



# CSS – Cascading Style Sheets

## Lecture 4

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# Styling HTML with CSS

- CSS stands for **Cascading Style Sheets**
- Styles can be added to HTML in 3 ways
  - Inline - using a **style attribute** in HTML elements
  - Internal - using a **<style> element** in the HTML <head> section
  - External - using one or more **external CSS files**

# Inline CSS

- Inline CSS uses style attribute

e.g.

```
<h1 style="color:blue">This is a Blue Heading</h1>
```

# Internal CSS

- **Internal styling** is defined in the **<head>** section of an HTML page, using a **<style>** element.

```
<!DOCTYPE html>
<html>
<head>
<style>
    body {background-color:lightgrey}
    h1 {color:blue}
    p {color:green}
</style>
</head>
<body>
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>
</body>
</html>
```

# External CSS

- **External styles** are defined in an external CSS file, and then linked to in the **<head>** section of an HTML page:

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="styles.css">
  </head>
  <body>

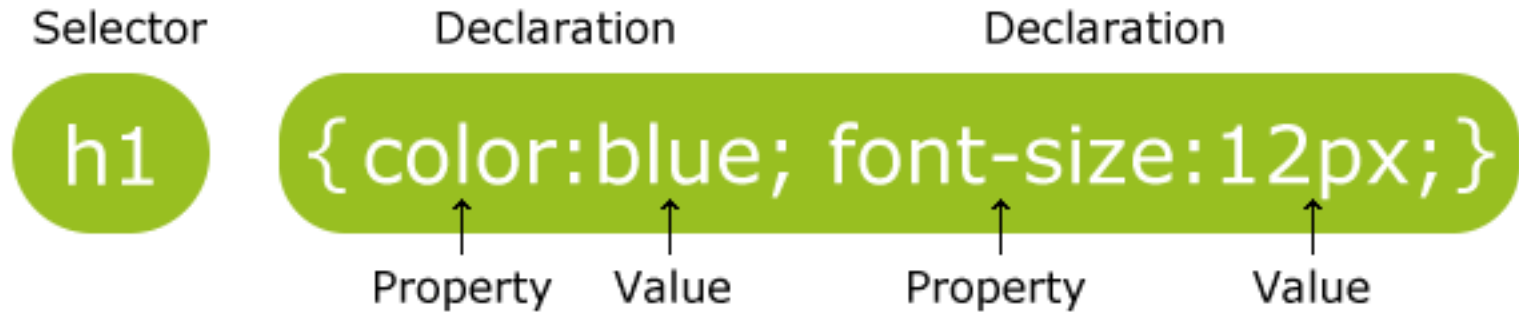
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>

  </body>
</html>
```

# CSS file

- An external style sheet can be written in any text editor.
- The file should not contain any html tags.
- The style sheet file must be saved with a **.css** extension.
- An example of a style sheet file called "**styles.css**"

# CSS Syntax



- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a property name and a value, separated by a colon.

# Example: styles.css

```
body {  
    background-color: lightblue;  
}  
  
h1 {  
    color: navy;  
    margin-left: 20px;  
}
```



# CSS background

- background-color
- background-image
- background-repeat
- background-position

# background-color:

With CSS, a color is most often specified by:

- a HEX value - like "#ff0000"
- an RGB value - like "rgb(255,0,0)"
- a color name - like "red"

```
h1 {  
    background-color: #6495ed;  
}  
  
p {  
    background-color: rgb(255,0,0);  
}  
  
div {  
    background-color: green;  
}
```

See - [http://www.w3schools.com/cssref/css\\_colornames.asp](http://www.w3schools.com/cssref/css_colornames.asp) for further information

# Background-image

```
body {  
    background-image: url("paper.gif");  
}
```

# Background Image - Repeat Horizontally or Vertically

```
body {  
    background-image: url("gradient_bg.png");  
    background-repeat: repeat-x;  
}
```

- To repeat an image vertically set **background-repeat: repeat-y;**
- To show image only once set **background-repeat: no-repeat;**

# background-position

```
body {  
    background-image: url("img_tree.png");  
    background-repeat: no-repeat;  
    background-position: right top;  
    margin-right: 200px;  
}
```

## Values:

left top  
left center  
left bottom  
right top  
right center  
right bottom  
center top  
center center  
center bottom

# CSS Text Color

```
body {  
  color: red;  
}  
  
h1 {  
  color: #00ff00;  
}  
  
p.ex {  
  color: rgb(0,0,255);  
}
```

# Text Alignment

```
h1 {  
    text-align: center;  
}  
  
p.date {  
    text-align: right;  
}  
  
p.main {  
    text-align: justify;  
}
```

## HTML FILE

```
-----  
<h1>CSS text-align Example</h1>  
<p class="date">May, 2009</p>  
<p class="main">In my younger and more  
vulnerable years my father gave me some  
advice that I've been turning over in my mind  
ever since. 'Whenever you feel like criticizing  
anyone,' he told me,  
'just remember that all the people in this  
world haven't had the advantages that  
you've had.'
```

# Text Decoration

