

## Cascaded Style Sheets - CSS

- ❖ CSS provides format specifications for XHTML/HTML structural elements
- ❖ Three ways to create **Style Definitions**
  - ◆ **Inline Styles** = Format for single element
  - ◆ **Embedded CSS** = Format all similar elements in an XHTML document
  - ◆ **External CSS** = Link to external CSS file that may be shared by many html documents
- ❖ Two types of **Style Sheet Rules**
  - ◆ **Redefined Element** = Presentation specification for existing XHTML element
  - ◆ **Style Class** = Presentation specification which can be applied to any element

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## Anatomy of a Style

- ❖ **Inline Style Definition**  
`<p style = "font-size: 20pt; color: #0000FF">`
- ❖ **Style Sheet Rule (Embedded CSS & External CSS)**  
`h1 { font-family:arial, sans-serif; color:#009900}`
- ❖ **Listing of all CSS Properties**  
<http://www.htmlhelp.com/reference/css/properties.html>

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## Inline Style Example

```
<head>
  <title>Inline Style
</head>
<body>
  <p style="font-size: 12pt; font-family: Arial;" >This is a
  test of setting various text style attributes:<br />
  Here is some
  <strong style="font-size: 18pt; font-weight: 700">
  Strong</strong> text, </p>
  <h3 style="color: #0000FF" >Blue H3 Text</h3>
  <p>Text that is <em>Emphasized</em>
  can look like this. </p>
</body>
```

This is a test of setting various text style attributes:  
 Here is some **Strong** text,  
 Text that is *Emphasized* can look like this.

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## Embedded Style Sheet with Redefined Elements

```
<head>
  <title>Embedded CSS Example</title>
  <style type="text/css">
  /**/
  body { background-color: #FFFFFF; color: #000000 }
  p { font-family: Arial, Helvetica, sans-serif;
  font-size: 12pt}
  strong { font-size: 18pt; font-weight: 600 }
  h3 { color: #0000FF }
  em { font-size: 14pt; font-style: italic;
  text-transform: uppercase; color: #990000;
  background-color: #CCFFFF}
  /*]]&gt;*/
  &lt;/style&gt;
&lt;/head&gt;
&lt;body&gt;
  &lt;p&gt;This is a test of setting
  various text style
  attributes:&lt;br /&gt;
  Here is some &lt;strong&gt;Strong&lt;/strong&gt; text,&lt;/p&gt;
  &lt;h3&gt;Blue H3 Text&lt;/h3&gt;
  &lt;p&gt;Text that is &lt;em&gt;Emphasized&lt;/em&gt; can look like this.&lt;/p&gt;
&lt;/body&gt;</pre>
<div style="border: 1px solid black; padding: 5px; margin: 10px 0;">
<p>This is a test of setting various text style attributes:<br/>
    Here is some <b>Strong</b> text,<br/>
    Blue H3 Text<br/>
    Text that is <b>EMPHASIZED</b> can look like this.</p>
</div>
<p style="text-align: right; font-size: small;">Copyright © 2005 R.M. Laurie 4</p>
</div>
<div data-bbox="92 899 290 922" data-label="Page-Footer">
<p>Copyright © 2005 R.M. Laurie</p>
</div>
<div data-bbox="895 902 908 921" data-label="Page-Footer">
<p>1</p>
</div>
```

### *External Style Sheet with Redefined Elements*

```

<head>
<title>Embedded CSS Example</title>
<link rel="stylesheet" type="text/css" href="example2.css" />
</head>
<body>
<p>This is a test of setting
various text style
attributes:<br />
Here is some <strong>Strong</strong> text,</p>
<h3>Blue H3 Text</h3>
<p>Text that is <em>Emphasized</em> can look like this.</p>
</body>

