week::eight

Introduction to Cascading Style Sheets

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What are they?

- CSS is the **presentation language** used in the design of a website.
- They are a **collection of rules** that define the appearance of elements in a Web page.
- Just like paragraph styles in the print world, CSS helps **maintain consistency** within and across Web pages.
- Sites can reference one (or more) common `.css` files that contain all styles for that site.
  - Make one change, and it alters the appearance of every page in the site.

What's cool about CSS

- Allow you to keep a pages' **structure** *separate* from its **appearance**.
- Excellent control over the **presentation** of type and layout.
- Help maintain **visual consistency** across pages in a website.
- Provide a number of **layout controls**, including margins and padding space, borders, background images, and others.
- You can create styles for **specific mediums**: One for Web, one for mobile, one for print, etc.
- When using a visual HTML editor like WordPress or Dreamweaver, style sheets can be applied similar to paragraph styles in InDesign.

Some problems with using CSS

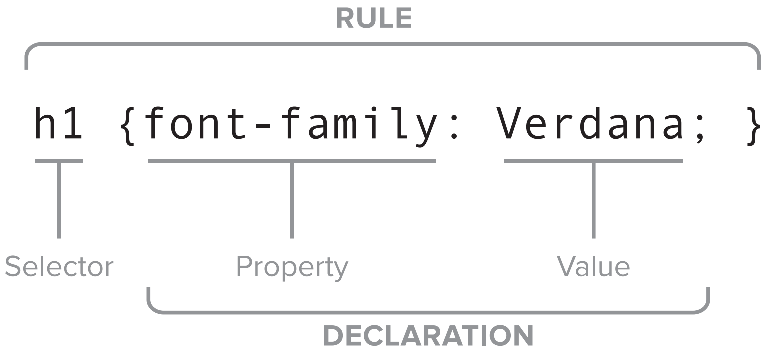
- Can be difficult to remember all options available to the designer.
- Simple layout is hard; Complex layouts are even more difficult.
- You often need to write CSS for specific device types (desktop, mobile, tablet, etc).
- Style sheets can be difficult to learn, design with, and debug across Web browsers.
- Some advanced options are not equally supported in all browsers.
  - Each browser's rendering engine has its own way of interpreting CSS rules.

Rule Structure

Rules — Selector & Declaration

Selector — Controls *what page elements* are altered by the declaration

Declaration — Property & Value pairs that declare *what* (property) will change and *how* (value).



```
h1 {font-family: Verdana; }
```

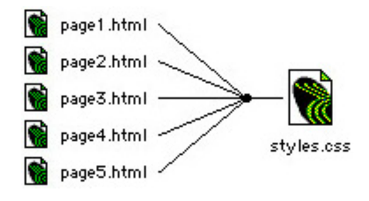
Where CSS Rules Are Stored: Embedded & External Style Sheets

Overview

- There are three main ways to store CSS rules: **Embedded**, **External**, and **Inline**.

External Style Sheets

- All pages within a site **reference a common, centralized CSS file** for style information.
- When a browser reads an HTML document with an external style sheet, the style sheet code is included in that page when displayed.
- Allow you to alter a single file to make appearance changes throughout a site.
- Best for websites with more than a single page.
- File extension is `.css`



Visual representation of HTML files linking to a common external style sheet.

Embedded Style Sheets

- Controls the appearance of **only the current page**.
- Style sheet is embedded in the `<head>` container of the HTML page.
- Site-wide type appearance changes are not possible when using this type.
- Good to use when a style rule is only used on the current page.

Inline Styles

- Style sheet information is written directly to a tag that precedes the type to be formatted, either to the enclosing element, or within a `<span>` tag.
- Allows for the overriding of Embedded or External style sheets.
- Makes it **very difficult** to make page or site-wide formatting changes.
- **Do not use inline styles unless absolutely forced to by the circumstances of your design/coding environment.**
  - When using some content management systems, for example.

Code Examples:

Link to an External Style Sheet – HTML version

```
<head>
  <link rel="stylesheet" href="styles.css" type="text/css" media="all" />
</head>
```

Link to an External Style Sheet — CSS version

```
<style type="text/css">
  @import url("reset.css");
  @import url("styles.css");
</style>
```

Embedded — CSS is applied directly in the HTML (not preferred)

```
<head>
  <style type="text/css">
    h2        { font-family: Verdana, Arial; font-size: 1.6em; font-weight: bold; }
    #bodytext { font-family: Verdana, Arial; font-size: .8em; line-height: 15px; }
  </style>
</head>
```

Tag Selectors

Overview

- Allows you to change the appearance of standard HTML tags.
  - Tags like: `<h1> <h2> <h3> <p> <body> <li> <td>`
- Tag selectors are **the first choice** among the different selector types, since paragraph and header tags give a document its structure and hierarchy. *Style with these first.*
- Change to tags are global across the entire page—changing the appearance of the `<p>` tag will change all paragraphs in your Web page.
- **Multiple Tags**—You can control multiple tags at once by separating them with a *comma*.

Code

```
p {
   color: red;
   font-size: 1.5em;
}

h1, h3, p {
   font-size: 2.275em;
   line-height: 1.5em;
}
```

Descendant Selectors

Overview

- Descendant selectors are the **most powerful type** of CSS rule, and the kind you will **use most often** when creating complete websites.
- They allow you to target and change specific areas of your page.
- It does this by using the document structure and hierarchy to create context.
  - For example, you can write a compound selector to say this: “Color the text red in a `<a>` tag that is inside of a `<ul><li>` list that is inside the `<nav>` tag with a class of ‘primary’.”

Code

- Example HTML:

```
<header>
   <h2>Some Headline</h2>
   <p>Some paragraph text with a <strong>strong element</strong>.</p>
</header>
<footer>
   <p>This is a footer <a href="#">with a link</a>.
   <p>This is also some text with a <strong>strong element</strong>.</p>
</footer>
```

- For example, if you wanted to change the appearance of the `<h2>` tag in ONLY the `<header>` section of your page, you would create the following selector:

```
header h2 { … }
```

- To change the appearance of hyperlinks (`<a>`) within paragraphs (`<p>`) only in the `<footer>` area:

```
footer p a { … }
```

- To change the appearance of the `<strong>` tag in paragraphs (`<p>`) the `<header>` only:

```
header p strong { … }
```

CSS Properties Reference

Visual Properties

- Properties that apply visual style to HTML elements

Name	Property	Description	Example CSS Code
Background Color	`background-color:`	Sets the background color of an element	`background-color: #dfdfdf;`
Element Border	`border:`	Creates a border around an element	`border: 1px solid #ccc;`
Rounded Corners	`border-radius:`	Rounds the corners of elements	`border-radius: 20px;`

Padding	`padding:`	Space between content and the edge of the box	`padding-left: 20px;`
			`padding-top: 13px;`

Margin	`margin:`	Transparent space around a content box	`margin-right: 45px;`
			`margin-bottom: 100px;`

Element Display Type	`display:`	Controls the display type of an element. In this example, the CSS code hides the element.	`display: none; /*Hides element*/`
Element Width	`width:`	Width of a block element	`width: 25em;`
Element Height	`height:`	Height of a block element; try not to use.	`height: 400px;`
Bulleted List Style	`list-style-type:`	Controls the appearance of bullets in `<ul><li>` lists.	`list-style-type: circle;`