS - Properties

font-family : **x x** = the name(s) of font, e.g. times, serif

font-size : **n n** = the font size, in px, pt, cm, in, mm or %

font-style : **normal** | **italic**

font-weight : **normal** | **bold** | **bolder** | **lighter**

color : **#nnnnnn** **#nnnnnn** = the name of the colour or its Hex value

background-color : **#nnnnnn** | **transparent**

background-image : **URL**

line-height : **normal** | **n%** | **n**

text-align : **left** | **right** | **center** | **justify**

text-decoration : **none** | **underline** | **overline** | **line-through**

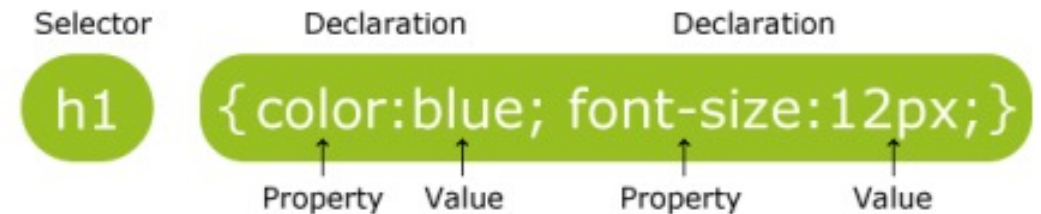
text-indent : **n n** = indent in **px**, **pt**, **cm**, **in**, **mm** or **%**

margin-top : **auto** | **n%** | **n**

margin-bottom : **auto** | **n%** | **n**

margin-left : **auto** | **n%** | **n**

margin-right : **auto** | **n%** | **n**



CSS – Properties - syntax

- A **CSS** file consists of one or more rules
- Each rule starts with a **selector**
- A selector specifies an HTML element(s) and its style properties
- The ***** selector selects all elements

```
selector {  
    property: value;  
    property: value;  
    ...  
    property: value;  
}
```

```
p {  
    font-family: "Courier New";  
    color: red;  
}
```

CSS – Properties - syntax

```
p {  
  color: red;  
  background-color: yellow;  
}
```

This paragraph uses the style above

Property	Description
color	Color of the element text
background-color	Background color of the element

CSS – Properties - syntax

```
p { color: red; }  
h2 { color: rgb(128, 0, 196) ; }  
h4 { color: #FF8800; }
```

This paragraph uses the first style above

This h2 uses the second style above.

This h4 uses the third style above.

color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white (white), yellow

- **RGB codes:** red, green, and blue values from 0 (none) to 255 (full)

- **Hex codes:** RGB values in base-16 from 00 (0, none) to FF (255, full)

CSS – font- grouping styles

```
p, h1, h2 {  
  color: black;  
}  
h2 {  
  background-color: yellow;  
}
```

This paragraph uses the above style.

This h2 uses the above styles.

- A style can **select multiple elements separated** by commas
- The **individual elements** can also have their own styles

CSS – font- other properties

- font-family:** which font will be used
- font-size:** how large the letters will be drawn
- font-style:** used to enable/disable italic style
- font-weight:** used to enable/disable bold style

More at http://www.w3schools.com/css/css_font.asp

CSS – font- font-family

```
p {  
font-family: Georgia;  
}  
h2 {  
font-family: "Courier New";  
}
```

This paragraph uses the first style above.

This h2 uses the second style above

CSS – font- font-family

```
p {  
font-family: Garamond, "Times New Roman", serif;  
}
```

This paragraph uses the above style.

- We can specify **multiple fonts** from **highest** to **lowest priority**
- Generic font names:
 - — serif, sans-serif, monospace, ...
- If the **first font is not found** on the user's computer, **the next is tried**
- Placing a generic font name at the end of your font-family value, ensures that **every computer will use a valid font**

CSS – font- font-size

```
p {  
  font-size: 24pt;  
}
```

This paragraph uses the style above.

units: pixels (px) vs. point (pt) vs. m-size (em)

- **1em** is equal to the current font size (in browsers default text size is **16px**)

CSS – text properties

- **text-align**: alignment of text within its element
- **text-decoration**: decorations such as underlining
- **line-height, word-spacing and letter-spacing**: gaps between the various portions of the text
- **text-indent**: indents the first letter of each paragraph

More at http://www.w3schools.com/css/css_text.asp

CSS – text properties

```
blockquote { text-align: justify; }
```

```
h2 { text-align: center; }
```

The Gollum's Quote

We wants it, we needs it. Must have the precious. They stole it from us. Sneaky little hobbitses. Wicked, tricky, false!

text-align can be

- left, right, center, or justify

CSS – text decorations

```
p {  
text-decoration: underline;  
}
```

This paragraph uses the style above.

