HTML and CSS basics

Lecture 2
CGS 3066 Fall 2016

September 15, 2016
Basics - Frimly Grasp It!!
You cannot change the output by adding extra spaces or lines in HTML code. The browser will ignore whitespace.

- New horizontal line: `<hr>`
- New Line tag: `<br>`
- Whitespace: `&nbsp`
- There are a variety of ways to introduce tab spacing, most of them using CSS.
Certain text usually has a conventional formatting, HTML has a few special formatting tags, useful especially for computer code.

- `<pre>`- for preformatted text. Forces the browser to render white space as-is.
- `<kbd>`- for specifying keyboard input.
- `<samp>`- for specifying console output.
- `<code>`- for specifying computer code. Monotype font. Ignores whitespace.
Text Formatting

- Use tags for formatting output.
- A list of formatting tags:
  - `<b>`: defines bold text
  - `<i>`: defines italic text
  - `<sub>`: defines subscripted text
  - `<sup>`: defines superscripted text
  - `<mark>`: defines marked/highlighted text
Hyperlink

- The `<a>` tag defines hyperlink.
- A hyperlink is a word, group of words, or image that you can click on to jump to another web page.
- The `href` is the most important attribute, which indicates the link's destination.
  ```html
  <a href="http://www.google.com">Go To Google</a>
  ```
- The `target` attribute specifies where to open the linked document.
  - `_blank`: in a new window or tab
  - `_self`: in the same frame as it was clicked (default)
Images

- `<img>` tag is always an empty tag. It contains attributes and has no closing tag.
- You need to use the `src` attribute. The value of this attribute is the URL of the image.
  Syntax: `<img src="sampleImage.JPG" alt="hint">`
- `alt` defines the text for an image when the image cannot be displayed.
- The width and height attributes define the size of the image.
To start off a table, use the `<table>`

A table consists of rows `<tr>`. Each row is divided into data cells `<td>` (td stands for table data)

A `<td>` tag can contain text, links, images, lists, forms, and other tables.
Lists can be ordered and unordered.

- An unordered list starts with the `<ul>` tag.
- An ordered list starts with the `<ol>` tag.
- Each item starts with the `<li>` tag.

- A description list is a list of items with a description of each term/name.
- The `<dl>` tag defines a description list. `<dl>` is used with `<dt>` (defines items) and `<dd>` (describes each item).
Block and Inline Elements

- HTML elements are either block level elements or inline elements.
- Block level Elements start with a new line. 
  E.g., `<p>`, `<table>`, `<div>`
- Inline elements are displayed without a new line. 
  E.g., `<b>`, `<td>`, `<a>`, `<img>`
<span>element</span>

- <span>element is an inline element that can be used as a container for text.
- <span>element usually is used to set style to parts of the text.
DIV tag

- The `<div>` tag defines a division or a section in an HTML document.
- The `<div>` tag is used to group block-elements to format them with CSS.
CSS Syntax

- A CSS file consists of rule set, which define the presentation element for a particular part of the HTML document.
- A CSS rule set consists of a selector and a declaration block.
- A Rule Set has a selector and a declaration block.
- The declaration block is enclosed in `{ }`.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a property name and a value, separated by a colon.
- To make the CSS code more readable, you can put one declaration on each line.
CSS Comments

- CSS comments follow the multiline C comment syntax.
- A CSS comment starts with /* and ends with */.
- Comments can also span multiple lines and are ignored by browsers.
- Single line comments can start with “//”. 
CSS Selectors

- CSS selectors allow you to select and manipulate HTML elements.
- They are used to “find” HTML elements based on id, classes, types, attributes, values of attributes, etc.
- Typically, selectors are one of 3 kinds:
  - id selector
  - element selector
  - class selector
The element selector selects elements based on the element name.

Applied to all elements with the same name (tag).

Example:
```plaintext
p {
    text-align: center;
    color: red;
}
```
ID Selector

- The id selector uses the id attribute of an HTML tag to find the specific element.
- An id should be unique within a page.
- To find an element with a specific id, write the character formerly known as the pound (#), followed by the id of the element.
- Example
  ```html
  #para1 {
    text-align: center;
    color: red;
  }
  ```
The class selector finds elements with the specific class.
The class selector uses the HTML class attribute.
To find elements with a specific class, write a period character, followed by the name of the class.
Example:
```
.center {
    text-align: center;
    color: red;
}
```
You can also specify that only specific HTML elements should be affected by a class.
```
p.center {
    text-align: center;
    color: red;
}
```
Grouping Selectors

- In style sheets there are often elements with the same style.
- In the interest of code minimization, we can group selectors.
- Selectors are separated by commas.
- Example:
  ```css
  h1, h2, p {
    text-align: center;
    color: red;
  }
  ```
Adding CSS to your HTML document

There are 3 ways to do styling

- **Inline Style** - Style elements are included as HTML attributes.
- **Internal Style Sheets** - A `<style>` tag is used in the HTML document to specify the presentation elements. **External Style Sheets** - A separate “.css” file is used as a part of your set of documents. It contains all the styling elements.
What little styling we've been doing so far.

Mixes content with presentation. Loses many of the advantages of a style sheet.

Used very rarely (when very few elements require styling).

Add the style attribute to the relevant tag. The style attribute can contain any CSS property.

Example:
```html
<h1 style="color:blue; margin-left:30px;">This is a heading.</h1>
```
Internal CSS

- Used when the current document has a unique style.
- A `<style>` tag is used under the `<head>` tag of the document to define the styles.
- The content of the `<style>` tag follows CSS syntax.
- Example:
  ```html
  <head>
  <style>
  body {
    background-color: linen;
  }
  h1 {
    color: maroon;
    margin-left: 40px;
  }
  </style>
  </head>
  ```
External CSS

- Used when a style is applied to many pages (like a theme).
- The look of the webpage can be changed by just changing one file.
- Each page must include a link to the style sheet with the `<link>` tag. The `<link>` tag goes inside the head section.
- An external stylesheet is written as a separate file with a “.css” extension.
- The file should go into the same relative path as the rest of the files (or can be referred by absolute path).
- The external stylesheet should not contain any HTML tags.
External Stylesheet Example

- myStyle.css

```css
body {
    background-color: lightblue;
}

h1 {
    color: navy;
    margin-left: 20px;
}
```

- In the head tag of the HTML document

```html
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css" />
</head>
```
Why “Cascading”? 

- Multiple styles will cascade into one.
- Styles can be specified:
  - inside an HTML element
  - inside the head section of an HTML page
  - in an external CSS file
- Generally speaking we can say that all the styles will “cascade” into a new “virtual” style sheet by the following rules, where number one has the highest priority:
  1. Inline style (inside an HTML element)
  2. Internal style sheet (in the head section)
  3. External style sheet
  4. Browser default