CSC 213: Web Application Development

HTML PAGE LAYOUT DESIGN: INSERTING CSS

Lecture 5

Three Ways to Insert CSS

When a browser reads a style sheet, it will format the document according to it. There are three ways of inserting a style sheet:

- External style sheet
- Internal style sheet
- Inline style

1. External Style Sheet

- 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:

```
<head>

<link rel="stylesheet" type="text/css"
href="mystyle.css" />

</head>
```

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.

An example of a style sheet file is shown below:

```
hr {color:sienna;}

p {margin-left:20px;}

body {background-image:url("images/back40.gif");}
```

2. Internal Style Sheet

- An internal style sheet should be used when a single document has a unique style.
- You define internal styles in the head section of an HTML page, by using the <style> tag, like this:

```
<head>

<style type="text/css">

hr {color:sienna;}

p {margin-left:20px;}

body {background-image:url("images/back40.gif");}
</style>

</head>
```

3. Inline Styles

- An inline style loses many of the advantages of style sheets by mixing content with presentation.
- Use this method sparingly!
- To use inline styles you use the style attribute in the relevant tag.
- The style attribute can contain any CSS property.

The example shows how to change the color and the left margin of a paragraph:

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

Multiple Style Sheets

- 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.
- In this example, an external style sheet has these properties for the h3 selector:

```
h3

{

color:red;

text-align:left;

font-size:8pt;

}
```

And an internal style sheet has these properties for the h3 selector:

```
h3

{

text-align:right;

font-size:20pt;

}
```

If the page with the internal style sheet also links to the external style sheet the properties for h3 will be:

color:red;

text-align:right;

font-size:20pt;

The color is inherited from the external style sheet and the text-alignment and the font-size is replaced by the internal style sheet.

Multiple Styles Will Cascade into One

- Styles can be specified:
- Inside an HTML element
- Inside the head section of an HTML page
- In an external CSS file
- Note: Even multiple external style sheets can be referenced inside a single HTML document.

Cascading order

- What style will be used when there is more than one style specified for an HTML element?
- Generally speaking we can say that 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 (in the head section)

4. Inline style (inside an HTML element)

- So, an inline style (inside an HTML element) has the highest priority, which means that it will override a style defined inside the <head> tag, or in an external style sheet, or in a browser (a default value).
- **Note:** If the link to the external style sheet is placed after the internal style sheet in HTML <head>, the external style sheet will override the internal style sheet!

CSS BACKGROUND

CSS background properties are used to define the background effects of an element. CSS properties used for background effects:

1. Background-color

2. Background-image

3. Background-repeat

4. Background-attachment

5. Background-position

1. ***Background Color***

- The background-color property specifies the background color of an element.
- The background color of a page is defined in the body selector:
- *Example*
- Body {background-color:#b0c4de;}

With CSS, a color is most often specified by:

1. A HEX value - like "#ff0000"
2. An RGB value - like "rgb(255,0,0)"
3. A color name - like "red"

In the example below, the h1, p, and div elements have different background colors:

Example

h1 {background-color:#6495ed;}

{background-color:#e0ffff;} div {background-color:#b0c4de;}

2. Background Image

The background-image property specifies an image to use as the background of an element.

By default, the image is repeated so it covers the entire element.

The background image for a page can be set like this:

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

3. *Background Image - Repeat Horizontally or Vertically*

- By default, the background-image property repeats an image both horizontally and vertically.
- If the image is repeated only horizontally (repeat-x):

Example

```
body

{

background-image:url('gradient2.png');

background-repeat:repeat-x;

}
```

Background Image - Set position and no-repeat

When using a background image, use an image that does not disturb the text.

Showing the image only once is specified by the background-repeat property:

```
body
 {
 background-image:url('img_tree.png');
 background-repeat:no-repeat;
 }
```

The position of the image is specified by the background-position property:

Example

```
body

{

background-image:url('img_tree.png');

background-repeat:no-repeat;

 background-position:right top;

}
```

Background - Shorthand property

As you can see from the examples above, there are many properties to consider when dealing with backgrounds.

To shorten the code, it is also possible to specify all the properties in one single property.

This is called a shorthand property.

The shorthand property for background is simply "background":

```
body {background:#ffffff url('img_tree.png') no-repeat right top;}
```

When using the shorthand property the order of the property values are:

1. Background-color

2. Background-image

3. Background-repeat

background-attachment

background-position

It does not matter if one of the property values is missing, as long as the ones that are present are in this order.

