Separating the presentation from the content

CSS – CASCADING STYLE SHEETS

- **CSS** stands for **C**ascading **S**tyle **S**heets

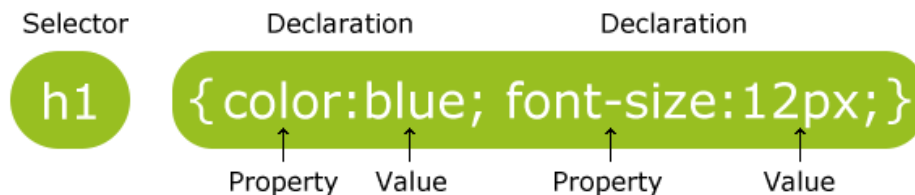- Styles define **how to display** HTML elements

Styles Solved a Big Problem

1. HTML was never intended to contain tags for formatting a document.
2. <font>, and color attributes were added to the HTML 3.2 specification but a lot of work had to be repeated for every webpage in a website to make the same style.
3. the World Wide Web Consortium (W3C) created CSS To solve this problem

CSS Syntax

A CSS style is a set of rules.

A CSS rule has two main parts: a selector, and one or more declarations:

CSS Example

<html><head>
<style type="text/css">
p
{
color:red;
text-align:center;
}
</style></head>
<body>
 Hello World!
 This paragraph is styled with CSS.
</body></html>
	Hello World!
	
	This paragraph is styled with CSS.

CSS Comments

A CSS comment begins with "/*", and ends with "*/", like this:

```
/*This is a comment*/
p
{
text-align:center;
/*This is another comment*/
color:black;
font-family:arial;
}
```

Style Sheets Advantages

- Separation of text content and displaying style and

- Possibility to create external style templates

- CSS will be cached on the user's computer and thus speeds up reloading webpages

- No need for new HTML tags for new styles

- offers much more detailed attributes than plain HTML for defining the look and feel of your site

CSS Selectors

Selectors are the names that you give to your different styles and there're 3 types:

- **HTML (tag) selectors**

  – Used to define styles associated to HTML tags. (A way to redefine the look of tags)

- **Class selectors**

  – Used to specify a style for a group of elements.

- **ID selectors**

Separating the presentation from the content

– Used to define styles relating to objects with a unique ID.

Example on using <u>HTML tag selector</u> of the form **HTMLSelector {Property:Value;…}**	

``html
<html><head>
   <style type="text/css">
       B
       {
               font-family:arial;
               font-size:20px;
               color:red
       }
   </style> </head>
 <body>
   This is a customized headline style bold
 </body></html>
``
	This is a customized headline style bold

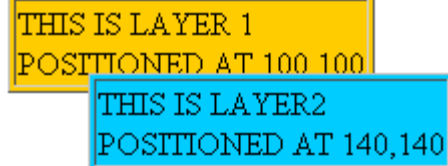| Example on using <u>class selector</u> of the form **.ClassSelector {Property:Value;…}**	

``html
<html>
 <head>
   <style type="text/css">
       .headline
       {
               font-family:arial;
               font-size:14px;
               color:red
       }
   </style>
 </head>
 <body>
   <b class="headline">This is a bold tag carrying the headline class
 	
   <i class="headline">This is an italics tag carrying the headline class</i>
 </body>
</html>
``
	This is a bold tag carrying the headline class
	This is an italics tag carrying the headline class

You can also specify that only specific HTML elements should be affected by a class.

In the example below, all p elements with class="center" will be center-aligned:

Example 2 on using <u>class selector</u> of the form **HTMLTag.ClassSelector {Property:Value;…}**	

``html
<html>
<head>
<style type="text/css">
p.center
{
     text-align:center;
}
</style>
</head>
<body>
<h1 class="center">This heading will not be affected</h1>
<p class="center">This paragraph will be center-aligned.</p>
</body>
</html>
``
	# This heading will not be affected
	
	This paragraph will be center-aligned.

Example on using <u>ID selector</u> of the form **#IDSelector {Property:Value;...}**

```html
<html>
 <head>
  <style type="text/css">
      #layer1
      {
             position:absolute;
             left:100; top:100; z-Index:0;
      }
      #layer2
      {
             position:absolute;
             left:140; top:140; z-Index:1;
      }
  </style>
 </head>
 <body>
  <div id="layer1">
   <table border="1" bgcolor="#FFCC00">
    <tr>
     <td>THIS IS LAYER 1<br>
       POSITIONED AT 100,100</td>
    </tr>
   </table>
  </div>
  <div id="layer2">
   <table border="1" bgcolor="#00CCFF">
    <tr>
     <td>THIS IS LAYER2<br>
       POSITIONED AT 140,140</td>
    </tr>
   </table>
  </div>
</body></html>
```

THIS IS LAYER 1
POSITIONED AT 100,100

THIS IS LAYER2
POSITIONED AT 140,140

SPAN and DIV HTML Tags as carriers

- The <span> and <div> tags provide a way to add a hook to a part of a text or a part of a document so that you can add styles to the content.

