Cascading Style Sheet 3.0

Lesson 01: Introduction to CSS 3.0

Lesson Objectives

- In this lesson, we will learn:
  - Introduction to CSS
    - What is CSS
    - CSS History
    - CSS 3.0 features
    - What CSS can do
  - CSS Syntax
  - Types of CSS

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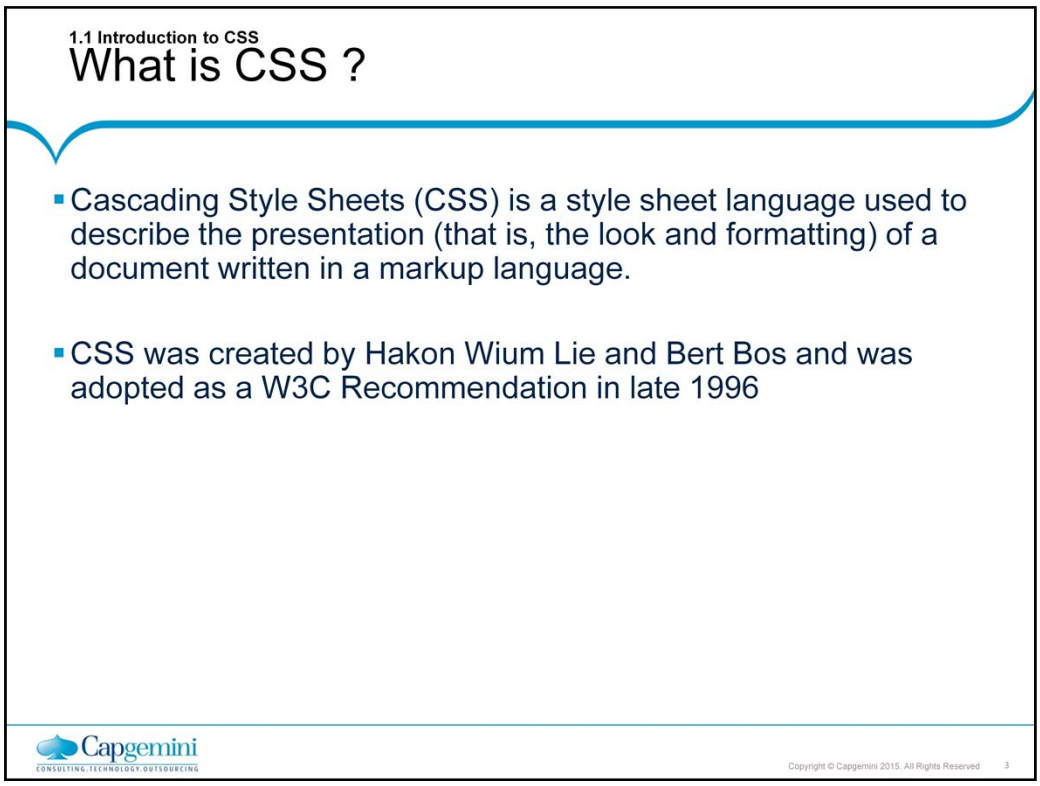
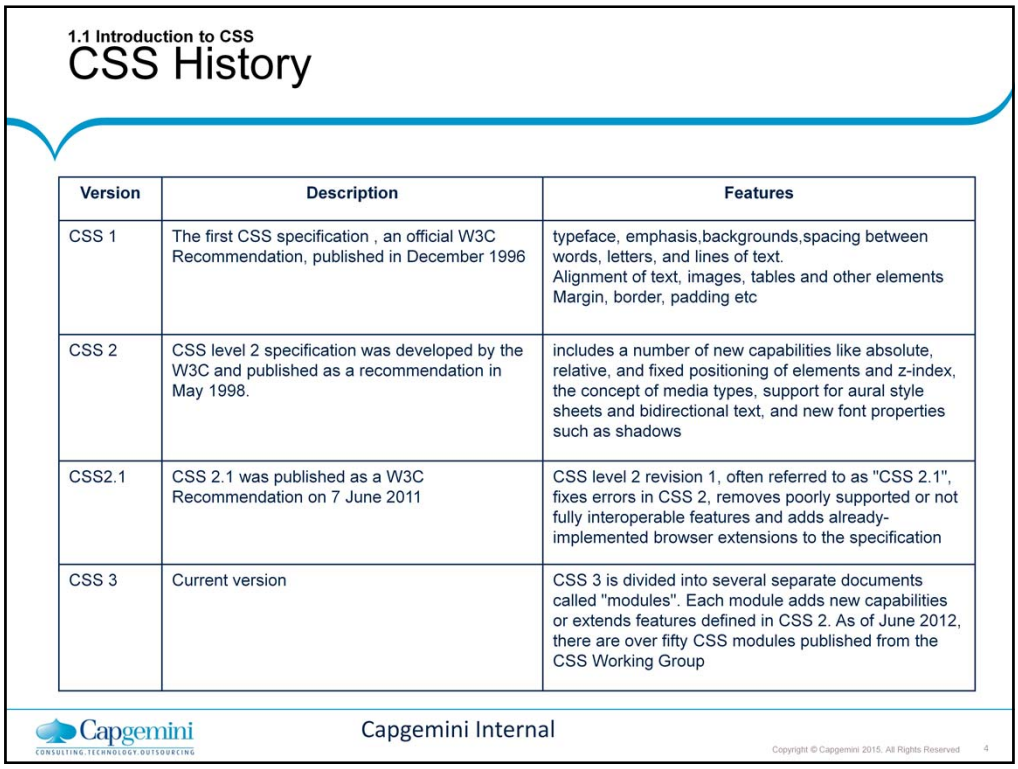


Cascading Style Sheet:

- CSS allows complete and total control over the style of a hypertext document
- A standards-based method for controlling the look and feel of HTML content.
- Comprised of Rules to control elements in the document.
- Designed to separate formatting from the content while being flexible and scalable

What is a Style Sheet?

