CASCADING STYLE SHEETS - CSS

- CSS is a flexible, cross-platform, standards based language developed by the W3C.
- It is still considered an emerging technology and different browsers do not support it in the same way.
- We will concentrate on the aspects of CSS that are well supported by popular browsers.
ADVANTAGES OF CSS

• Typography and page layout can be better controlled
• Style is separate from structure
• Styles can be stored in a separate document
• Documents are potentially smaller
• Site maintenance is easier
TYPES OF CASCADING STYLE SHEETS

- **Inline** – styles are coded in the body of the web page as an attribute of the HTML tag. The style only applies to the specific element that contains it as an attribute.

  *Example:*

  ```html
  <h2 style="text-align:center"> Heading Text </h2>
  ```

- **Embedded** – styles are defined in the head section of a web page. These style instructions apply to the entire web page document.
EMBEDDED STYLE SHEET: PLACED IN THE <HEAD> SECTION OF THE WEB PAGE YOU WANT TO CHANGE. AN INLINE STYLE CAN OVERRIDE AN EMBEDDED STYLE

```html
<head>
<title> </title>
<meta.../>
<style type="text/css"> // type required by xhtml
  body {background: #ffffff;}
  h2 {font-family: Garamond;
      font-size: 32pt}
  p { text-indent: 8pt}
  a { font-size: 14pt}
</style>
</head>
```
TYPES OF CASCADING STYLE SHEETS

• **External** – styles are coded in a separate text file called an external style sheet. The text file is associated with a web page by coding a link element in the head section.

• To create an external style sheet, open notepad and type in the style statements of all the styles you want to define.

• Save the file with a `.css` extension

• This file does not contain any of the html tags you have learned – only style statements.
EXAMPLE OF AN EXTERNAL STYLE SHEET

div {color:#0000ff;}
    margin: 15px;
    font-family:Arial;
    font-size: 14pt; }

div h1 {font-size:18pt;
    font-family:"Adlib BT";
    color: #ffffff; }

div ol {list-style-type:upper-alpha}

div a {font-size: 15pt;
    color:#ffffff;
    text-decoration:none; }

div a:hover {font-size:16pt;
    color:#ff0000;
    background-color:#ffffff; }
TYPES OF CASCADING STYLE SHEETS

• **Imported** – styles are similar to external styles in that they can connect styles coded in a separate text file with a web page document. An external style sheet can be imported into embedded styles or into another style sheet by using the @import directive.
THE CASCADE IN CSS

• The cascade refers to the order of precedence that applies the styles in order from outermost (external styles) to innermost (HTML attributes)
• This allows the site-wide styles to be configured with an external style sheet file but overridden when needed by more granular, page-specific styles such as embedded or inline.
CSS SYNTAX

• Style sheets are composed of "Rules" that describe the styling to be applied.

• Each rule contains a **Selector** and a **Declaration**

body { color: blue }
THE **BACKGROUND-COLOR** PROPERTY

The CSS property to configure the background color of an element is `background-color`.

This rule will configure a web page to display a yellow background.

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

This could also be written using hexadecimal color values as shown below.

```css
body { background-color: #FFFF00; }
```
THE COLOR PROPERTY

• The CSS property to configure the text color of an element is color.

• The following CSS style rule will configure the text color of a web page to be blue:

  body { color: blue }
• To configure more than one property for a selector, use a semicolon to separate the declarations.

• This will configure the page to have white text and an orchid background:

```css
body {color: white;
     background-color: orchid}
```
# CSS Syntax for Color Values

**TABLE 4.2  Syntax to configure a paragraph with red text**

<table>
<thead>
<tr>
<th>CSS Syntax</th>
<th>Color Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>p { color: red }</td>
<td>Color name</td>
</tr>
<tr>
<td>p { color: #FF0000 }</td>
<td>Hexadecimal color value</td>
</tr>
<tr>
<td>p { color: #F00 }</td>
<td>Shorthand hexadecimal (one character for each hexadecimal pair — only used with web safe colors)</td>
</tr>
<tr>
<td>p { color: rgb(255,0,0) }</td>
<td>Decimal color value (RGB triplet)</td>
</tr>
<tr>
<td>p { color: rgba(255,0,0,0.5) }</td>
<td>CSS3: Decimal color value (RGB triplet) followed by the alpha opacity (a value from 0 to 1). <em>The CSS3 Color Module is in draft status and is not yet uniformly supported by browsers.</em></td>
</tr>
<tr>
<td>p { color: hsl(0, 100%, 50%) }</td>
<td>HSL color values. <em>The CSS3 Color Module is in draft status and is not yet uniformly supported by browsers.</em></td>
</tr>
</tbody>
</table>
CONFIGURE INLINE CSS

- Inline CSS
  - Configured in the body of the Web page
  - Use the style attribute of an HTML tag
  - Apply only to the specific element

- The Style Attribute
  - Value: one or more style declaration property and value pairs

- Example
  
  `<h1 style="color:#ff0000">Heading text is red</h1>`
THE STYLE ATTRIBUTE

• The style attribute is written differently than any other attributes.

