



Introduction to CSS

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What is CSS?

- Cascading Style Sheets
 - **Styles** define *how to display* HTML elements; styles are normally stored in **Style Sheets**
 - “**Cascading**” refers to the fact that each different style declaration can be “cascaded” under the one above it, forming a parent-child relationship between the styles.
- In order to tell browsers how the content should be displayed, we use CSS:
 - New language, completely separate from HTML
 - Works by defining rules, and where these rules are applied in the document





Examples of What Can Be Achieved with CSS

Illustrative examples of what can be achieved by *separating* content and presentation:

http://www.w3schools.com/css/demo_default.htm

<http://www.csszengarden.com/>

- The HTML page always remains the same
- By selecting different CSS changes entire look





Some Advantages of CSS

- Excellent addition to plain HTML
 - The design of Web pages is separated from the content!
- Easily change the look; shorter development time
 - One CSS – multiple Web pages
- Offers much more detailed attributes
- Faster download time





CSS Rules and Style Sheets

- Rule: A *rule* is a statement about one stylistic aspect of one or more elements.
=> **CSS Syntax**
- Style Sheet: A *style sheet* is a set of one or more rules that apply to an HTML document.





Overview of CSS Syntax (1)

- General syntax:

selector {property: value}

- Three parts:
 - *selector* - the basic HTML tag to be defined
 - *property* - the attribute of the selector to be changed
 - *value* - the particular markup value for the given attribute
- Example:

body {color: black}





Overview of CSS Syntax (2)

- If the value has multiple words, put the value in quotes, e.g.
`p {font-family: "sans serif" }`
- Multiple properties can be specified to a single selector; properties must be separated by a semicolon, e.g.
`p {text-align: left; color: red }`
- To make properties more readable, use separate lines, e.g.

```
p { text-align: center;
    color: navy;
    font-family: arial
}
```





CSS Syntax - Grouping

- Selectors can be grouped so that a common property can be specified, e.g.

```
h1,h2,h3,h4,h5,h6  
{ color: red }
```

```
<h1> This is a level 1 heading </h1>
```

```
<h2> This is a level 2 heading </h2>
```





CSS Syntax – The *Class* Selector

- The *class* selector is used to create different styles for the same HTML element:

```
p.right { text-align: right }  
p.center { text-align: center }
```
- In the HTML, the *class* attribute is used, e.g.

```
<p class="right">  
    This paragraph will be right aligned.  
</p>
```





CSS Syntax – The *Class* Selector

- A class selector can be created free of a tag name if all tags that have that class have to be formatted the same, e.g.

```
.right { text-align: right }
```

- Any tag with a “right” class will be right aligned

```
<h1 class="right">
```

This heading will be right aligned

```
</h1>
```

```
<p class="right">
```

So will this paragraph

```
</p>
```





CSS Syntax – The *Id* Selector

- The *id* selector can apply to one, unique element (compared to the *class* selector which can apply to several different elements), e.g.

```
p#para1 { text-align: right;  
          color: red }
```

```
<p id="para1">
```

This text would be right aligned and red

```
</p>
```





CSS Syntax - Comments

- Comments open with `/*` and are closed with `*/`

`/* This is a comment */`

`P { color: red;`

`/* This is another comment */`

`Font-family: arial }`





Inserting a Style Sheet

- External
- Internal
- Inline
- Using multiple sheets





External CSS

- An external style sheet can be written in any text editor
 - The file should not contain any html tags
 - The style sheet should be saved with a .css extension
- Connection made via the LINK tag; use the optional TYPE attribute to specify a media type
 - text/css
- How to insert an external CSS:
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css" />
</head>





Internal CSS

- Style characteristics are embedded in the HEAD section of the webpage
- Usually best used when a single page requires a unique style sheet
- How to insert an internal CSS:

```
<head>
```

```
<style type="text/css">
```

```
p {color: red}
```

```
body {margin-left: 20px}
```

```
</style>
```

```
</head>
```





Inline CSS

- Least flexible
- Requires each element to be tagged if they have to appear differently
- Loses the advantage of using CSS
- How to insert an inline CSS

```
<p style="color: red; font-family: arial">
```

This is a paragraph.