```
h1 {  
  text-decoration: overline;  
}  
  
h2 {  
  text-decoration: line-through;  
}  
  
h3 {  
  text-decoration: underline;  
}
```

## HTML FILE

```
-----  
<h1>This is heading 1</h1>  
<h2>This is heading 2</h2>  
<h3>This is heading 3</h3>
```



# Text Transformation

```
p.uppercase {  
  text-transform: uppercase;  
}
```

```
p.lowercase {  
  text-transform: lowercase;  
}
```

```
p.capitalize {  
  text-transform: capitalize;  
}
```

```
<p class="uppercase">This is some text.</p>
```

```
<p class="lowercase">This is some text.</p>
```

```
<p class="capitalize">This is some text.</p>
```

# Text Indentation

```
p {  
  text-indent: 50px;  
}
```

<p>In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, 'just remember that all the people in this world haven't had the advantages that you've had.'

# CSS Font

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

# Font style

```
p {  
  font-style: normal;  
}
```

```
p.italic {  
  font-style: italic;  
}
```

# Font Size

```
h1 {  
  font-size: 40px;  
}
```

```
h2 {  
  font-size: 30px;  
}
```

```
p {  
  font-size: 14px;  
}
```

# Font size using em (16px=1em)

- The *em* size unit is recommended by the W3C.

```
h1 {  
    font-size: 2.5em; /* 40px/16=2.5em */  
}
```

```
h2 {  
    font-size: 1.875em; /* 30px/16=1.875em */  
}
```

```
p {  
    font-size: 0.875em; /* 14px/16=0.875em */  
}
```

# Ways to specify size in CSS

- Pixels (px)
- Pt (1/72 inch) i.e. 12 pt font
- mm, cm, in
- em, ex (for font)
- Percent % (usually of the browser window dimension)

# font-weight

```
p.normal {  
  font-weight: normal;  
}
```

```
p.light {  
  font-weight: lighter;  
}
```

```
p.thick {  
  font-weight: bold;  
}
```

```
p.thicker {  
  font-weight: 900;  
}
```

<p class="normal">This is a paragraph.</p>

<p class="light">This is a paragraph.</p>

<p class="thick">This is a paragraph.</p>

<p class="thicker">This is a paragraph.</p>

100

200

300

400

500

600

700

800

900

*Defines from thin to thick characters. 400 is the same as normal, and 700 is the same as bold*



# CSS Links

```
a:link {  
    text-decoration: none;  
    background-color: #B2FF99;  
}  
a:visited {  
    text-decoration: none;  
    background-color: #FFFF85;  
}  
a:hover {  
    text-decoration: underline;  
    background-color: #FF704D;  
}  
a:active {  
    text-decoration: underline;  
    background-color: #FF704D;  
}
```

# CSS Lists

```
ul.a {  
  list-style-type: circle;  
}  
  
ul.b {  
  list-style-type: square;  
}  
  
ol.c {  
  list-style-type: upper-roman;  
}  
  
ol.d {  
  list-style-type: lower-alpha;  
}
```

<p>Example of unordered lists:</p>

```
<ul class="a">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Coca Cola</li>  
</ul>
```

```
<ul class="b">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Coca Cola</li>  
</ul>
```

<p>Example of ordered lists:</p>

```
<ol class="c">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Coca Cola</li>  
</ol>
```

```
<ol class="d">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Coca Cola</li>  
</ol>
```

# CSS Lists - image

```
ul {  
  list-style-image: url('sqpurple.gif');  
}
```

```
<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Coca Cola</li>  
</ul>
```

# CSS Table: border

```
table, th, td {  
    border: 1px solid black;  
}
```

```
<table>  
  <tr>  
    <th>Firstname</th>  
    <th>Lastname</th>  
  </tr>  
  <tr>  
    <td>Peter</td>  
    <td>Griffin</td>  
  </tr>  
  <tr>  
    <td>Lois</td>  
    <td>Griffin</td>  
  </tr>  
</table>
```

# CSS Border

none: Defines no border

dotted: Defines a dotted border

dashed: Defines a dashed border

solid: Defines a solid border

double: Defines two borders. The width of the two borders are the same as the border-width value

groove: Defines a 3D grooved border. The effect depends on the border-color value

ridge: Defines a 3D ridged border. The effect depends on the border-color value

inset: Defines a 3D inset border. The effect depends on the border-color value

outset: Defines a 3D outset border. The effect depends on the border-color value

# Border-Collapse

```
table {  
    border-collapse: collapse;  
}
```

```
table, td, th {  
    border: 1px solid black;  
}
```

# Table Width and Height

```
table, td, th {  
  border: 1px solid black;  
}
```

```
table {  
  width: 100%;  
}
```

```
th {  
  height: 50px;  
}
```

```
<table>  
  <tr>  
    <th>Firstname</th>  
    <th>Lastname</th>  
    <th>Savings</th>  
  </tr>  
  <tr>  
    <td>Peter</td>  
    <td>Griffin</td>  
    <td>$100</td>  
  </tr>  
  <tr>  
    <td>Lois</td>  
    <td>Griffin</td>  
    <td>$150</td>  
  </tr>  
  <tr>  
    <td>Joe</td>  
    <td>Swanson</td>  
    <td>$300</td>  
  </tr>  
  <tr>  
    <td>Cleveland</td>  
    <td>Brown</td>  
    <td>$250</td>  
  </tr>  
</table>
```

# Horizontal Text Alignment