- Style sheets define how to display HTML elements.
- Style sheets (SS) provide a means for web authors to separate the appearance of web pages from the content.
- Style sheets are an accepted standard on the W3C. The standards are referred to as Cascading Style Sheets 1 (CSS1) and Cascading Style Sheets 2 (CSS2).



Version	Description	Features
CSS 1	The first CSS specification , an official W3C Recommendation, published in December 1996	typeface, emphasis,backgrounds,spacing between words, letters, and lines of text. Alignment of text, images, tables and other elements Margin, border, padding etc
CSS 2	CSS level 2 specification was developed by the W3C and published as a recommendation in May 1998.	includes a number of new capabilities like absolute, relative, and fixed positioning of elements and z-index, the concept of media types, support for aural style sheets and bidirectional text, and new font properties such as shadows
CSS2.1	CSS 2.1 was published as a W3C Recommendation on 7 June 2011	CSS level 2 revision 1, often referred to as "CSS 2.1", fixes errors in CSS 2, removes poorly supported or not fully interoperable features and adds already-implemented browser extensions to the specification
CSS 3	Current version	CSS 3 is divided into several separate documents called "modules". Each module adds new capabilities or extends features defined in CSS 2. As of June 2012, there are over fifty CSS modules published from the CSS Working Group

CSS 1 Features:

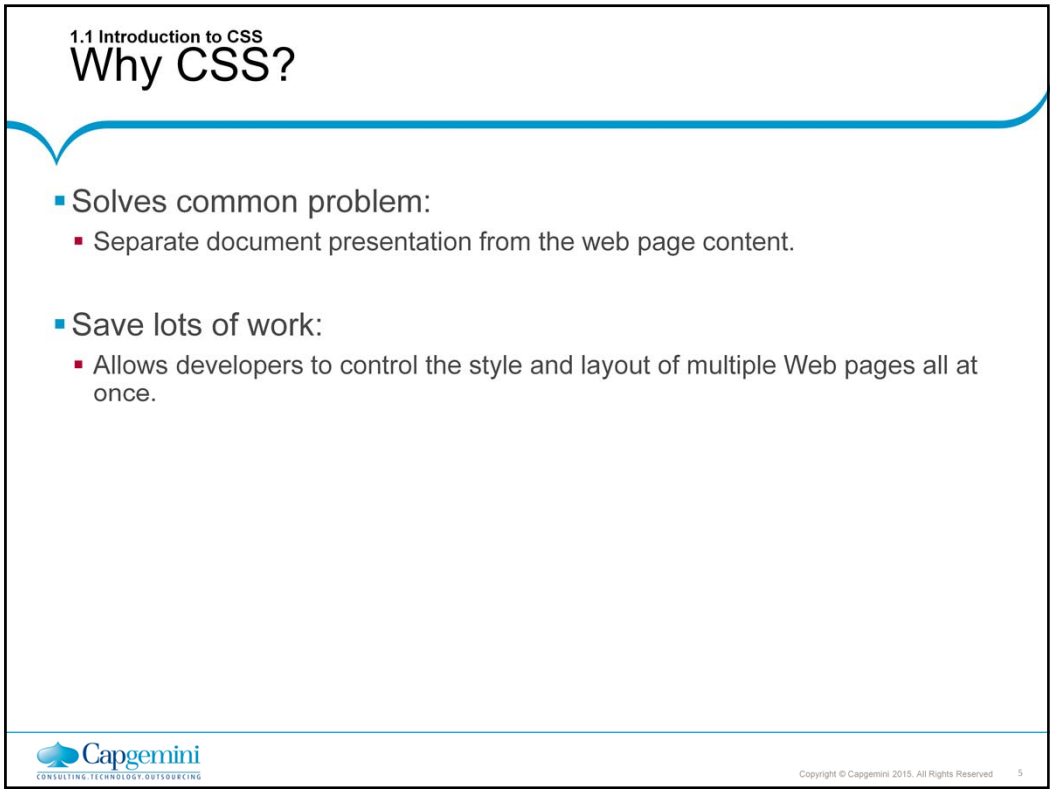
- Font :properties such as typeface and emphasis
- Color of text, backgrounds, and other elements
- Text attributes such as spacing between words, letters, and lines of text
- Alignment of text, images, tables and other elements
- Margin, border, padding, and positioning for most elements
- Unique identification and generic classification of groups of attribute

CSS 2 Features:

CSS level 2 specification was developed by the W3C and published as a recommendation in May 1998. A superset of CSS 1, CSS 2 includes a number of new capabilities like absolute, relative, and fixed positioning of elements and z-index, the concept of media types, support for aural style sheets and bidirectional text, and new font properties such as shadows.

CSS 2.1 Features:

CSS level 2 revision 1, often referred to as "CSS 2.1", fixes errors in CSS 2, removes poorly supported or not fully interoperable features and adds already-implemented browser extensions to the specification



Why use CSS?