- can also be:
 - **overline**, **line-through** or **none**
- effects can be combined:
 - **text-decoration: overline underline;**

CSS – lists

Possible values

- **none** : No marker
- **disc** (default), circle, square
- **Decimal**: 1, 2, 3, etc.
- **decimal-leading-zero**: 01, 02, 03, etc.
- **lower-roman**: i, ii, iii, iv, v, etc.
- **upper-roman**: I, II, III, IV, V, etc.
- **lower-alpha**: a, b, c, d, e, etc.
- **upper-alpha**: A, B, C, D, E, etc.
- **lower-greek**: alpha, beta, gamma, etc.
- **others**: **hebrew**, **armenian**, **georgian**, **cjk-ideographic**, **hiragana**

```
ol {  
  list-style-type: lower-roman;  
}
```

CSS – body style

```
body {  
font-size: 16px;  
}
```

- Applies a style to the entire body of your page
- Saves you from manually applying a style to each element

CSS – inheriting styles

```
body { font-family: sans-serif; background-color: yellow;}  
p { color: red; background-color: aqua; }  
a { text-decoration: underline; }  
h2 { font-weight: bold; text-align: center; }
```



- when multiple styles apply to an element, they are inherited
- a more tightly matching rule can override a more general inherited rule

CSS – conflicts

```
p, h1, h2 { color: blue; font-style: italic; }  
h2 { color: red; background-color: yellow; }
```

This paragraph uses the first style above.

This heading uses both styles above.

- when two styles set conflicting values for the same property, the latter style takes precedence
- The majority of the rules that applies to an element are inherited by their children i.e., elements that are inside it

CSS – conflicts

```
body{  
  color:black;  
}  
p{  
  font-size:14pt;  
  background-color:yellow  
}
```

Example paragraph

This paragraph has its own style

```
<body>  
<p> Example paragraph </p>  
<p style="font-size:24pt; color:blue"> This paragraph has its own style</p>  
</body>
```

CSS – backgrounds

- **background-color**: color to fill background
- **background-image**: image to place in background
- **background-position**: placement of image within element
- **background-repeat**: whether/how image should be repeated
- **background-attachment**: whether image scrolls with page
- **background**: shorthand to set all background properties

CSS – background-image

background-image: As it happens with the color it fill the background of the element its applied to

```
body {  
    background-image: url("images/draft.jpg");  
}
```

background-repeat: Repeats the image through the element, can be repeat (default), repeat-x, repeat-y, or no-repeat

```
body {  
    background-image: url("images/draft.jpg");  
    background-repeat: repeat-x;  
}
```

CSS – background-image

```
body {  
background-image: url("images/draft.jpg");  
background-repeat: no-repeat;  
background-position: 370px 20px;  
}
```

This is the first paragraph

This is the second paragraph...
It occupies 2 lines

DRAFT

- value consists of two tokens, each of which can be **top**, **left**, **right**, **bottom**, **center**, a **percentage**, or a length value in **px**, **pt**, etc.
- value can be negative to shift left/up by a given amount

Exercises

Text exercises

1. Print your name in green
2. Print the numbers 1 - 10, each number being a different color.
3. Prints your name in a Tahoma font.
4. Print a paragraph with 4 - 5 sentences. Each sentence should be a different font.
5. Print a paragraph that is a description of a book, include the title of the book as well as its author. Names and titles should be underlined, adjectives should be italicized and bolded.
6. Print your name to the screen with every letter being a different heading size.