```
th {  
    text-align: left;  
}
```

*\*\* left, right, or center.*



# Vertical Text Alignment

```
table, td, th {  
    border: 1px solid black;  
}  
  
td {  
    height: 50px;  
    vertical-align: bottom;  
}
```

```
<table>  
  <tr>  
    <th>Firstname</th>  
    <th>Lastname</th>  
    <th>Savings</th>  
  </tr>  
  <tr>  
    <td>Peter</td>  
    <td>Griffin</td>  
    <td>$100</td>  
  </tr>  
  <tr>  
    <td>Lois</td>  
    <td>Griffin</td>  
    <td>$150</td>  
  </tr>  
  <tr>  
    <td>Joe</td>  
    <td>Swanson</td>  
    <td>$300</td>  
  </tr>  
  <tr>  
    <td>Cleveland</td>  
    <td>Brown</td>  
    <td>$250</td>  
  </tr>  
</table>
```

# Table Padding

- To control the space between the border and content in a table, use the padding property on `<td>` and `<th>` elements:

```
td {  
    padding: 15px;  
}
```

# Table color

```
th {  
  background-color: green;  
  color: white;  
}
```

# Border-width

```
p.one {  
  border-style: solid;  
  border-width: 5px;  
}  
  
p.two {  
  border-style: solid;  
  border-width: medium;  
}  
  
p.three {  
  border-style: solid;  
  border-width: 1px;  
}
```

```
<p class="one">Some text.</p>  
<p class="two">Some text.</p>  
<p class="three">Some text.</p>  
<p><b>Note:</b> The "border-width" property  
does not work if it is used alone. You must add  
the "border-style" property to set the borders  
first.</p>
```

# Border-color

```
p.one {  
  border-style: solid;  
  border-color: red;  
}  
  
p.two {  
  border-style: solid;  
  border-color: #98bf21;  
}
```

```
<p class="one">A solid red border</p>  
<p class="two">A solid green border</p>
```

# Border - Individual sides

```
p {  
  border-top-style: dotted;  
  border-right-style: solid;  
  border-bottom-style: dotted;  
  border-left-style: solid;  
}
```

<p>2 different border styles.</p>

# Border - Shorthand property

The border property is a shorthand for the following individual border properties:

border-width

border-style (required)

border-color

```
p {  
  border: 5px solid red;  
}
```

# CSS box model



- **Content** - The content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent



# CSS Margin

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

```
p.ex {  
  margin-top: 100px;  
  margin-bottom: 100px;  
  margin-right: 150px;  
  margin-left: 50px;  
}
```

- The margin clears an area around an element (outside the border).
- The margin does not have a background color, and is completely transparent.

<p>This is a paragraph with no specified margins.</p>

<p class="ex">This is a paragraph with specified margins.</p>

# CSS Padding

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

```
p.padding {  
  padding: 25px 50px;  
}
```

<p>This is a paragraph with no specified padding.</p>

<p class="padding">This is a paragraph with specified paddings.</p>

# Padding - Individual sides

```
p.padding {  
  padding-top: 25px;  
  padding-right: 50px;  
  padding-bottom: 25px;  
  padding-left: 50px;  
}
```

# Padding - Shorthand property

```
p.padding {  
  padding: 25px 50px;  
}
```

**padding: 25px 50px 75px 100px;**

top padding is 25px

right padding is 50px

bottom padding is 75px

left padding is 100px

**padding: 25px 50px 75px;**

top padding is 25px

right and left paddings are 50px

bottom padding is 75px

**padding: 25px 50px;**

top and bottom paddings are 25px

right and left paddings are 50px

**padding: 25px;**

all four paddings are 25px

# CSS Image

```
img {  
  opacity: 0.4;  
  filter: alpha(opacity=40); /* For IE8 and earlier */  
}  
  
img:hover {  
  opacity: 1.0;  
  filter: alpha(opacity=100); /* For IE8 and earlier */  
}
```





# Image - float

```
img {  
    float: right;  
    margin: 0 0 10px 10px;  
}
```

<p>In the paragraph below, we have added an image with style <b>float:right</b>. The result is that the image will float to the right in the paragraph.</p>

<p>



This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

This is some text. This is some text. This is some text.

</p>

# CSS3 – Rounded corners

With the CSS3 border-radius property, you can give any element "rounded corners".

```
p {  
    background-color: yellow;  
    border-radius: 25px;  
}
```

# Summary

- CSS
- CSS background
- CSS text
- CSS font
- CSS table
- CSS links
- CSS lists
- CSS image
- CSS margin
- CSS padding
- CSS border



# Resources

- [w3schools.com](https://www.w3schools.com)

# Practical

- Please see practical #3 on my website