

Session 5

Style Sheets (CSS)

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Reading

■ Reading - Style Sheet Tutorials

www.htmldog.com/guides/cssbeginner/ - beginner's guide
www.westciv.com/style_master/academy/css_tutorial/index.html
www.webreference.com/html/tutorials/ - Tutorials 5, 6, and 8
www.hotdesign.com/seibold/index.html

■ For conversion of common HTML attributes to CSS

css.nu/articles/translate.html
www.digital-web.com/tutorials/tutorial_2001-5.shtml
www.digital-web.com/tutorials/tutorial_2002-06.shtml
aamcf.co.uk/html/attr

■ A great reference containing tables of CSS properties - and lots more

<http://www.blooberry.com/indexdot/css/index.html>

■ Another good reference

<http://home.tampabay.rr.com/bmerkey/cheatsheet.htm>

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Lecture Objectives

- Understand the advantages of CSS style sheets in HTML documents
- Become familiar with the syntax of CSS
- Learn how to recognize styling in HTML that can be moved into a CSS style sheet

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Limitations of HTML

- Maintenance
- Site compatibility
- Quick change to a site look and feel
- User overrides
- Handled by other User Agents

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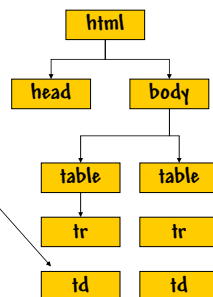
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Styling in HTML

- In pure HTML, viewing information is included in the HTML tag

```
<td width="20" bgColor="#333399">
```

Styling is usually contained within the tag - and applies to that element



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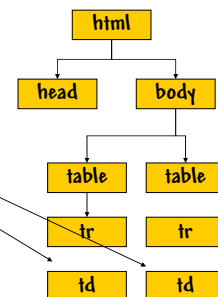
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Styling in HTML/CSS

- With style sheets (CSS), styling information is contained within a style sheet

```
td {color:#333399;}
```

Styling is usually contained within a style sheet - and applies to any matching element



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What are Style Sheets?

- A way to separate the appearance of Web pages from the content of Web pages
 - HTML should not contain information about how data is displayed
- A recommendation of the W3C
- A way to standardize appearance for many pages in a Web site
- Contained within
 - A text file (with a .css suffix) written according to a grammar (CSS 1 or CSS 2)
 - An HTML Style tag
 - Your browser

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Do Many Web Sites Use Style Sheets?

- Use is increasing today, but most of it is auto generated - not designed for the site
- Browser support is vastly improved for current browsers
 - IE - all of CSS 1 (with some bugs) in 6.0; IE 7.0 only slightly improved
 - Opera - all of CSS 1 and most of CSS 2
 - Firefox - all of CSS 1 and most of CSS 2
- Many companies / people are not aware of the technology

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Style Sheet Example

Selector Each of these statements is called a rule set

```
body
{font-family: verdana, "minion web", helvetica,
sans-serif;
font-size: 1em;
text-align: justify;}
```

Property Property value

```
code
{font-family: courier, sans-serif;
font-size: 1em;}
```

Final ";" in a list is not required, but it is good style to use it

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Selectors

- Selectors specify how to apply a given style to the html document. Possibilities include:
 - All of the elements `td {color:#333399;}`
 - Some of the elements `td.some {color:#333399;}`
 - One of the elements `td#one {color:#333399;}`

To apply to elements, the affected elements are coded as

The token (in this case "some") can be any string

```
<td class="some">
<td id="one">
```

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Selectors

- A selector token can also match to any element
- The id attribute is used to match a single token
- You can also use a pseudoclass (represents a special characteristic of an element)
- Examples:

```
.danger { color: red; }
a:link { color: green; }
a:visited { color: red; }
```

The components of the anchor element where the link has been visited

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Some Selector Types

- HTML element or list of elements (e.g., body, table, h1)
- Class (used in conjunction with the new 4.0 class attribute, as in:

```
.instruction {statements}
```

and

```
<p class="instruction">
```
- Pseudo-selectors (e.g., mouseover changes, first line & first letter)

```
a:anchor { background-color: yellow }
```
- Contextual (e.g., paragraphs inside lists)
- Link (normal, visited, active, hover)

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HTML Object Model

- Remember that we can think of the HTML document as a tree of elements
- Well, that tree is the containment hierarchy of the document (or the browser object model of the document)
- Elements can be forced to inherit properties from the elements that contain them (parent elements)
- Some properties are not inherited
- Styling properties can be assigned to high level containing elements (e.g., body)

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CSS Syntax

- Every CSS file contains a series of statements
- A statement:
 - Identifies the elements it affects
 - Suggests how the element will be presented to the user
- A rule-set statement contains a selector and any number of directives enclosed in {}

```
body
{font-family: verdana, "minion web", helvetica,
  sans-serif;
font-size: 1em;
text-align: justify;}
```

