COP3502: Introduction to Computer Science
Lecture 8
Material from:
http://www.w3schools.com/

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HTML Standards

- November 24, 1995: HTML 2.0 - The first standard against which future implementation should be based.
- January 1997: HTML 3.2 was published by W3C - http://www.w3.org/
  - W3C develops technical specifications/guidelines.
  - Maximize consensus about the content of a technical report/high technical/editorial quality.
  - Earn endorsement by W3C and the broader community.
- HTML 4.1: December 24 1999 - Defines the semantics and structure of HTML documents.
  - More multimedia options.
  - **Scripting languages.**
  - **Style Sheets**
  - Better printing facilities.
- Future: HTML 5.0 - developed under the name Web applications 1.0.
  - Reduce proprietary plug-in-based rich Internet application (RIA) technologies:Adobe Flash, Microsoft Silverlight, Sun JavaFX.
Validation

- XHTML: the “new” HTML.
  - Web pages are coded in **valid** HTML 4.01.
  - Tags are written in lower case.
  - Always close your tag elements.

- How do I become valid?
  - HTML is validated against a Document Type Definition (DTD).
  - DTD is added to the top of the HTML file.
Document Type Definition

- **HTML 4.01 Strict DTD.**
  - Do not include elements and attributes that are deprecated.
  - Do not use elements and attributes that appear in framesets.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">
```

- **HTML 4.01 Transition DTD.**
  - Includes everything in the strict DTD.
  - Use elements and attributes that are deprecated.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
```

- **HTML 4.01 Frameset DTD.**
  - Includes everything in the transition DTD.
  - Uses frames as well.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN"
"http://www.w3.org/TR/html4(frameset.dtd)">
```
Cascading Style Sheets

- **CSS 1**: The first specification published December 1996.
  - Font properties.
  - Text color, backgrounds.
  - Text spacing.
  - Margins, border, padding and positioning for most elements.

- **CSS 2**: published may 1998.
  - Adds absolute, relative and fixed positioning elements and z-index.
  - Concepts of media types.

- **Future**: CSS 3 - currently under development.
Using Cascading Style Sheets

- Allows formatting to be moved out of the HTML into a separate style sheet.
- Style sheets can be placed into the document in three ways:
  1. **External Style Sheet** - styles are recorded into a separate file.
     ```html
     <head>
     <link rel="stylesheet" type="text/css" href="mystyle.css">
     </head>
     ```
  2. **Internal Style Sheet** - define the style in the HTML using CSS.
     ```html
     <head>
     <style type="text/css">
     body {background-color:red;}
     p {margin-left:20px;}
     </style>
     </head>
     ```
  3. **Inline styles**: place the styles inside the line that it will be used using our attributes.
     ```html
     <p style="color:red; margin-left:20px;">
     This is a paragraph
     </p>
     ```
CSS Syntax

- CSS syntax is the “code” used to define the look and feel of our web site.
- CSS syntax has two parts:

<table>
<thead>
<tr>
<th>Selector</th>
<th>Declaration</th>
</tr>
</thead>
<tbody>
<tr>
<td>h1</td>
<td>{ color: blue; font-size: 12px; }</td>
</tr>
</tbody>
</table>

- The selector is the HTML element you want to style.
- Each declaration consists of a property and a value.
- Each declaration ends with a semicolon.
CSS - Readability and comments

- For readability we place CSS declarations on each line:
  ```css
  p{
    color:red;
    text-align:center;
  }
  ```

- Comments: we add comments to explain what our declaration does. It isn’t read by the browser.
  ```css
  /*This is a comment*/
  p{
    text-align:center;
    /*This is another comment*/
    color:black;
    font-family:arial;
  }
  ```
CSS - User defined Selectors

- CSS allows user defined selector names.
- There are two types of user defined selectors: **id** and **class**.
- The **id** type is used to specify a style for a single, unique element.
  - The name is always preceded with a “#”:
    ```css
    #para1{
      text-align: center;
      color: red;
    }
    ``
  - How it is used with an element (do not include the “#”):
    ```html
    <p id="para1">Text for the paragraph.</p>
    ```
The **class** type is used to specify a style for a group of elements.

- Used more frequently than the **id** selector type.
- Selector names preceded with a “.”:
  
  ```css
  .center {text-align:center;}
  ```

- How it is used with an element (do not include the “.”):
  ```html
  <p class="center">Text for the paragraph.</p>
  ```

- Specific HTML elements can be defined to use the defined selector:
  ```html
  All p elements with the class="center" will be center-aligned:
  
  ```css
  p.center {text-align:center;}
  ```
Multiple style sheets

There are three ways to insert CSS.

1. External style sheet: link to a file containing definitions.
2. Internal style sheet: Definitions contained in the `<style type="text/css"></style>` element.
3. Inline style: Definitions placed as values for the “style” attribute `<p style="text-align:center;"></p>`

Cascading order - multiple style sheets can be referenced inside a single HTML document.

- The browser will compile a single virtual sheet from all includes styles.
- Order from least significant to most:
  1. Browser deflt.
  2. External style sheet.
  3. Internal style sheet (in the head section).
  4. Inline style (inside an HTML element).
CSS - Hands on