



# Lesson #3: Cascading Style Sheets (CSS)

# What is CSS?



- CSS stands for *Cascading Style Sheets*.
- Styles define how to display XHTML elements.
- Styles are normally stored in style sheets.
- External style sheets can save you a lot of work.
- External Style Sheets are stored in .css files.
- Multiple style definitions will cascade into one.
- The CSS1 specification was developed in 1996. CSS2 was released in 1998. CSS3 is on its way

# Advantages of CSS



- CSS allows developers to control the style and layout of multiple Web pages all at once.
- As a Web developer you can define a style for each HTML element and apply it to as many Web pages as you want.
- To make a global change, simply change the style, and all elements in the Web are updated automatically.

# Advantages of CSS



- Style sheets allow style information to be specified in many ways.
- Styles can be specified inside a single HTML element, inside the `<head>` element of an HTML page, or in an external CSS file.
- Even multiple external style sheets can be referenced inside a single HTML document.

# The cascading effect



- All the styles will "cascade" into a new "virtual" style sheet by the following rules, where number four has the highest priority:
- 1. Browser default
- 2. External style sheet
- 3. Internal style sheet (inside the <head> tag)
- 4. Inline style (inside an HTML element)

# CSS Syntax



- The CSS syntax is made up of three parts: a *selector*, a *property* and a *value*.
- `selector {property: value}`
- The selector is normally the HTML element/tag you wish to define, the property is the attribute you wish to change, and each property can take a value. The property and value are separated by a colon, and surrounded by curly braces.
- `body {color: black}`

# CSS Syntax



- If the value is multiple words, put quotes around the value.
- `p {font-family: "sans serif"}`
- Multiples properties are separated by a ;
- `p {text-align:center;color:red}`
- You can group selectors. Separate each selector with a comma.
- `h1,h2,h3,h4,h5,h6 {color: green}`

# The class selector



- With the class selector you can define different styles for the same type of HTML element.
- `p.right {text-align: right}`  
`p.center {text-align: center}`
- You have to use the class attribute in your HTML document.
- `<p class="right">`  
This paragraph will be right-aligned.`</p>`  
`<p class="center">`  
This paragraph will be center-aligned.`</p>`

# Class, id and comments



- You can also omit the tag name in the selector to define a style that will be used by all HTML elements that have a certain class.
- `.center {text-align: center}`
- Do NOT start a class name with a number!
- The id selector is also available. You define it with a pound sign (#) instead of a dot (.).
- Comments in CSS are similar to comments in C. All statements between `/*` and `*/` are ignored.

# External style sheets



- An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the `<link>` tag. The `<link>` tag goes inside the head section.
- `<link rel="stylesheet" type="text/css" href="mystyle.css" />`
- An external style sheet can be written in any text editor. The file should not contain any html tags. Your style sheet should be saved with a `.css` extension.

# Internal style sheets



- An internal style sheet should be used when a single document has a unique style. You define internal styles in the head section by using the `<style>` tag in the head section.
- ```
<style type="text/css">
<!--
hr {color: sienna}
p {margin-left: 20px}
body {background-
image:url("images/back40.gif")}
-->
</style>
```

# Inline styles



- An inline style loses many of the advantages of style sheets by mixing content with presentation. Use this method sparingly, such as when a style is to be applied to a single occurrence of an element.
- To use inline styles you use the style attribute in the relevant tag.
- `<p style="color: sienna; margin-left: 20px">This is a paragraph</p>`

# Multiple styles



- If some properties have been set for the same selector in different style sheets, the values will be inherited from the more specific style sheet.
- If specificities are equal, the style that is defined last (closer to the actual tag) will have priority.
- ```
p {color:blue}
p {color: red}
...
<p>This is it!</p>
```
- What will be the color of that paragraph?
- What of this one? 

```
<p style="color:green">This
is it!</p>
```

# The background properties



- The CSS background properties allow you to control the background color of an element, set an image as the background, repeat a background image vertically or horizontally, and position an image on a page.
- Properties include *background*, *background-color*, *background-attachment*, *background-image*, *background-position* and *background-repeat*.
- `body {background-image:url('bgdesert.jpg')}`
- See [w3schools.com/css/css\\_background.asp](http://w3schools.com/css/css_background.asp) for more.

# The text properties



- The CSS text properties allow you to control the appearance of text. It is possible to change the color of a text, increase or decrease the space between characters in a text, align a text, decorate a text, indent the first line in a text, and more.
- `h2 {color: #336699}`
- See [w3schools.com/css/css\\_text.asp](http://w3schools.com/css/css_text.asp) for more.