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Properties

- | Categories | Values |
|---|------------|
| Text style | Length |
| Text layout | Percentage |
| Background | URL |
| Border | Color |
| Margin | Keyword |
| Padding | Others |
| Page layout (absolute, fixed, relative, static) | |
| Element type | |
| User interface (cursor, focus-outline) | |

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Typical Values

- Units
 - Absolute values (in, cm, mm, pt, em, px)
 - Relative values (large, percentage)
- Colors
 - RGB
 - Shorthand notation
 - Percentage primary color contribution
- Font
 - Family (serif, sans serif, monospace)
 - Weight
 - Size

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div and span Elements

- In pure HTML, you can apply styling to a collection of elements by enclosing them in a styling element (e.g., font, center, b)
`Forgot Password?`
- These styling elements are not allowed in Strict HTML, so you enclose elements in a container - and then apply styling to the container
- In HTML, the containers are
 - div - for block elements
 - span - for in-line elements

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How Do You Convert Spacing

- CSS assumes that the page is presented by displaying a collection of blocks
- Each block is displayed using the CSS box model



Values of the padding, border, and margin can be set to 0

Sides can be set individually or for the entire box

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How to Refer to the Style Sheet

- Embedded (in the HEAD element of the HTML):

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

- Linked (to an external .css file):

```
<link rel="stylesheet" type="text/css"
href="http://www.westciv.com.au/style/style.css">
```

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How Do I Convert to Style Sheets?

- Look for HTML styling tags (bold, italic, bgcolor)
- Validate a document with Strict (4.01 or xhtml) - many styling tags/properties will be identified since they are not supported in Strict
- Replace flagged properties with a style sheet
- Look for repeated patterns (e.g. a few style principles for paragraph elements)

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Style Sheets Through Tidy

- Save your HTML to your hard disk
- Use Tools/Quick Tools/Convert (or GUI Tidy) to generate a style sheet
- Examine generated style sheet
- Save and revalidate
- Correct errors and replace the doctype statement with a 4.0 Strict statement - revalidate
- Can you remove any of the generated class selector types (e.g., c4)?

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Tools to Help with Style Sheets

- Tools for conversion to CSS and for validation are identified in the References section of the class home page
 - GUI Tidy
 - nVu
 - Dreamweaver

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Assignment 2b

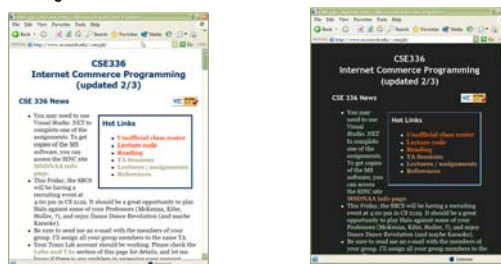
- Using the Project 1 IBM Web page you previous validated for XHTML Transitional (or HTML 4.01 Transitional)
 - Correct any remaining errors identified by the XHTML Strict (hint: replace the DOCTYPE tag to identify the document as a XHTML Strict document)
 - Include an internal style sheet in the document (an internal style sheet is easier to work with during debugging)
 - Replace HTML styling (identified as XHTML Strict errors) with style sheet information
 - Replace internal style sheet with a linked style sheet
- Test your page with other style sheets, e.g., the W3C core styles (this part does not need to be perfect - don't put too much time into it)

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Assignment 2b Style Example

left `<link rel="stylesheet" type="text/css" href="http://www.w3.org/StyleSheets/Core/Steely">`
right `<link rel="stylesheet" type="text/css" href="http://www.w3.org/StyleSheets/Core/Chocolate">`



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Assignment 2c - Extra Credit

- If the regular 2b assignment is too easy, and you have some extra time:
- Continue to improve the IBM html by removing all the tables (you should be able to replace the tables with div and span elements, along with some advanced styling)
- Points (0-2) added to your mid-term#1 exam score
- Check out:
 - Zen Garden - <http://www.csszengarden.com/>
 - CSS Design without tables
<http://www.sitepoint.com/books/css1/>

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Example

```
H1, H2, H3, H4, H5, H6, DT, TH, THEAD, TFOOT {
  color: rgb(245,245,245);
  background: #212121;
}
A:link {
  text-decoration: none;
  font-weight: bold;
  color: #F60;
  background: #212121;
}
A:visited {
  text-decoration: none;
  font-weight: bold;
  color: #C9C;
  background: #212121;
}
...
```

Look at
CSE336
Web site

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Have You Satisfied the Lecture Objectives

- Understand the advantages of CSS style sheets in HTML documents
- Become familiar with the syntax of CSS
- Learn how to recognize styling in HTML that can be moved into a CSS style sheet

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