



CSS Styling Introduction

About the Course



CSS Styling

1. CSS Overview
2. CSS Presentation
3. CSS Display
4. CSS Layout
5. Preprocessors and SASS
6. LESS

2



CSS Overview

Cascading Style Sheets

```
111 #container .article img {float: right; }
112 padding: 0 5px 0px 0;
113 border-right: 1px dotted #999;
114 border-bottom: 1px dotted #999; }
115 #container .article blockquote {
116 margin-left: 10px;
117 padding-left: 10px;
118 border-left: 1px solid #555555; }
119 #container .article ul {
120 padding-left: 10px;
121 list-style-type: none; }
```

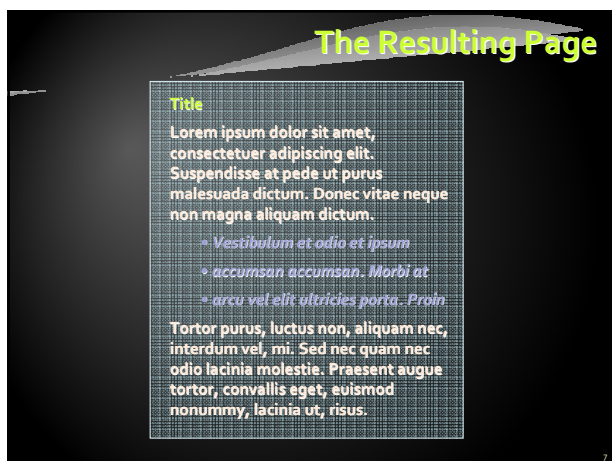
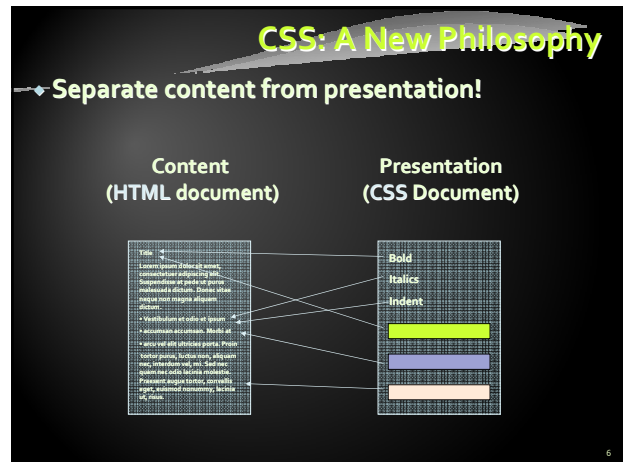
CONTENTS! Table of Contents

- ◆ What is CSS?
- ◆ Styling with Cascading Style Sheets (CSS)
- ◆ CSS Selectors
 - ◆ Select by element name, id or class
 - ◆ Nested Selectors
- ◆ Importing CSS into HTML
- ◆ Selectors
 - ◆ Attribute selectors
 - ◆ Pseudo Selectors

Selectors



4



CSS Introduction

- ◆ Cascading Style Sheets (CSS)
 - ◆ Used to describe the presentation of documents
 - ◆ Define sizes, spacing, fonts, colors, layout, etc.
 - ◆ Improve content accessibility
 - ◆ Improve flexibility
- ◆ Designed to separate presentation from content
- ◆ Due to CSS, all HTML presentation tags and attributes are deprecated, e.g. font, center, etc.

9

CSS Introduction (2)

- ◆ CSS can be applied to any XML document
 - ◆ Not just to HTML / XHTML
- ◆ CSS can specify different styles for different media
 - ◆ On-screen
 - ◆ In print
 - ◆ Handheld, projection, etc.
 - ◆ ... even by voice or Braille-based reader

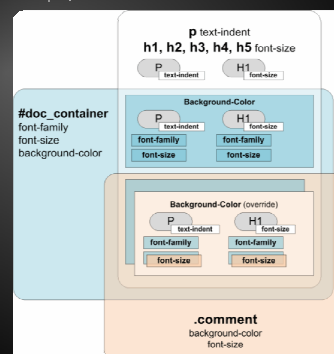
10

Why "Cascading"?