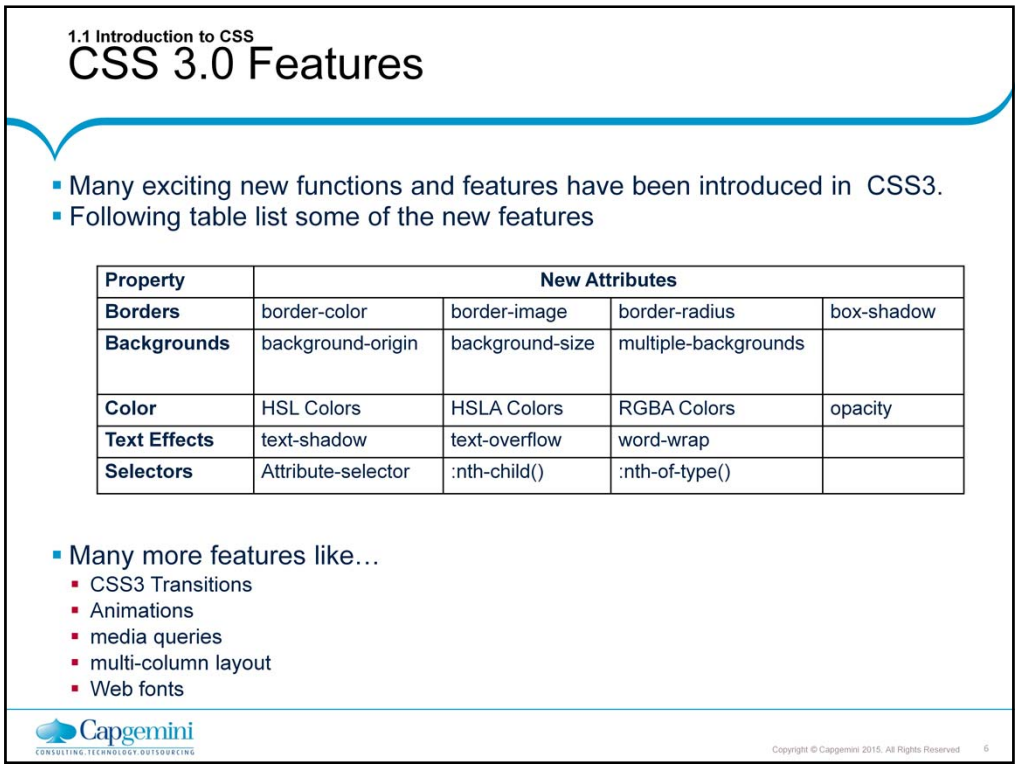
Styles solve a common problem : HTML tags were originally designed to define the document content. They were supposed to say "This is a header", "This is a paragraph", "This is a table", by using tags like <h1>, <p>, <table>, and so on. Browser was to take care of the layout of the document without using any formatting tags.

Two major browsers - Netscape and Internet Explorer - continued to add new HTML tags and attributes (like the <font> tag and the color attribute) to the original HTML specification. Subsequently, it became more difficult to create HTML documents with content clearly separate from the presentation layout. To solve this problem, W3C, the non-profit, standard setting consortium responsible for standardizing HTML, created STYLES in addition to HTML.

Style Sheets Save a Lot of Work

Styles in HTML define how HTML elements are displayed, just like the *bold tag.* Styles are saved in files external to your HTML documents. External style sheets allow you to change the appearance and layout of all pages in your website. Simply, edit a single CSS document. If you have ever had to change the font or color of all the headings in all your Web pages, you will understand how CSS can save you a lot of work.

CSS is a breakthrough in Web design because it allows developers to control the style and layout of multiple Web pages all at once. As a Web developer you can define a style for each HTML element and apply it to as many Web pages as you want. To make a global change, simply change the style, and all elements in the Web are updated automatically.



CSS 3 has introduced many features using which we can much more powerful and flexible websites. Some of the new features of CSS 3 are as follows:

Border Radius: Creating rounded corners in web design isn't always the easiest of things to accomplish. Thanks to the power of CSS3, it has since become one of the more popular and easier techniques to implement. By taking advantage of the **border-radius** property, you can easily round off those corners in seconds

Box Shadow: Creating box shadows is another pretty cool example for adding some stylish elements to your web designs. The best part being the fact that it is completely executed without the use of images. There are even ways to add multiple box shadows to your rounded corners, allowing for the possibility of creating some very slick designs

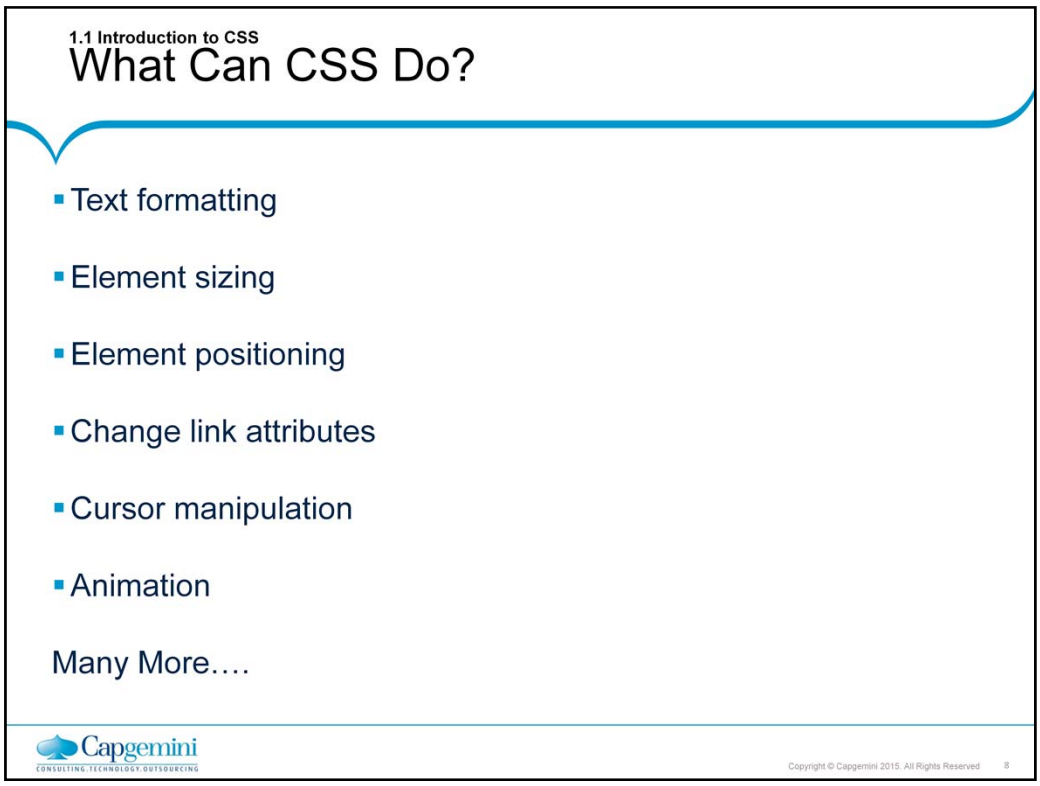
Multiple Background Images: Another cool example of CSS3 is the ability to apply multiple backgrounds to a single DIV without having to create extra child DIV's whose only purpose is to support an image