```

This is a test of setting various text style attributes. Here is some **Strong** text,  
Blue H3 Text  
 Text that is *EMPHASIZED* can look like this.

```

/* example2.css file that is linked to from html document */
body { background-color: #FFFFFF; color: #000000 }
p { font-family: Arial, Helvetica, sans-serif; font-size: 12pt }
strong { font-size: 18pt; font-weight: 600 }
h3 { color: #0000FF }
em { font-size: 14pt; font-style: italic; text-transform: uppercase;
color: #990000; background-color: #CCFFFF }

```

### *Resume Example without CSS*

```

<body>
<h2>Academic Employment Experience:</h2>
<h3>University of Guam</h3>
<h4>Taught courses with the following content:</h4>
<ul>
<li>Web Site Design: XHTML, CSS, Web Graphics</li>
<li>Introduction to Programming: JavaScript, DOM</li>
<li>Database Management Systems: MS Access, ERD</li>
<li>Developmental Mathematics: Arithmetic to Algebra</li>
</ul>
</body>

```

Academic Employment Experience:

University of Guam

Taught courses with the following content:

- Web Site Design: XHTML, CSS, Web Graphics
- Introduction to Programming: JavaScript, DOM
- Database Management Systems: MS Access, ERD
- Developmental Mathematics: Arithmetic to Algebra

### *External Style Sheet with Redefined Elements*

```

<head>
<title>Resume</title>
<link rel="stylesheet" href="03_Experience.css" type="text/css">
</head>

```

```

/* External CSS File 03_Experience.css */
body { background-color:#FFFCC; color:#000033; }
h2 {margin-top:8pt; margin-bottom:4pt;
font-weight:900; letter-spacing:2pt; font-size: 16pt;
font-family:"Verdana","Arial"; color:#003399; }
h3 {margin-top:4pt; margin-bottom:2pt; margin-left:10pt;
font-weight:700; letter-spacing:1pt; font-size:14pt;
font-family:"Verdana","Arial"; color:#996600; }
h4 {margin-top:2pt; margin-bottom:2pt; font-weight:400;
margin-left:20pt; font-size:12pt;
font-family:"Georgia","Times New Roman"; }
ul {font-size:12pt; font-family:"Georgia","Times New Roman";
margin-top:4pt; margin-bottom:2pt; margin-left:40pt; }
li { list-style-image:url(bltdiamond.gif); list-style-position:outside;}

```

## *Inheritance and Precedence*

- ❖ **Inheritance**
  - ◆ Child (Inline) elements inherit Parent (Block-Level) elements styles
    - ◆ <p>Text is <em>Emphasized</em> looks like.</p>
    - ◆ <body><p><b>Inline <i>styles</i></b> can be</p> nested.</body>
- ❖ **Precedence = Style Conflict Resolution**
  - ◆ External CSS (Lowest)
    - Embedded CSS
    - Inline Styles (Highest)
  - ◆ Document Elements (Lowest) → Block Level → Inline
    - Inner Nested Inline (Highest)
  - ◆ User Agent = Browser default (Lowest)
    - User = Browser defined
    - Author (Highest)

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## Style Sheet Classes

- ❖ **Class** = custom style specification not associated with a specific xhtml element
- ❖ Style Sheet Rule **Class Identifier** is preceded with dot
  - .important { text-decoration: underline; }
  - .Passing { color: #00FF00; font-style: italic; }
  - .MakeRedAndBold { color: #FF0000; font-weight: 800; }
- ❖ A Style Sheet Class can be selected for an element using the element's **class** attribute
  - <strong class="Passing">Grade = Pass</strong>
  - <p class="important">For Score &lt; 60 then F</p>
  - <h2 class="MakeRedAndBold">Grade = Fail</h2>

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### Style Sheet Classes Example

