

Introduction to Web Development

Code: COMP07009

Credit: 20 points

Week 4

Reference: <http://www.w3schools.com>

CSS Introduction

CSS

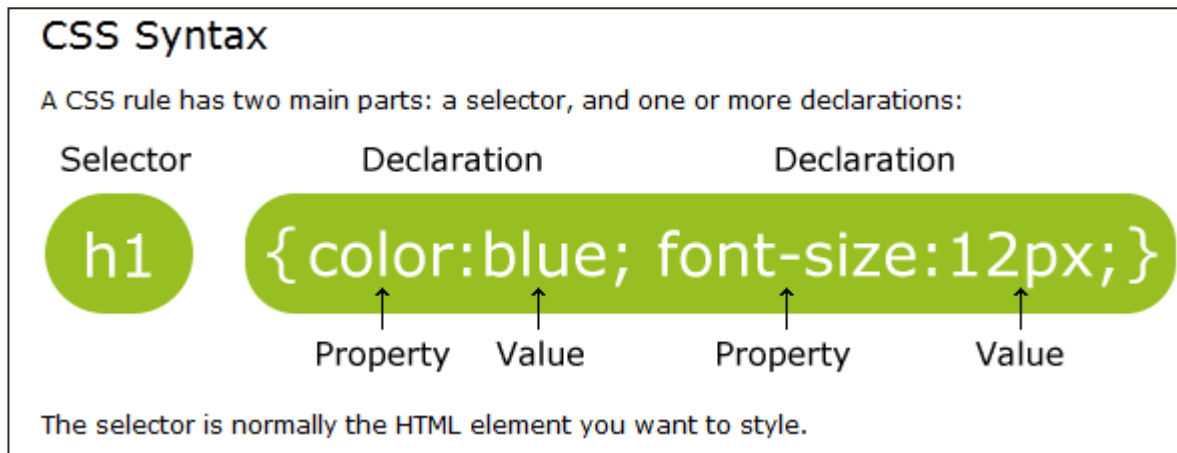
- **Cascading Style Sheets**
- Defines a style for an HTML element or set of elements
- Defines how HTML elements will be displayed
- Styles were added to HTML 4.0 to keep style and content separate
- External style sheets (.css files) can save a lot of work as they enable you to change the appearance and layout of many pages in a Web site, by editing only one file

Where do I define CSS?

- External style sheet
 - .CSS file
- Internal style sheet
 - inside the <head> tag in the HTML file
- Inline style
 - embedded inside the HTML element

CSS Syntax (int/ext)

- http://www.w3schools.com/css/css_syntax.asp



- Each declaration consists of a property, colon and a value, ending with a semicolon
- Some editors highlight parts of the syntax in different colours which is useful (eg HTML-Kit)

External CSS file

- Defined within a separate file from HTML file
- External file has .css extension
- Most common way of applying styles
- Does not contain any HTML code
- Can be written in any text editor

```
body{background-color:#FFD700;}  
h1{text-align: left;color:}  
hr{color:blue;}
```

- Must link the to the style sheet from the html file using the

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

Grouping selectors

- Define the header1, header2 and header3 elements to have a colour of red
- `h1,h2,h3 {colour:red;}`

Internal Style Sheet

- Defined inside the <head> tag within the HTML file using the <style> tag
- Does not contain any HTML code
- Can be written in any text editor
- Applied within the current document only so should be used when a single document has a unique style

```
<head>
<style type="text/css">
body{background-color: pink; }
h1{color: #FF0000; }
p{color: blue; text-align: left; }
</style>
</head>
```


Inline style

- Mixes content and presentation
- <style> tag is used inside the relevant tag
- Only applied to the single element
- Time consuming and repetitive
- Not recommended

```
<body style="background-color:#FFFFCC;">  
  
<h1 style="background-color:#FFFFCC; color:#FF0000">Inline styles</h1>
```

Multiple Style Sheets

- If some properties have been set for the same element in different style sheets, the values will be inherited from the more specific style sheet
- Cascading order
- The styles will "cascade" by the following rules, where number four has the highest priority:
 1. Browser default
 2. External style sheet
 3. Internal style sheet (in the head section)
 4. Inline style (inside an HTML element)

CSS references

- Useful to print out reference list or bookmark relevant sites for quick reference as you're not expected to remember all possible properties and values
- Eg CSS Background
- Properties are used to define the background effects of an element
- What are they?
 - background-color
 - background-image
 - background-repeat
 - background-attachment
 - background-position
- http://www.w3schools.com/css/css_background.asp

CSS comments

- Used to explain the code so may help you edit at a later date
- CSS comments begin with `/*` and end with `*/`
- `/* this is a CSS comment */`
- Comments will be ignored by the browser

ID Attribute

- Defines a style for a single, unique element
- There can only be one element of a given type with a given ID in a document
- Use the hash (#) to specify an id

```
<style type="text/css">  
#intro{color:blue;text-align:center;}  
</style>
```

- Any HTML element can have ID attribute:
<h1 id="intro">This is a heading</h1>

```
<h1 id="intro">This is a heading</h1>  
OR  
<p id="intro">This is a paragraph</p>
```