Text Shadow: You know how easy it is to double click a layer in Photoshop and say hey, I want to add a quick drop shadow to that text? This may be even easier than that. You aren't just restricted to just one shadow either. By combing multiple text shadows of varying colors, the possibilities are endless.

@Font-Face: With this feature we can include custom fonts into our web pages. We can now begin to take advantage of various other fonts, whether installed on the readers computer or not, assuming that they can be pulled via an online directory. Just upload the desired font to your server and pull it via the @font-face feature.

Multi-column layout: W3C offers a new way to arrange text “news-paper wise”, in columns. Multi-column layout is actually a module on its own. It allows a web developer to let text be fitted into columns

CSS3 Animations: Traditionally, the Web was a very static place. Achieving animations was not really possible unless we use JavaScript, animated GIFs and Flash . But With CSS3, we can create animations, which can replace animated images, Flash animations, and Java Scripts in many web pages.


1.1 Introduction to CSS
What Can CSS Do?
Text formatting
Element sizing
Element positioning
Change link attributes
Cursor manipulation
Animation
Many More….
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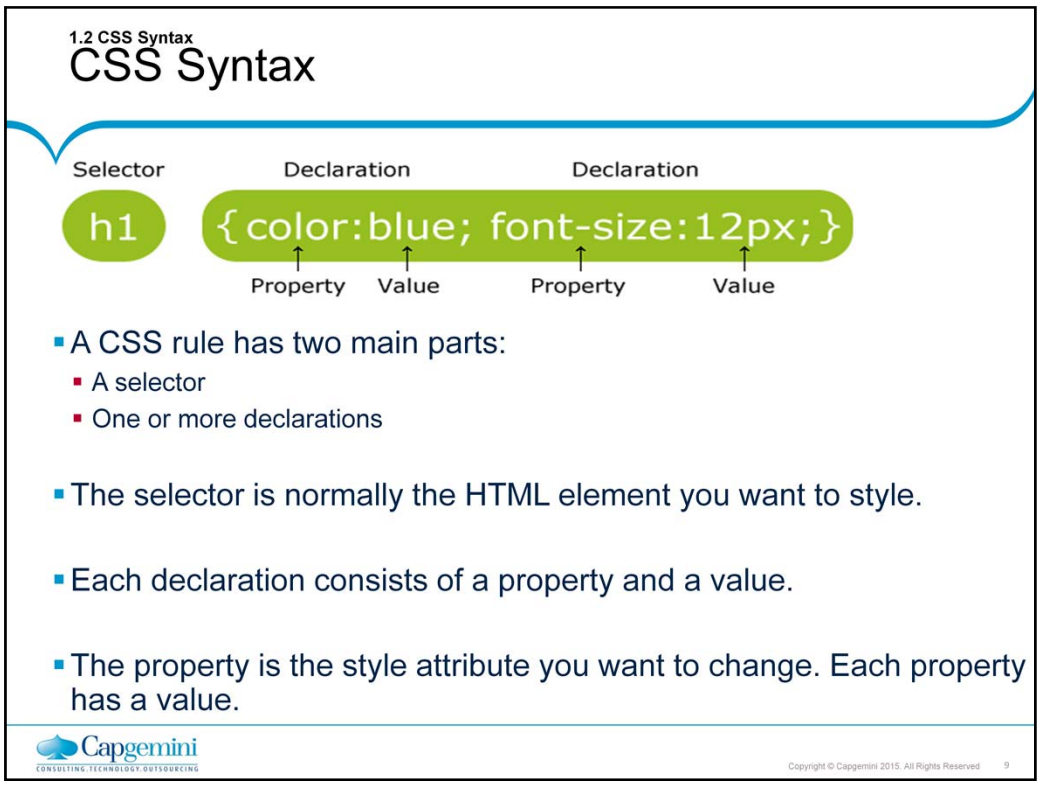
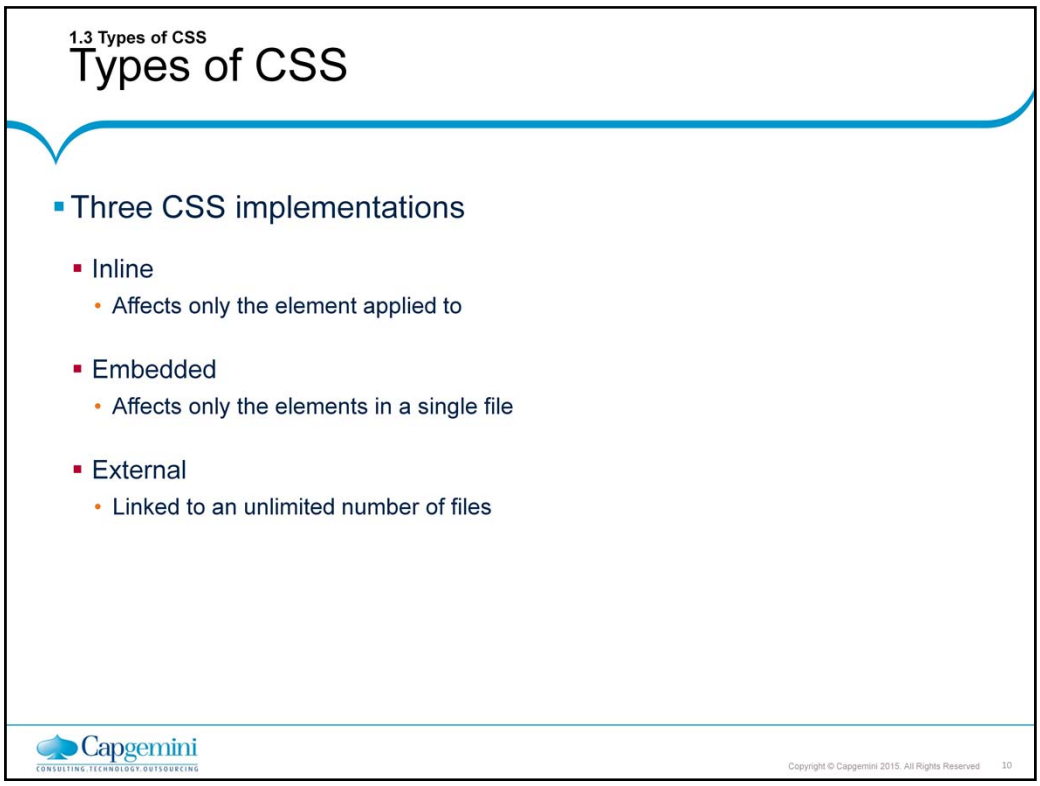