Bob: Grade = Pass  
 For Score < 60 then F

Henry:  
Grade = Fail

```

<head>
<title>Quiz Results</title>
<style type="text/css">
/**]
p { font-family: Verdana, Arial; font-size: 12pt }
.important { text-decoration: underline; }
.Passing { color: #00FF00; font-style: italic; }
.MakeRedAndBold { color: #FF0000; font-weight: 800 }
/* ]]&gt;*/
&lt;/style&gt;
&lt;/head&gt;
&lt;body&gt;
&lt;p&gt;Bob:
&lt;strong class="Passing"&gt;Grade = Pass&lt;/strong&gt;&lt;/p&gt;
&lt;p class="important"&gt;For Score &amp;lt; 60 then F&lt;/p&gt;
Henry: &lt;h2 class="MakeRedAndBold"&gt;Grade = Fail&lt;/h2&gt;
&lt;/body&gt;
    </pre>
</div>
<div data-bbox="105 530 458 874" data-label="Complex-Block">
<h2 style="text-align: center;">Style Sheet Selectors and Span and Div</h2>
<ul style="list-style-type: none;">
<li>❖ <b>Context Selector</b> (Occurrences of em in h1)
            <pre>h1 em { color:#FF0000; font-weight: 800; }</pre>
<table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;">
<tr>
<td style="padding: 2px;">Context</td>
<td style="padding: 2px;">Name</td>
<td style="padding: 2px;">Property</td>
<td style="padding: 2px;">Value</td>
<td style="padding: 2px;">Property</td>
<td style="padding: 2px;">Value</td>
</tr>
</table>
</li>
<li>❖ <b>Class and id Selector</b>
<table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;">
<tr>
<td style="padding: 2px;">Name</td>
<td style="padding: 2px;">Class</td>
</tr>
</table>
<pre>.important { text-decoration: underline; }
em.important { text-decoration: #CC0000; }
div#dvBack { position:absolute; left: 30px; top: 40px }</pre>
<table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;">
<tr>
<td style="padding: 2px;">Name</td>
<td style="padding: 2px;">id</td>
</tr>
</table>
</li>
<li>❖ <b>&lt;span&gt;</b> Inline element has no inherent format</li>
<li>❖ <b>&lt;div&gt;</b> Block-level element is used to define a division in a document. May include other block level elements.</li>
</ul>
<p style="text-align: right; font-size: small;">Copyright © 2005 R.M. Laurie 11</p>
</div>
<div data-bbox="530 530 889 874" data-label="Complex-Block">
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">
        This is a test of setting various text style classes:<br/>
        Here is some <span style="color: green; font-weight: bold;">Strong</span>text,<br/>
        And some Green Text<br/>
        This is a test of <span style="border: 2px solid red; padding: 2px;">H3 Bordered Red</span> Text<br/>
<span style="border: 2px solid red; padding: 2px; display: inline-block;">Back</span>
</div>
<pre style="border: 1px solid black; padding: 10px;">
&lt;head&gt; &lt;title&gt;Class Example&lt;/title&gt;
&lt;style type="text/css"&gt;
/*<![CDATA[*]
body { background-color: #FFF9CC; color: #990000; }
p { font-family: Arial; font-size: 12pt }
h3 { color: #0000FF }
.MakeGreen { color: #00FF00 }
.MakeRedAndBox { color: #FF0000; border: 8px #FF0000 double }
/* ]]&gt;*/ &lt;/style&gt;
&lt;/head&gt;
&lt;body&gt;
&lt;p&gt;This is a test of setting various text style classes:
&lt;br /&gt;Here is some
&lt;strong class="MakeGreen"&gt;Strong&lt;/strong&gt;text,&lt;br /&gt;
&lt;span class="MakeGreen"&gt;And some Green Text&lt;/span&gt;&lt;/p&gt;
&lt;h3&gt;This is a test of
&lt;span class="MakeRedAndBox"&gt;H3 Bordered Red&lt;/span&gt;Text&lt;/h3&gt;
&lt;div class="MakeRedAndBox" style="width:200px"&gt;
&lt;img src="btBackN.gif" height="29" width="59" /&gt;&lt;/div&gt;
&lt;/body&gt;
    </pre>
</div>
<div data-bbox="92 899 290 922" data-label="Page-Footer">
<p>Copyright © 2005 R.M. Laurie</p>
</div>
<div data-bbox="892 901 911 921" data-label="Page-Footer">
<p>3</p>
</div>
```