CSS Text

Text Color

The color property is used to set the color of the text.

The default color for a page is defined in the body selector.

Example

```
body {color:blue;}

h1 {color:#00ff00;}

h2 {color:rgb(255,0,0);}
```

Text Alignment

- The text-align property is used to set the horizontal alignment of a text.
- Text can be centered, or aligned to the left or right, or justified.
- When text-align is set to "justify", each line is stretched so that every line has equal width, and the left and right margins are straight (like in magazines and newspapers).

Example

```
h1 {text-align:center;}

p.date {text-align:right;}

p.main {text-align:justify;}
```

Text Decoration

The text-decoration property is used to set or remove decorations from text.

The text-decoration property is mostly used to remove underlines from links for design purposes:

Example

```
a {text-decoration:none;}
```

It can also be used to decorate text:

Example

```
h1 {text-decoration:overline;}

h2 {text-decoration:line-through;}

h3 {text-decoration:underline;}
h4 {text-decoration:blink;}
```

Note: It is not recommended to underline text that is not a link, as this often confuses users.

Text Transformation

The text-transform property is used to specify uppercase and lowercase letters in a text.

It can be used to turn everything into uppercase or lowercase letters, or capitalize the first letter of each word.

Example

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

p.lowercase {text-transform:lowercase;}

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

Text Indentation

The text-indentation property is used to specify the indentation of the first line of a text.

Example

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

CSS Font

- CSS font properties define the font family, boldness, size, and the style of a text.

On computer screens, sans-serif fonts are considered easier to read than serif fonts.

CSS Font Families

- In CSS, there are two types of font family names:
-
- Generic family - a group of font families with a similar look (like "Serif" or "Monospace")
-
- Font family - a specific font family (like "Times New Roman" or "Arial")

CSS Font Families

Generic family	Font family	Description
Serif	Times New Roman Georgia	Serif fonts have small lines at the ends on some characters
Sans-serif	Arial Verdana	"Sans" means without - these fonts do not have the lines at the ends of characters
Monospace	Courier New Lucida Console	All monospace characters have the same width

Font Family

- The font family of a text is set with the font-family property.
- The font-family property should hold several font names as a "fallback" system.
- If the browser does not support the first font, it tries the next font.
- Start with the font you want, and end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available.

Note: If the name of a font family is more than one word, it must be in quotation marks, like:

font-family: "Times New Roman".

More than one font family is specified in a comma-separated list:

Example

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

Font Style

The font-style property is mostly used to specify italic text. This property has three values:

normal - The text is shown normally

italic - The text is shown in italics

oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

- *Example*
-
- p.normal {font-style:normal;}
-
- p.italic {font-style:italic;}

- p.oblique {font-style:oblique;}

Font Size

- The font-size property sets the size of the text. Being able to manage the text size is important in web design.
- However, you should not use font size adjustments to make paragraphs look like headings, or headings look like paragraphs.
- Always use the proper HTML tags, like <h1> - <h6> for headings and <p> for paragraphs. The font-size value can be an absolute, or relative size.

Absolute size: Sets the text to a specified size

Does not allow a user to change the text size in all browsers (bad for accessibility reasons)

Absolute size is useful when the physical size of the output is known

Relative size: Sets the size relative to surrounding elements

Allows a user to change the text size in browsers

Note: If you do not specify a font size, the default size for normal text, like paragraphs, is 16px (16px=1em).

Set Font Size With Pixels

Setting the text size with pixels, gives you full control over the text size:

Example

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

h2 {font-size:30px;}

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

The example above allows Firefox, Chrome, and Safari to resize the text, but not Internet Explorer.

The text can be resized in all browsers using the zoom tool (however, this resizes the entire page, not just the text).

Set Font Size With Em

- To avoid the resizing problem with Internet Explorer, many developers use em instead of pixels.
- The em size unit is recommended by the W3C. 1em is equal to the current font size.
- The default text size in browsers is 16px. So, the default size of 1em is 16px.
- The size can be calculated from pixels to em using this formula: pixels/16=em

Example

```
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 */
```

In the example above, the text size in em is the same as the previous example in pixels. However, with the em size, it is possible to adjust the text size in all browsers.

CSS Links