- ◆ Priority scheme determining which style rules apply to element
 - ◆ Cascade priorities or specificity (weight) are calculated and assigned to the rules
 - ◆ Child elements in the HTML DOM tree inherit styles from their parent
 - ◆ Can override them
 - ◆ Control via !important rule

11

Why "Cascading"? (2)



12

Style Inheritance

- Some CSS styles are inherited and some are not
 - Text-related and list-related properties are inherited: color, font-size, font-family, line-height, text-align, list-style, etc.
 - Box-related and positioning styles are not inherited: width, height, border, margin, padding, position, float, etc
 - <a> elements do not inherit color and text-decoration

13

Style Sheets Syntax

- Stylesheets consist of rules, selectors, declarations, properties and values

selector	declaration block		declaration	
	property	value	property	value
body	{	color: black;	padding: 1cm;	}

<http://css.maxdesign.com.au>

- Selectors are separated by commas
- Declarations are separated by semicolons
- Properties and values are separated by colons

```
h1,h2,h3 { color: green; font-weight: bold; }
```

14

Common Selectors

Select the Elements to Apply a Style

CSS Selectors

Selectors

- Selectors determine which element the rules apply to:
 - All elements of specific type (tag)
 - Those that match a specific attribute (id, class)
 - Elements may be matched depending on how they are nested in the document tree (HTML)
- Examples:

```
.header a { color: green }
```

```
#menu>li { padding-top: 8px }
```

15

Primary Selectors

Three primary kinds of selectors:

- By tag (type selector):

```
h1 { font-family: verdana,sans-serif; }
```

- By element id:

```
#element_id { color: #ff0000; }
```

- By element class name (only for HTML):

```
.myClass {border: 1px solid red}
```

- Selectors can be combined with commas:

```
h1, .link, #top-link {font-weight: bold}
```

This will match <h1> tags, elements with class link, and the element with id top-link

17

Nested Selectors

Match relative to element placement:

```
p a {text-decoration: underline}
```

This will match all <a> tags that are inside of <p>

- * – universal selector (avoid or use with care!):

```
p * {color: black}
```

This will match all descendants of <p> element

- + selector – used to match “next sibling”:

```
img + .link {float:right}
```

This will match all siblings with class name link that appear immediately after tag

18

Nested Selectors (2)

- > selector – matches direct child nodes:

```
p > .error {font-size: 8px}
```

This will match all elements with class error, direct children of <p> tag

- .class1.class2 (no space!)

- Matches elements with both (all) classes applied at the same time

```
p.post-text.special {font-weight: bold}
```

19

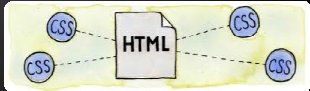
Common Selectors

Live Demo



Importing CSS Into HTML

How to Use CSS with HTML?



The diagram illustrates an HTML document (represented by a document icon) being linked to four separate CSS files (represented by circular icons labeled 'CSS'). Dashed lines connect the HTML icon to each of the CSS icons, indicating the relationship between the HTML content and its styling rules.

Importing CSS Into HTML

- ♦ CSS (presentation) can be imported in HTML (content) in three ways:
 - ♦ Inline: the CSS rules in the style attribute
 - ♦ No selectors are needed
 - ♦ Embedded: in the <head> in a <style> tag
 - ♦ External: CSS rules in separate file (best)
 - ♦ Usually a file with .css extension
 - ♦ Linked via <link rel="stylesheet" href="..."> tag
 - ♦ Via @import directive in embedded CSS block

Linking HTML and CSS (2)

- ♦ Using external CSS files is highly recommended
 - ♦ Simplifies the HTML document
 - ♦ Improves page load speed (CSS file is cached)



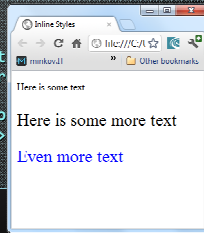
The diagram shows two document icons. The left icon is labeled 'HTML' and the right icon is labeled 'CSS'. A blue arrow points from the HTML icon to the CSS icon, with the text 'HTML links to external CSS file' written above the arrow.