Exercises

Image exercises

1. Display five different images. Skip two lines between each image. Each image should have a title.
2. Display an image that has a border of size 2, a width of 200, and a height of 200. -> ``
3. Display an image that when clicked will link to a search engine of your choice (should be opened in a new window). ``
4. Display an image that when clicked will link to itself and will display the image in the browser by itself. ``

NOTE: Include the alt attribute in every `` tag in the HTML image exercises.

Exercises

```
<head>  
  <link rel="stylesheet" href="main.css">  
</head>
```

Style me via the external method!

I would like to be styled with the internal method, please.

Inline Method

CSS – IDs

- A element in HTML can be made **unique** with an ID
- Each ID must be unique; can only be used once **in the page**

`<p>Coding Horror! Coding Horror!</p>`

`<p id="mission">Our mission is to combine programming and <q>human</q> factors</p>`

Coding Horror! Coding Horror!

Our mission is to combine programming and "human" factors

CSS – IDs

- Applies style **only to the paragraph** that has the **ID** of the element

```
#mission {  
font-style: italic;  
font-family: "Garamond", "Century Gothic", serif;  
}
```

Coding Horror! Coding Horror!

Our mission is to combine programming and "human" factors

CSS – Class

- A way to **group** some **elements** and give a style to only that group
- Unlike an id, a class can be **reused as much as you like** on the page

`<p class="shout">First sentence from the shout class</p>`

`<p class="special">First sentence from the special class</p>`

`<p class="special">Second sentence from the special class</p>`

CSS – Class

All elements that belong to the **special** class

Only for <p> elements that belong to the **shout** class

<p class="shout">First sentence from the shout class</p>

<p class="special">First sentence from the special class</p>

<p class="special">Second sentence from the special class</p>

```
.special {  
  background-color: yellow;  
  font-weight: bold;  
}  
p.shout {  
  color: red;  
  font-family: cursive;  
}
```

First sentence from the shout class

First sentence from the special class

Second sentence from the special class

CSS – Class

All elements that belong to the **special** class

Only for <p> elements that belong to the **shout** class

<p class="shout">First sentence from the shout class</p>

<p class="special">First sentence from the special class</p>

<p class="special shout"> Second sentence from the special class </p>

We can join 2 classes in the same element

First sentence from the shout class

First sentence from the special class

Second sentence from the special class

```
.special {  
  background-color: yellow;  
  font-weight: bold;  
}  
p.shout {  
  color: red;  
  font-family: cursive;  
}
```

CSS – the class selectors attributes

- **Targets** elements with certain attributes or attribute values




```
a[target] {  
  background-color: yellow;  
}
```

All elements with a target attribute will respect this formatting



```
a[target="_blank"] {  
  background-color: yellow;  
}
```

All elements with a target attribute equal to **_blank** will be affected



```
a[target~="_blank"] {  
  background-color: yellow;  
}
```

All elements with a target attribute that contains the word **_blank** will be affected

More at

http://www.w3schools.com/css/css_attribute_selectors.asp

CSS – what to name classes

- Class names should refer to the semantic and not to its attributes
- Useful to organized content and not the actual formatting
- One of CSS's strengths its to allow quick updates with little effort
 - For example if you need a <p> tag element class to display important text to look like:

The class should be name for example `p.important` and not `p.red_text`:

More at http://www.w3schools.com/css/css_attribute_selectors.asp

CSS – what to name classes

HTML

```
1 <a class="btn btn-danger">...</a>
2 <a class="btn btn-success">...</a>
```

CSS

```
1 .btn {
2   font-size: 16px;
3 }
4 .btn-danger {
5   background: red;
6 }
7 .btn-success {
8   background: green;
9 }
```

Exercises

Number 1 - I'm a class!

Number 2 - I'm one ID.

Number 3 - I'm a class, but cooler!

Number 4 - I'm another ID.

Number 5 - I'm a class!

Exercises

Self Check

- Do the odd numbered p elements share a class?
- Do the even numbered div elements have unique IDs?
- Does the Number 3 element have multiple classes?

Number 1 - I'm a class!

Number 2 - I'm one ID.

Number 3 - I'm a class, but cooler!

Number 4 - I'm another ID.

Number 5 - I'm a class!

Exercises

Click Me!

No, Click Me!

Exercises



Self Check

- Does each element have a unique class name?
- Did you use the grouping selector for styles that both elements share?
- Did you make separate rules for the styles unique to each element?