A CSS declaration always ends with a semicolon, and declaration groups are surrounded by curly brackets:

p {color:red;text-align:center;}

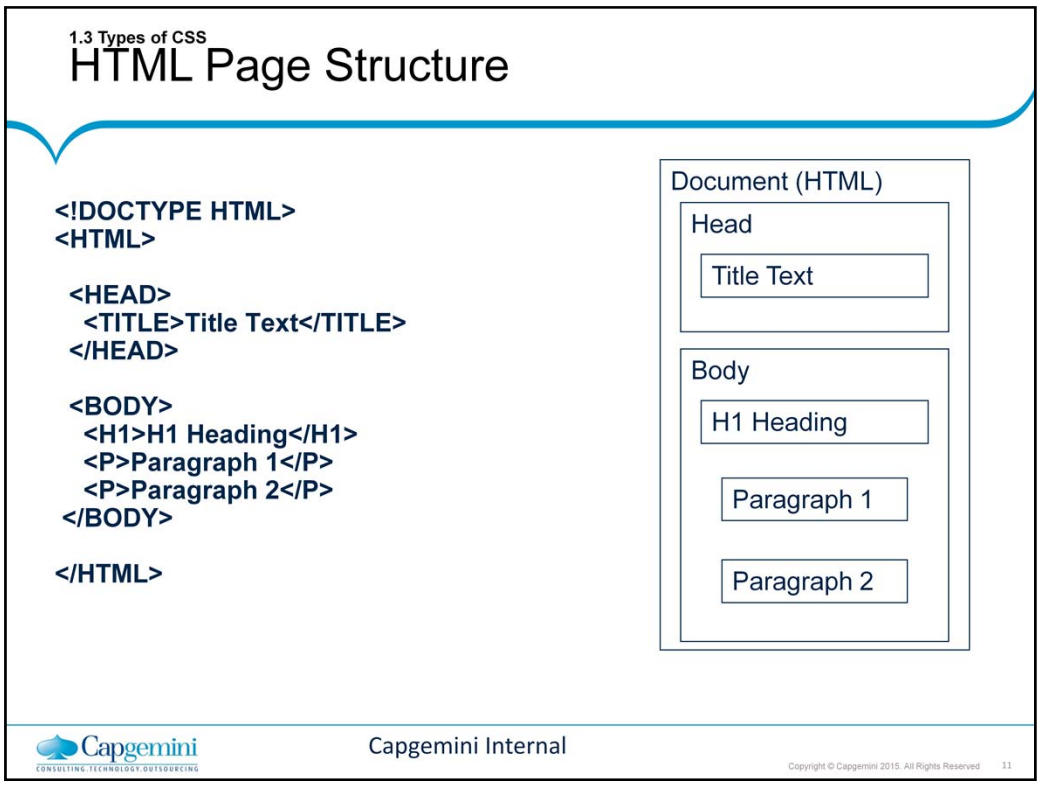
To make the CSS more readable, you can put one declaration on each line, like this:

```
p
{
color:red;
text-align:center;
}
```