Inline Styles: Example

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Inline Styles</title>
</head>
<body>
  <p>Here is some text</p>
  <!-- Separate multiple styles with a semicolon -->
  <p style="font-size: 20pt">Here is some more text</p>
  <p style="font-size: 20pt; color: #0000FF">Even more text</p>
</body>
</html>
```

Inline Styles: Example

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Inline Styles</title>
</head>
<body>
  <p>Here is some text</p>
  <!-- Separate multiple styles with
  <p style="font-size: 20pt">Here
    more text</p>
  <p style="font-size: 20pt; color:
    #0000FF">Even more text</p>
</body>
</html>
```



25

Embedded Styles

Embedded in the HTML in the <style> tag:

```
<style type="text/css">
```

- The <style> tag is placed in the <head> section of the document
- type attribute specifies the MIME type
 - MIME describes the format of the content
 - Other MIME types include text/html, image/gif, text/javascript ...
 - Not required in HTML5
- ♦ Used for document-specific styles

26

Embedded Styles: Example

```
<!DOCTYPE html>
<html>
<head>
  <title>Style Sheets</title>
  <style type="text/css">
    em {background-color:#8000FF; color:white}
    h1 {font-family:Arial, sans-serif}
    p {font-size:18pt}
    .blue {color:blue}
  </style>
</head>
```

27

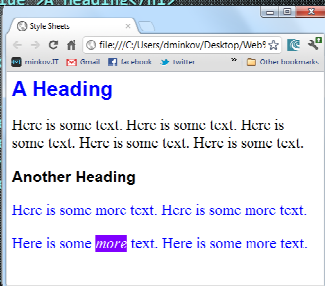
Embedded Styles: Example (2)

```
<body>
  <header>
    <h1 class="blue">A Heading</h1>
  </header>
  <article>
    <p>Here is some text. Here is some text.
      Here is some text. Here is some text. Here
      is some text.</p>
    <h1>Another Heading</h1>
    <p class="blue">Here is some more text.
      Here is some more text.</p>
    <p class="blue">Here is some <em>more</em>
      text. Here is some more text.</p>
  </article>
</body>
</html>
```

28

Embedded Styles: Example (3)

```
<body>
<header>
  <h1 class="blue">A Heading</h1>
</header>
<article>
  <p>Here is some text. Here is some text. Here is some text.
  <h1>Another Heading</h1>
  <p class="blue">Here is some text. Here is some text. Here is some text.
  <p class="blue">Here is some text. Here is some text. Here is some text.
</article>
</body>
</html>
```



29

External CSS Styles

External linking

- ♦ Separate pages can all use a shared style sheet
- ♦ Only modify a single file to change the styles across your entire Web site (see www.csszengarden.com)

link tag (with a rel attribute)

- ♦ Specifies a relationship between current document and another document

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

- ♦ link elements should be in the <head>

30

External CSS Styles (2)

@import

- ♦ Another way to link external CSS files
- ♦ Example:

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

- ♦ Ancient browsers do not recognize @import
- ♦ Use @import in an external CSS file to workaround the IE CSS file limit of 31 files

31

External Styles: Example

```
/* CSS Document */

a      { text-decoration: none }

a:hover { text-decoration: underline;
          color: red;
          background-color: #CCFFCC }

li em  { color: red;
          font-weight: bold }

ul      { margin-left: 2cm }

ul ul   { text-decoration: underline;
          margin-left: .5cm }
```

32