# The font properties



- The CSS font properties allow you to change the font family, boldness, size, and the style of a text.
- Usually, fonts are identified by a font name. If a browser does not support the specified font, it will use a default font.
- The most common properties are *font-size*, *font-weight*, *font-family* and *font-style*.
- `p {font-size: 14px}`
- See [w3schools.com/css/css\\_font.asp](http://w3schools.com/css/css_font.asp) for more.

# The border properties



- The CSS border properties allow you to specify the style and color of an element's border. In HTML we use tables to create borders around a text, but with the CSS border properties we can create borders with nice effects, and it can be applied to any element.
- `div {border-style: solid; border-color: #0000ff}`
- See [w3schools.com/css/css\\_border.asp](http://w3schools.com/css/css_border.asp) for a detailed view of all possible properties.

# The margin properties



- The CSS margin properties define the space around elements. It is possible to use negative values to overlap content. The top, right, bottom, and left margin can be changed independently using separate properties. A shorthand margin property can also be used to change all of the margins at once.
- `p.topmargin {margin-top: 5cm}`
- See [w3schools.com/css/css\\_margin.asp](http://w3schools.com/css/css_margin.asp) for a detailed view of all possible properties.

# The padding properties



- The CSS padding properties define the space between the element border and the element content. Negative values are not allowed. The top, right, bottom, and left padding can be changed independently using separate properties. A shorthand padding property is also created to control multiple sides at once.
- `td {padding-right: 10px}`
- See [w3schools.com/css/css\\_padding.asp](http://w3schools.com/css/css_padding.asp) to learn more about these properties.

# The **list** properties



- The CSS list properties allow you to place the list-item marker, change between different list-item markers, or set an image as the list-item marker.
- `ul {list-style-image: url('arrow.gif') }`
- See [w3schools.com/css/css\\_list.asp](http://w3schools.com/css/css_list.asp) to learn more about these properties.

# The dimension properties



- The CSS dimension properties allow you to control the height and width of an element. It also allows you to increase the space between two lines.
- `p.small {line-height: 0.4cm}`  
`p.big {line-height: 0.9cm}`
- See [w3schools.com/css/css\\_dimension.asp](http://w3schools.com/css/css_dimension.asp) to learn more.

# The float properties



- With CSS float, an element can be pushed to the left or right, allowing other elements to wrap around it. Float is very often used for images, but it is also useful when working with layouts.
- The elements after the floating element will flow around it. The elements before the floating element will not be affected. If an image is floated to the right, a following text flows around it, to the left:
- `img {float:right;}`
- See [www.w3schools.com/css/css\\_float.asp](http://www.w3schools.com/css/css_float.asp)

# The **classification** properties



- The CSS classification properties allow you to control how to display an element, set where an image will appear in another element, position an element relative to its normal position, position an element using an absolute value, and how to control the visibility of an element.
- The classifications properties are among the most powerful properties in XHTML/CSS!
- See [w3schools.com/css/css\\_classification.asp](http://w3schools.com/css/css_classification.asp) to learn more.

# The positioning properties



- The CSS positioning properties allow you to specify the left, right, top, and bottom position of an element. It also allows you to set the shape of an element, place an element behind another, and to specify what should happen when an element's content is too big to fit in a specified area.
- `img.x{position:absolute; left:0px; top:0px; z-index:-1}`
- See [w3schools.com/css/css\\_positioning.asp](http://w3schools.com/css/css_positioning.asp) for more examples.

# The anchor pseudo-classes



- A link that is active, visited, unvisited, or when you mouse over a link can all be displayed in different ways in a CSS-supporting browser.
- ```
a:link {color: #FF0000}
a:visited {color: #00FF00}
a:hover {color: #FF00FF}
a:active {color: #0000FF}
```
- See [w3schools.com/css/css\\_pseudo\\_classes.asp](http://w3schools.com/css/css_pseudo_classes.asp) for more examples.

# The `:first-line` pseudo-element



- The "first-line" pseudo-element is used to add special styles to the first line of the text in a selector.
- `p {font-size: 12pt}`
- `p:first-line {color: #0000FF; font-variant: small-caps}`
- See [w3schools.com/css/css\\_pseudo\\_elements.asp](http://w3schools.com/css/css_pseudo_elements.asp) for more examples.

# The `:first-letter` pseudo-element



- The "first-letter" pseudo-element is used to add special style to the first letter of the text in a selector.
- `p {font-size: 12pt}`
- `p:first-letter {font-size: 200%; float: left}`
- See [w3schools.com/css/css\\_pseudo\\_elements.asp](http://w3schools.com/css/css_pseudo_elements.asp) for more examples.

**Y**ou can use the `:first-letter` pseudo-element to add a special effect to the first letter of a text!



# End of lesson