Exercises tpc



Exercises tpc



Self Check

- Did you properly chain class selectors for each rule?
- Does the `proportioned` image retain its original square proportions?
- Does the `distorted` image end up looking squished and, well, distorted?

Exercises

I'm just a paragraph with red text!

I'm a smaller paragraph, also with red text!

Confirm Cancel

I'm a div with green text!

I'm a div with green text and a child div!

I'm a smaller child div with red text.

Exercises

I'm just a paragraph with red text!

I'm a smaller paragraph, also with red text!

Confirm Cancel

I'm a div with green text!

I'm a div with green text and a child div!

I'm a smaller child div with red text.

Self Check

- Did you make sure to not edit the HTML file?
- If you added selectors to the CSS, do they target a valid HTML element?

Exercises

I'm just a paragraph with red text!

I'm a smaller paragraph, also with red text!

Confirm Cancel

I'm a div with green text!

I'm a div with green text and a child div!

I'm a smaller child div with red text.

Self Check

- Did you make sure to not edit the HTML file?
- If you added selectors to the CSS, do they target a valid HTML element?

CSS - pseudo-classes

Pseudo-classes classify elements on **characteristics** other than their **name**, **attributes** or **content**

The link pseudo-classes: :link and :visited

- Clients commonly display unvisited links differently from previously visited ones.
- CSS provides the pseudoclasses ':link' and ':visited' to distinguish them

```
<a class="external" href="http://out.side/">external link</a>
```

```
a.external:visited { color: blue }
```

CSS - pseudo-classes

```
a:link { color: #FF0000; } /* unvisited link */
```

```
a:visited { color: #00FF00; } /* visited link */
```

```
a:hover { color: #FF00FF; } /* mouse over link */
```

-

:active an activated or selected element

- **:focus** an element that has the keyboard focus

- **:hover** an element that has the mouse over it

- **:link** a link that has not been visited

- **:visited** a link that has already been visited

CSS - pseudo-elements

- Pseudo-elements create **abstractions** about the document tree beyond those specified by the document language.
- For instance, document languages do not offer mechanisms to access the first letter or first line of an element's content.
- CSS pseudo-elements allow style sheet designers to refer to this otherwise inaccessible information.
- :first-line**, **:first-letter**, **:before** and **:after** **pseudo-element**

CSS - pseudo-elements

first-line pseudo-element

```
p:first-line { text-transform: uppercase }
```

- The **:first-line pseudo-element** applies special styles to the contents of the first formatted line of a paragraph.

The above rule means "change the letters of the first line of every paragraph to uppercase".

- Note that the length of the first line depends on a number of factors, including the width of the page, the font size.

CSS - Linking to parts of the same page

```
<body id="top">  
  ...  
  <a href="#top">Back to top</a>  
  ...  
</body>
```


Exercise – see file nav.html

```
<!DOCTYPE html>
<html>
<body>

<ul>
  <li><a href="#home">Home</a></li>
  <li><a href="#news">News</a></li>
  <li><a href="#contact">Contact</a></li>
  <li><a href="#about">About</a></li>
</ul>

<p>Note: We use href="#" for test links. In a real web site this would be URLs.</p>

</body>
</html>
```

Exercise – see file nav.html

```
<!DOCTYPE html>
<html>
<body>

<ul>
  <li><a href="#home">Home</a></li>
  <li><a href="#news">News</a></li>
  <li><a href="#contact">Contact</a></li>
  <li><a href="#about">About</a></li>
</ul>

<p>Note: We use href="#" for test links. In a real web site this would be URLs.</p>

</body>
</html>
```

```
<a href="home.html">Home</a>
```

Exercise – see file nav.html

```
<!DOCTYPE html>
<html>
<body>

<ul>
  <li><a href="#home">Home</a></li>
  <li><a href="#news">News</a></li>
  <li><a href="#contact">Contact</a></li>
  <li><a href="#about">About</a></li>
</ul>

<p>Note: We use href="#" for test links. In a real web site this would be URLs.</p>

</body>
</html>
```

``
``
``

qualificar

TAL

X

</>

A <PROGRAMAÇÃO