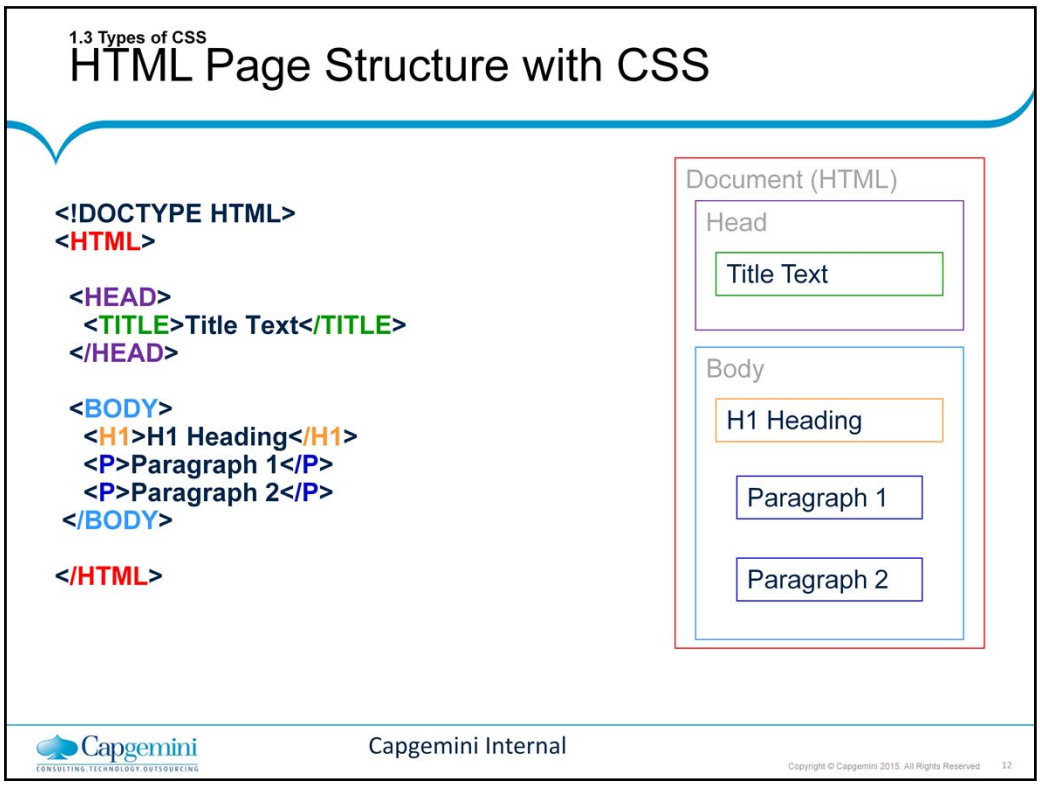


Types of CSS:

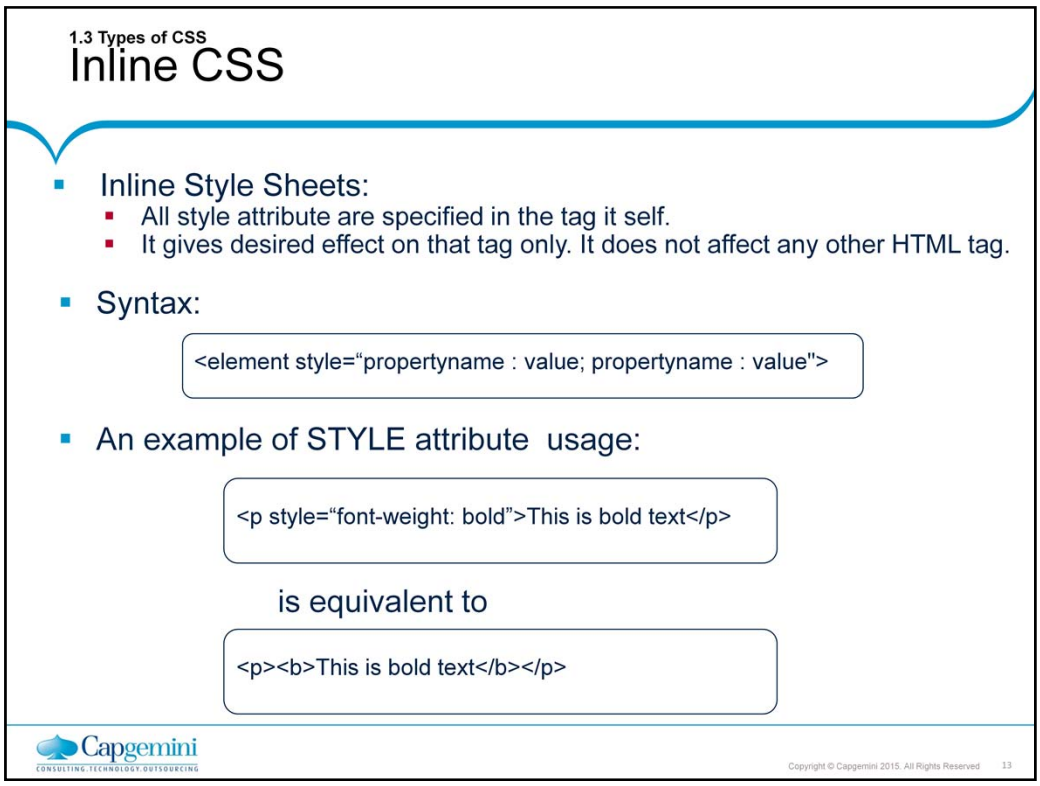
- Inline: Style sheet definition only applies to the tag contents that contain it. It is used to control a single tag element. Each tag does not need to have its style defined as it inherits from its parent.
- Embedded: Embedded style sheets are placed within HTML code of the page they are to be applied to. Style sheet syntax comes between opening and closing <STYLE> tags. These tags are placed either in the <HEAD> section or between the </HEAD> and <BODY> tags.
- Linked: Linked style sheets exist as separate files that are linked to a page with the <LINK> tag. They have the css extension and are referenced with a URL. Inside the css file, style attributes are contained within opening and closing <STYLE> tags. Placing a single <LINK> tag within the <HEAD> tags links the page that needs these styles.



The above given HTML document content is not formatted using CSS.