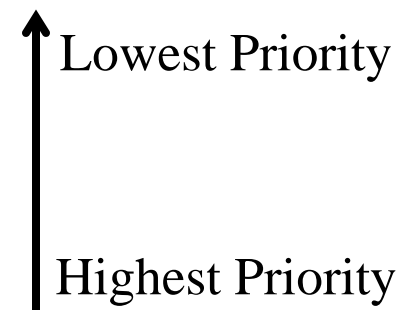
```
</p>
```





Using multiple sheets

- Multiple sheets can be used to define the style of one document
 - Multiple styles will “cascade” into one
- Internal styles will override external styles, if they are duplicated
- Cascading order:
 1. Browser default
 2. User style sheet
 3. External style sheet
 4. Internal style sheet
 5. Inline style





Alternative Page Style Sheets

- Alternative page style sheets can be constructed and changed from the browser, e.g.

```
<link rel=stylesheet title="Gold" href="../threepart-f.css"
      media="screen, print, projection, tv">
```

```
<link rel="alternate stylesheet" title="Oldstyle"
      href="http://www.w3.org/StyleSheets/Core/Oldstyle">
```

```
<link rel="alternate stylesheet" title="Modernist"
      href="http://www.w3.org/StyleSheets/Core/Modernist"
      ">
```

.....





CSS Properties (1)

- *Background* - define the background effects of an element, e.g.

```
<head>
  <style type="text/css">
    body {background-color: red}
    h2 {background-color: transparent}
  </style>
</head>
```

- *Text* - define the appearance of text, e.g.

```
<style type="text/css">
  h1 {color: #00ff00}
  p {color: rgb(0,0,255)}
</style>
```





CSS Properties (2)

- *Font* - define the font in text, e.g.

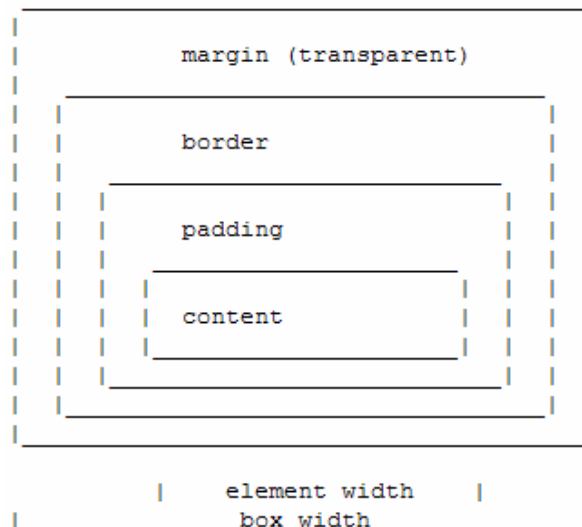
```
<style type="text/css">  
  h1 {font-style: italic}  
  h2 {font-style: normal}  
</style>
```
- *List* - allow you to place the list-item marker, change between different list-item markers, or set an image as the list-item marker





CSS Properties (3)

- *Border* - define the borders around an element
- *Margin* - define the space around elements
- *Padding* - define the space between the element border and the element content





Conclusions

- Using CSS, one can specify the general formatting of HTML elements
 - External style sheets should be used to share styles across all documents on a Web site
 - Class definitions allow one to define multiple styles for an HTML element
- Not all styles supported by all browsers!
- Use the CSS Validator at <http://jigsaw.w3.org/css-validator/>





Additional Resources

- http://en.wikipedia.org/wiki/Cascading_Style_Sheets
- <http://www.w3schools.com/css/>
- <http://www.w3.org/Style/CSS/>
- <http://www.htmlgoodies.com/beyond/css/>

+ many other resources/tutorials on the Web





Homework 2

- Create two different CSS (one internal and one external) for the Web page developed in Homework 1
- The two CSS should contain different styles for at least the:
 - Background
 - Text
 - Font
 - Classes
 - IDs