• It uses the following format:

\[ <tag \text{style}="\text{property}:\text{value}; \text{property}:\text{value};"> \]

• You will learn the available properties and their values as you learn various tags.
CONFIGURE EMBEDDED CSS

• The <style> tag begins the area with embedded style rules and </style> ends the area.
• In XHTML, the <style> tag requires a type attribute that should have the value of text/css.

    <style type="text/css">

• HTML 5 does not require this attribute
• Written in the <head> </head> section of the web page, the embedded style sheet sets style rules for any elements it would like to format for the entire page.

• Placing each rule on its own line makes the styles more readable and easier to maintain than one long row of text.
PRACTICE AN EMBEDDED STYLE SHEET

• Open the file named starter.html from the Chapter 4 folder of the Web Design class folder on the L drive.
• Add the following style rules as an embedded style sheet for this web page.
PRACTICE AN EMBEDDED STYLE SHEET

- Background color of the page: #E6E6FA
- Text color of the page: #191970
- Heading 1’s background color #191970 and text color:#E6E6FA
- Heading 2’s background color #AEAED4 and text color: #191970
The flexibility and power of CSS are best utilized when the CSS is external to the web page document. An external style sheet is a file with a .css extension that contains CSS style rules only. The advantage of external CSS is that styles are configured in a single file. This means that when styles need to be changed, only one file needs to be modified.
THE link ELEMENT

• The <link> element is used to associate an external style sheet with a web page that uses it.
• It is placed in the <head> section of the page.
• It is a stand alone, void tag.
• Three attributes are used with the link element: rel, href and type.
• `rel` is an attribute used to establish the relationship between the style sheet and the web page. Its value will always be `stylesheet`.

• `href` is the attribute that states the name of the style sheet to link the web page to.

• `type` is used to state the MIME type for CSS. This is optional in HTML 5 but required in XHTML.

```html
<link rel="stylesheet" href="color.css" type="text/css"/>
```
PRACTICE AN EXTERNAL STYLE SHEET

• Create an external style sheet to be used for the JavaJam Coffee House website you made.
• Format the page to have a beige background color (#F5F5DC) and a dark brown text color (#2E0000)
• The header element should have a tan background (#D2B48C)
• The footer element should have a tan background color (#D2B48C) with black text.
• Link the two pages for this site to the external style sheet.
CSS SELECTORS: CLASS, ID AND DESCENDANT

• The CSS class selector is used to apply a CSS declaration to one or more areas on a web page.
• A class name is given as an attribute inside any element you would like to format in that way.
• You then use that class name as the selector in your CSS rule.
CSS SELECTORS: CLASS, ID AND DESCENDANT

• Class names must begin with a letter and may contain numbers, hyphens and underscores. They may not contain spaces.
• Add the class name to any element:
  `<li class="feature"> list item </li>`
• Format the class by using the class name as the selector. Place a dot (.) in front of the class name:
  `.feature { color:#FF000 }`
• The CSS ID selector is used to identify and apply a CSS rule uniquely to a *single area* on a web page. An id can only be applied once per page.

• The styles set in the id can be applied to the element you wish by using the attribute id inside the element’s tag.

```html
<h2 id="mainheading"> heading text </h2>
```

• Then format the id using the id as the selector in the CSS rule, placing a hash mark (#) in front of the id name.

```
#mainheading { color:#333 }
```
PRACTICE WITH class AND id

- Modify the Trillium Media Design page you created with an embedded style sheet.
- Format the <nav> area with a background color of #E2E2EF
- Format the <footer> area with a grey text color #666666
- Add an id for the structure tags so that internet explorer will format the areas correctly. Example for the footer element:
  - html: <footer id="footer"> footer content </footer>
  - css: #footer { declaration}
THE DESCENDANT SELECTOR

- Apply a CSS rule within the context of the container (parent) element.
- Sometimes called a contextual selector
- Configure by listing the container selector followed by the selector you are styling.
- The sample specifies a green text color for **only** the paragraph elements located **within** the footer element.

```html
<style>
footer p {color: #00ff00; }
</style>
```
THE `<div>` ELEMENT

• A block-display element

• Purpose: configure a specially formatted division or area of a web page
  • There is a line break before and after the division.
  • Can contain other block-level and inline elements

• Useful to define a generic area that will contain other block display tags (such as paragraphs or spans) within it.
A **div** EXAMPLE

- Configure a page footer area
- Embedded CSS:
  ```html
  <style>
  .notes { font-size: small;
  text-align: center; }
  </style>
  
  </div>
  ```
- HTML
  ```html
  <div class="notes">Copyright © 2016</div>
  ```
THE **span** ELEMENT

- An inline-level element
  - Tag Used: `<span> </span>`
- Purpose:
  - Configure a specially formatted area displayed in-line with other elements, such as within a paragraph, blockquote or div element.
- There is no line break before and after the span.

```html
<p> <span style="color:red">Trillium Web Design </span> will bring your company’s Web presence to the next level </p>
```
• Embedded CSS:

```html
<style>
 .companyname { font-weight: bold;
    font-family: Georgia;
    font-size: 1.25em; }

</style>
```

**HTML:**

```html
<p>Your needs are important to us at <span class="companyname">Acme Web Design</span>. We will work with you to build your website.</p>
```
W3C CSS VALIDATION

• http://jigsaw.w3.org/css-validator