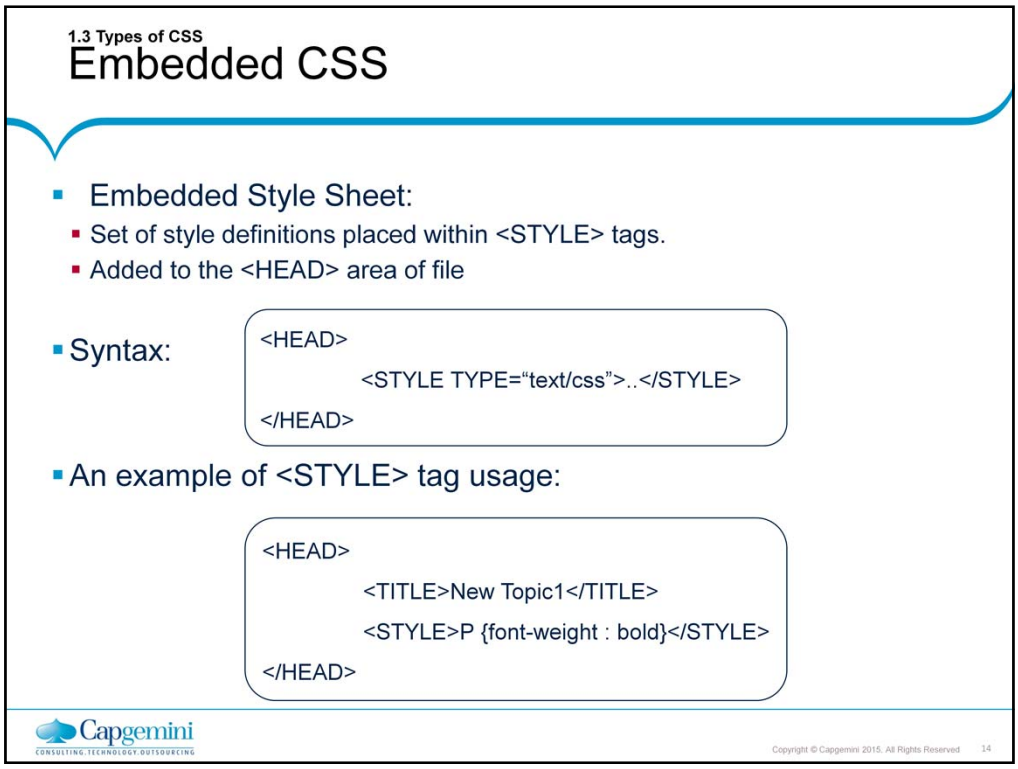


The above given HTML document content is formatted using CSS.



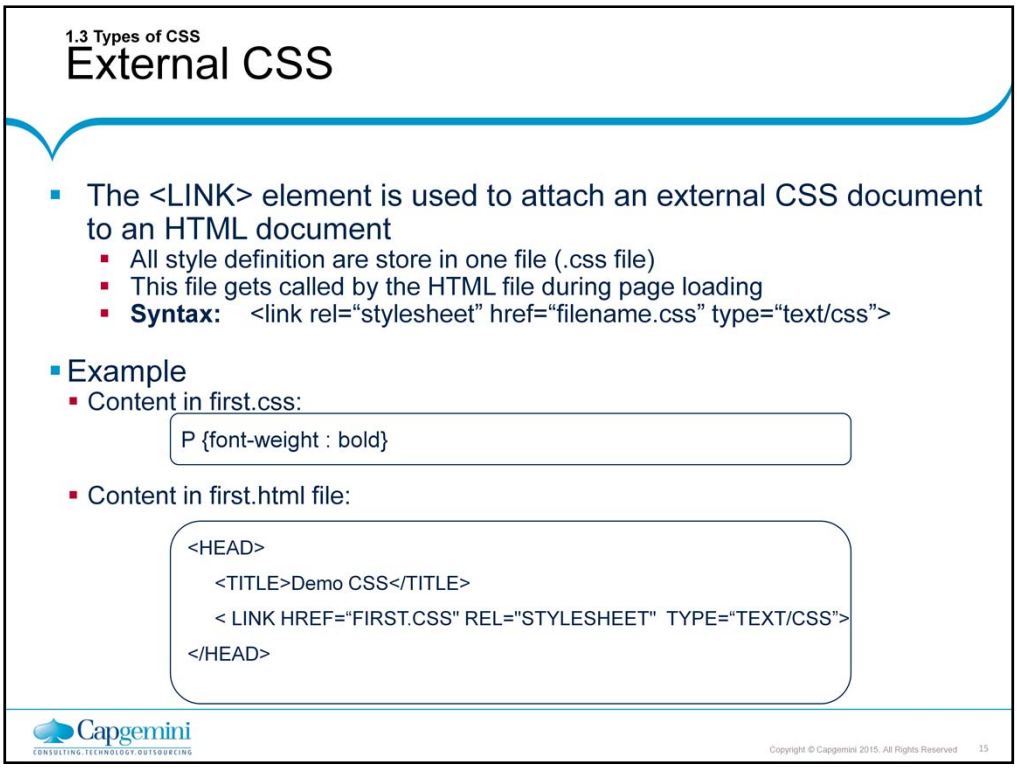
Inline Style Sheet:
Definitions appear next to other tag attributes. You need to remember to place the style sheet description within quotes, like the following:

```
<!DOCTYPE HTML>
<html>
<head><title>Inline Style Sheet</title></head>
<body style="background: white; color:green">
<h2 style="background: gold; font-family: Arial, Impact, Sans Serif;
color:red">
This is Level 2 Heading, with style</h2>
<h1 style="background: orange; font-family: Arial, Impact, Sans serif;
color: blue;font-size:30pt; text-align: center">
This is Level 1 Heading, with style</h1>
<h3 style="background: gold; font-family: Arial, Impact, Sans Serif;
color:red">
This is Level 3 Heading, with style</h3>
<h4>This is Level 4 Heading, without style</h4>
<h1>This is again Level 1 heading with default styles</h1>
</body>
</html>
```