- The <span> tag provides no visual change by itself.

- The <div> tag defines a division or a section in an HTML document.

- The main difference is that a **<span>** tag is an *inline* element and **<div>** tag is a ***block*** element.

`<html>` `<head>` `<style type="text/css">` `.mytext` `{` `text-decoration:underline;` `}` `</style>` `</head>` `<body>` `This is the start of my page` `<div class="mytext">` `<b>Hello There</b> ` `<i>Hello There</i>` `</div>` `This is the end of my page` `</body></html>`	This is the start of my page **<u>Hello There</u>** *<u>Hello There</u>* This is the end of my page

If we replaced div with span, the page will display:

This is the start of my page **<u>Hello There</u>** *<u>Hello There</u>* This is the end of my page

Grouped selectors

- Most often selectors will share some of the same style for example, being based on the same font.

- In these cases, we can assign the font to all the selectors at once

.headlines{
font-family:arial; color:black;
background:yellow; font-size:14pt;
}
 	
.**sublines** {
font-family:arial; color:black;
background:yellow; font-size:12pt;
}
 	
.infotext {
font-family:arial; color:black;
background:yellow; font-size:10pt;
}
	.headlines, .sublines, .infotext {
	font-family:arial; color:black;
	background:yellow;
	}
	
	.headlines {font-size:14pt;**}**
	
	.sublines {font-size:12pt;**}**
	
	.infotext {font-size: 10pt;**}**

Context dependant selectors

`<html>` `<head><style type="text/css">` `I B` `{font-size:20px;` `color:red;` `text-decoration:underline}` `</style></head>` `<body>` `<b>example</b> ` `<i>example</i> ` `<i><b>example</b></i>` `</body></html>`	**example** *example* ***example***

For example:

Using the following style for a page:

I B, .headlines, B.sublines {font-size:16px;}

The font-size of 16 pixels is in effect on:

1. All **<B>** tags enclosed by **<I>** tags
2. All **headlines** classes.
3. **sublines** classes enclosed by <B> tags.

Where to place CSS

1. Inline Style Sheets
2. Embedded Style Sheets
3. External Style Sheets

Inline Style Sheets (for a single tag)

- We can create style rules within a document directly inside an HTML element tag.
- The formatting rules apply to the section.

`<html>`
 `<body>`
 `<P style="font: 10 pt Arial; line-height: 12 pt; margin-left: 0.5in; margin-right: 0.5cm; color: green; font-weight: bold">`
`See this paragraph</P>`
 `</body></html>`
	See this paragraph

It should be limited to be used because of the disadvantages:

1. You will lose much of the power associated with CSS by defining your styles for every tag.
2. If you wanted to change a certain style, you'd have to change it all over in your document, rather than in one place.

Embedded/Internal Style Sheets (for a single page)

- We can add style information in the document HEAD.

- The formatting rules apply for the whole document.

- It's preferred when a single document has a unique style.

```<HTML> <HEAD> <TITLE>Style Sheets Demo 1</TITLE> <STYLE> H1 {text-align:right;color:blue; font-family:Arial;background:yellow} H2, H3 {text-decoration:underline;font-style:italic} </STYLE> <body> Hello world Hello world Hello world </body> </HEAD>```	**Hello world** **Hello world** **Hello world**

External Style Sheets (for entire site)

- Style sheets can be kept separately from the HTML document.

- An external style sheet is the best choice when the style is applied to many pages

- Use the <**link** …> tag in the document HEAD.

- Example: <**link rel**=stylesheet **href**="mystyle.css" **type**="text/CSS">.

Example:

mystyle.css
H1 {text-align:right;color:blue; font-family:Arial;background:yellow} H2, H3 {text-decoration:underline;font-style:italic}

Index.html	Display

``html
<HTML>
<HEAD>
<TITLE>Style Sheets Demo 1</TITLE>
<link rel="stylesheet" type="text/css" href="mystyle.css" />
<body>
 Hello world
 Hello world
 Hello world
</body>
</HEAD>
``
	Hello world
	
	Hello world
	
	Hello world