More on HTML & Brief Look at CSS
Separating Structure & Design

More about HTML
- W3C oversees standardization of HTML and establishes rules
  - Led by Tim Bernes Lee who first developed the web
- Current widely used version is HTML 4.01 (XHTML 1.0)
- Newest version is HTML 5
  - New elements
  - Easier media integration
  - More interactivity
  - Browsers not currently standardized in how it is interpreted

W3C – World Wide Web Consortium

HTML – Defining Page
- `<!DOCTYPE >`
  - Document type must be defined at the top of the HTML document
  - Specifies the version of HTML
  - Used by browsers to determine how to interpret code
- `<html > </html>`
  - Encompasses entire page
  - May have parameters defining version of HTML

Example code
- HTML 4.01
  - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
    <html>
- XHTML
  - `<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
    <html xmlns="http://www.w3.org/1999/xhtml">
- HTML 5
  - `<!DOCTYPE HTML>`
  - `<html>`
Dreamweaver does this for us.

HTML Code Ordering
- Codes need to be closed in the proper order. The most recently used tag closes first.
- Correct order
  - `<p>This is <strong>text</strong></p>`
- Incorrect order
  - `<p>This is <strong>text</strong></p>`

Validation
- If you are writing HTML code instead of using a program like Dreamweaver, consider using a validator to ensure your HTML is correct
  - W3C’s Validator
  - Finds tags that are not closed
    - `<p>This is my paragraph.</p>`
    - `<p>This is another paragraph</p>`
    - both are missing `<p>`
  - Finds tags that are improperly closed
    - `<p>This is my <em>paragraph</em></p>`
    - Tags contained within another tag must close first
    - `<p>This is my <em>paragraph</em></p>`
  - And many other coding errors
**HTML Attributes**

- Some HTML tags allow various attributes (also called parameters) which can affect the tag.
- Attributes are included after the tag name
  - `<ol type="A">`
  - `<a href="mypage.html">`
- More than one attribute can be included
  - `<ol type="A" start="5">`
  - `<a href="mypage.html" target="_blank">`
- Of course, most attributes can be implemented in Dreamweaver as well!

**List Attributes**

- Unordered list `type` attribute
  - `type="disc"` (filled circle)
  - `type="circle"` (circles)
  - `type="square"` (squares)
- Ordered List type
  - `type="I"` (Large Roman numerals)
  - `type="A"` (Large alphabet)
  - `type="i"` (Small Roman numerals)
  - `type="a"` (Small alphabet)
  - `type="1"` (default - numbers)

**More list attributes**

- Ordered list `start` attribute
  - `start="n"` (n can be any number and it starts the order with that number or corresponding letter, numerals)
    - Start="5" will yield
      - 5 for number list
      - E for large alpha
      - V for roman numerals

- Anchor attributes

  - Anchors (a tag) are used in two ways. Specifying which way is an attribute.
    - One is to name a point in the page
      - `name="anchorname"` (no spaces are allowed in the name of the anchor)
    - Another is to create a link
      - `<a href="link">`
  - Another attribute used with links is `target`
    - Specifies where link will open

**Links**

- To link to an named spot on the page – use # & anchor name
  - `<a href="#anchor">Teas</a>`
- To link to page within same site & folder – use filename only
  - `<a href="pagename.html">My page</a>`
- To link to another site – use the full URL
  - `<a href="http://www.wcc.hawai.edu">Windward CC</a>`
- This methods can be combined to go to a specific spot on a specific page on another site

**Targets**

- `target="_self"`
  - Opens a link in the same tab/window (default)
- `target="_blank"`
  - Opens a link in a new window or tab
- `target="namedwindow"`
  - Opens a page in a new tab/window and give the tab/window a name. Any other pages which specify that same name will open in that same tab/window (providing it hasn’t been closed.)
  - Example
Special characters
- Special codes are needed to display certain characters which are also used as part of tags
  - Extra space - &nbsp;
    - Typing extra spaces are ignored
  - Left Bracket < - &lt; 
  - Right Bracket > - &gt;
  - Quote " " - &quot;
- More Codes
- Comments – to add documentation to coding, but not to be displayed
  <!-- -->

In web construction
- Structure created with a markup language such as HTML defines structural elements such as:
  - paragraphs
  - lists
  - headings
  - tables
  - divisions
  - and more
- Visual design is added to the structure through the use of Cascading Style Sheets (CSS) to add:
  - color
  - layout
  - backgrounds
  - margins
  - spacing
  - and other design elements

Defining Structure
- Within the body we may have divisions (div tag)
  - Organize the page
  - Allow for layout
  - Incorporate visual design elements
  - Specify an ID to identify each division
- Within divisions we can have:
  - Other divisions
  - Basic elements

Basic Page Sections
- Place each section in a division
  - Banner or Site identity
  - Navigation
  - Site navigation
  - Search capability
  - Contents
  - Side bars
- The whole page can be also be placed in a division
- Helpful in limiting the width of the page.

Example of Division Coding
```html
<body>
  <div id="wholepage">
    <div id="banner">
      <h1>This is the Banner</h1>
    </div>
    <div id="pagecontent">
      <div id="nav">
        Site Navigation goes here
      </div>
      <div id="content">
        <h1>Heading</h1>
        Text for content goes here
      </div>
    </div>
    <div id="footer">
      Footer with technical info
    </div>
  </div>
</body>
```
Different styles for each division

- Screen shot shown below has two divisions.
  - Each division has a H1 heading and an unordered list
  - CSS is set to style each division differently

<table>
<thead>
<tr>
<th>Topic List</th>
<th>Defining Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTML, CSS</td>
<td>Everything that displays on the page is within the body section of the HTML</td>
</tr>
<tr>
<td>Structure &amp; Design</td>
<td>Within the body we may have divisions (div tag)</td>
</tr>
<tr>
<td>CSS Features</td>
<td>Organize the page</td>
</tr>
<tr>
<td>Style Guide</td>
<td>Allow for layout</td>
</tr>
<tr>
<td>CSS Properties</td>
<td>Incorporate visual design elements</td>
</tr>
<tr>
<td>Example 1</td>
<td>Specify an ID to identify each division</td>
</tr>
<tr>
<td>Example 2</td>
<td>Within divisions we can have</td>
</tr>
<tr>
<td>Example 3</td>
<td>Other divisions</td>
</tr>
</tbody>
</table>

The Beauty of CSS

- To understand the wonder of CSS we will look at a site called CSSZen Garden
  - This site invites designers to take the same basic structure of a page and add design via a separate CSS style sheet.
  - This site demonstrates why we separate structure from visual design.
  - Hopefully you will begin to understand the beauty of keeping design & structure separate.

First look at the structure

- Screen shot of structure – no styles

Next explore the designs

- All pages have the exact same structure.
- Changes are only to the external CSS style sheet.
- CSS Zen Garden then click on links to other pages such as
  - Under the Sea
  - Orchid Beauty
  - Walk in the Garden
  - Kyoto forest