Session 4

Style Sheets (CSS)

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Reading & References

▌ **Reading**

en.wikipedia.org/wiki/Css

▌ **Style Sheet Tutorials**

www.htmldog.com/guides/cssbeginner/

▌ **A reference containing tables of CSS properties**

web.simmons.edu/~grabiner/comm244/weekthree/css-basic-properties.html

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Learning Objectives

- Understand the advantages of CSS style sheets in HTML documents
- Become familiar with the syntax of CSS

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Limitations of HTML

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

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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

html

head   body

table   table

tr   tr

td   td
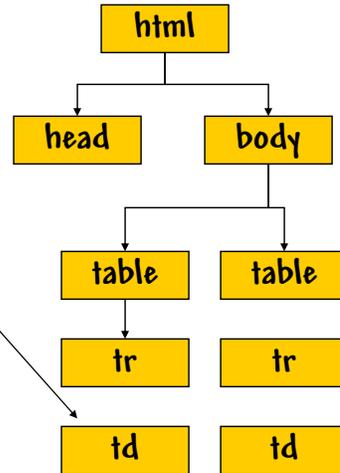
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Styling in HTML/CSS

▮ 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

html

head   body

table   table

tr   tr

td   td
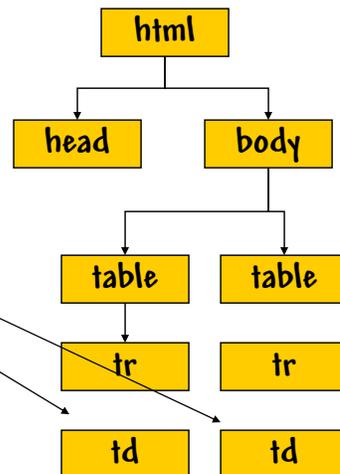
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What are Style Sheets?

- 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, CSS 2, CSS 2.1, CSS 3, or CSS 4)
  - An HTML style tag
  - Your browser

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Do Many Web Sites Use Style Sheets?

- In wide use today, most of it is auto generated by an html generation tool
- Browser support
  - Vastly improved for current browsers
  - Variations in display are possible

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Style Sheet Example

Selector   Each of these CSS statements contains directives, referred to as 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

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

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

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Selectors

- A selector token can match to
  - multiple elements (class attribute)
  - A single token (id attribute)
- You can also use a psuedoclass (represents a special characteristic of an element)
- Examples:

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

Also visited and hover

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, as in:

```
.instruction {css 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)

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CSS Syntax

▌ Every css file contains a series of statements

▌ A statement:

   ▌ Identifies the elements it affects (selector)

   ▌ Suggests how the element will be presented to the user (directive properties)

▌ 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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How to Refer to the Style Sheet

▌ As an attribute in a tag   Syntactically correct, but not a good abstraction

```
<body style="background-color:#FC6">
```

▌ Embedded (in the head element of the HTML):

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

Good for debugging

▌ Linked (to an external .css file):

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

Good for production

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Properties

Categories
- Text style
- Text layout
- Background
- Border
- Margin
- Padding
- Page layout (absolute, fixed, relative, static)
- Element type
- User interface (cursor, focus-outline)

Values
- Length
- Percentage
- URL
- Color
- Keyword
- Others

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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)

  ```
  <font face=arial,helvetica size=-2>Forgot Password?</font>
  ```

- These styling elements are not allowed in newer html versions, 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

Sides can be set individually or for the entire box

Margin
Border
Padding
Content

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

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HTML Style Attribute

▌ It is syntactically correct to apply a CSS style to an individual element

▌ Example

```
<table width="715">
```
Can be replaced with
```
<table style="width:715">
```

▌ But of limited usefulness

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Multiple Style Sheets

▌ Cascading implies a priority list of styling operations (usually the order they are encountered in the rendering process)

▌ Style tag

▌ Additional style tags

▌ Style attribute within the html

▌ Style within the browser

▌ Cascading allows individual tailoring without eliminating global styles

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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: #C96;
    background:     #212121;
    }
    . . .
```

Look at
CSE336
Web site

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CSS Concept Summary

▌ Applying a style sheet
  ▌ Selector tells you where a style is applied
  ▌ Property tells you what style is being applied
▌ Apply a style to a container (e.g., div block)
▌ Use class attributes to apply a style to a semantic block not recognized component not known to html (e.g., error message)

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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

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