Embedded Style Sheet:
An embedded style sheet is a set of style definitions placed within <STYLE> tags and located in the HEAD section of the HTML document. It sets the style attributes for the entire page where it is located.
Following style sheet description applies to the <H1> tag. It sets the font face to be either Arial, Impact, or Sans Serif, depending on which one it finds first on the user's system. Text color is also defined as blue.
H1 {font-family: Arial, Impact, Sans Serif; color: blue}
You can also group tags together by separating them with commas:
H1, H2, H3 {font-family: Arial, Impact, Sans Serif; color: blue}<html>

```
<!DOCTYPE HTML>
<html>
<head>
<style>     body {background: black; color:green}
h1 {background: orange; font-family: Arial; color:blue}
 h2, h3 {background: gold; font-family: Arial, Impact, Sans Serif; color:red}
</style> </head>
<body>
<h2>This is Level 2 Heading, with style</h2>
<h1>This is Level 1 Heading, with style</h1>
<h3>This is Level 3 Heading, with style</h3>
<h4>This is Level 4 Heading, without style</h4>
</body>
</html>
```

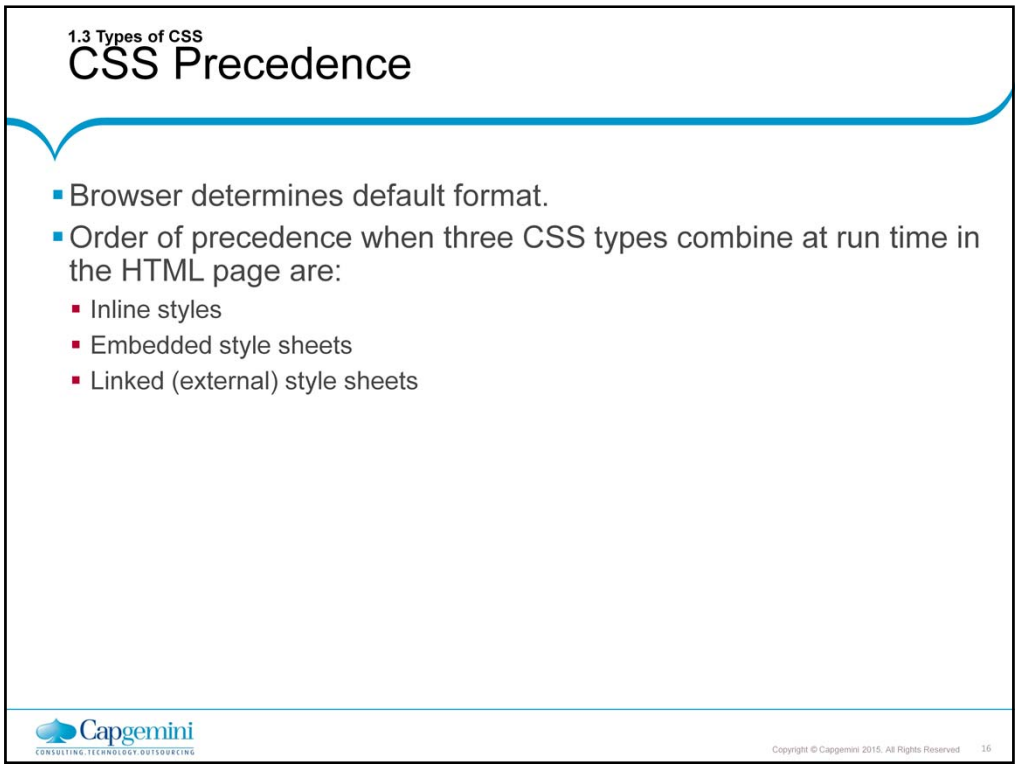


External CSS

External CSS is same as embedded style sheet. The only difference is that the separate css file contains all styles, and gets called by the HTML file.

Example:

```
<!DOCTYPE HTML>
<html>
<head>
<title>Linked Style Sheet</title>
<link rel=stylesheet href="linked_ex2.css"  type="text/css">
</head>
<body>
<h2>This is Level 2 Heading, with style</h2>
<h1>This is Level 1 Heading, with style</h1>
<h3>This is Level 3 Heading, with style</h3>
<h4>This is Level 4 Heading, without style</h4>
</body></html>
```



Style Sheet Precedence
There are several rules that apply to the order of precedence of style sheets. All tags have a default format determined by the browser. This is what you see if no style sheet attributes are set. This also represents the lowest priority.

Another level of priority is established by how close the style definition is to the tag. For this order, linked style sheets are lower than embedded style sheets, which are lower than inline style sheets. If you accidentally include the same property in a linked style sheet as in inline style sheet, then the priority goes to the definition closest to the tag, which would be inline style.

Style sheets for more specific tags have priority over general tags. For example, if a Web page marks the <BODY> tag with a certain style sheet definition and an <H3> tag with same property and a different value, then the <H3> tag has the priority, even though it is also part of the body.

Demo : CSS Syntax and CSS Types

- Lesson01
  - demo1.html
  - Embeddedstylesheet.htm
  - Linkedstylesheet.htm
  - Inlinestylesheet.htm

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Lesson Summary

- In this lesson, you have learnt about:
  - What is CSS
  - CSS history
  - What CSS can do
  - CSS Syntax
  - Types of CSS

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Review Questions

- Question 1: Which of the following are CSS Types.
  - Inline
  - Embedded
  - External
  - All the above
- Question 2: CSS rule has _____ and _____
  - Selector
  - Declaration
  - Element
  - All the Above

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