CLASS Attribute

- Defines a style for a group of elements
- Unlike id, class is often used on many elements
- Can be defined as a general style that can be used by different elements using a “.” before the name of the class

```
<style>  
  .center{text-align:center;}  
</style>
```

- The class is applied to the <h1> and <h2> elements using the class attribute

```
<h1 class="center">A Simple HTML5 Document (Structured)</h1>  
  
<h2 class="center">Hypertext and Hyperlinks</h2>
```

CLASS Attribute

- Can be defined so that only specific HTML elements should be affected by a class
- Give the element name before “.” and the name of the class

```
<style>  
p.center{text-align:center;}  
</style>
```

- Only <p> tags will be affected by this class
- Different classes can also be applied to different instances of the same element

```
<style>  
p.left{text-align:left;}  
p.right{text-align:right;}  
</style>
```

- Two different classes can be applied to the <p> element

DIV

- <div> tag used to layout a web page (which will be looked at later)
- Can be used to group elements to format them with CSS

```
<div class="center">
<h1>A Simple HTML5 Document</h1>
<h2>Hypertext and Hyperlinks</h2>

<p>A simple HTML document can be created in a
text editor using HTML tags that will be
processed by the web browser as it displays
the page.</p>
</div>

<h3>The W3C</h3>
```

A Simple HTML5 Document

Hypertext and Hyperlinks

A simple HTML document can be created in a text editor using HTML tags that will be processed by the web browser as it displays the page.

The W3C

SPAN

- Used to group inline elements in a document
- Provides a way of setting the style for part of a text or part of a document

```
<p>The <span style="color:blue">World Wide  
Web Consortium</span> (W3C) coordinates the  
definition and development of HTML. </p>
```

The W3C

The World Wide Web Consortium (W3C) coordinates the definition

CSS - Layout

CSS Box Model

- All HTML elements can be considered as boxes
- Term “box model” is used for design and layout
- Box that wraps around HTML elements



CSS Box Model

- **Margin** - Clears an area around the border. The margin does not have a background color, it is completely transparent
- **Border** - A border that goes around the padding and content. The border is affected by the background color of the box
- **Padding** - Clears an area around the content. The padding is affected by the background color of the box
- **Content** - The content of the box, where text and images appear

Width and Height

- When you set the width and height properties of an element with CSS, you just set the width and height of the **content area**. To calculate the full size of an element, you must also add the padding, borders and margins.
- Total element width = width + left padding + right padding + left border + right border + left margin + right margin
- Eg

```
width:250px;  
padding:10px;  
border:5px solid gray;  
margin:10px;
```

- Total width of the element is 300px
 - $250 + 2 \times 10 + 2 \times 10 + 2 \times 5$

Structure of a Page

- New structural elements in HTML5
- `<header>` Defines a header
 - Eg logo, navigation menu, web site details
- `<footer>` Defines a footer
 - Eg copyright, contact details
- `<hgroup>` Groups a set of `<h1>` to `<h6>` elements when a heading has multiple levels
- `<article>` Defines an article
 - Eg An independent block of content

Structure of a Page

- `<aside>` Defines content aside from the page content
- Eg not directly related to article content
- `<nav>` Defines navigational links
- Eg navigational menu
- `<section>` Defines a section in a document
- Eg groups related content together
- And many more

Example

header	
nav	
aside	article section section section
footer	

Example

header		
nav	article	article
footer		

Example

HEADER

NAVIGATION

ARTICLE

ASIDE

FOOTER

Inside <head>

- <style> tags
- # followed by name of id
- CSS syntax {property:value;property:value etc}

```
<style type="text/css">
#container{width:800px;}
#header{background-color:#CCFF66;}
#article{background-color:#FFFF99;height:350px;width:600px;float:left;}
#aside{background-color:#FFFFCC;height:350px;width:200px;float:left;}
#footer{background-color:#CCFF66;width:800px;clear:both;}
</style>
```

Inside <body>

- Everything inside the container
- Navigation inside the Header

```
<div id="container">
<div id="header">
<h1>HEADER</h1>
<div="nav">
<h1>NAVIGATION</h1>
</div>
</div> <!-- closes the header div -->
<div id="article">
<h1>ARTICLE</h1>
</div>
<div id="aside">
<h1>ASIDE</h1>
</div>
<div id="footer">
<h1>FOOTER</h1>
</div>
</div> <!-- closes the container div -->
```

Example

header color	
nav color height width float alignment	content color height width float
footer	

Example



Inside <head>

```
<style type="text/css">
#container{width:800px;}
#header{background-color:#CCFF66;}
#nav{background-color:#FFFF99;height:600px;width:100px;float:left;
text-align:center;}
#content{background-color:#FFFFCC;height:600px;width:700px;
float:left;}
#footer{background-color:#CCFF66;clear:both;text-align:center;}
</style>
```

Inside <body>

```
<div id="container">
<div id="header">
<h1 style="margin-bottom:0;text-align:center">Main Title</h1>
</div>
<div id="nav">
<a href="page1.html">Page 1</a><br/>
<a href="page2.html">Page 2</a><br />
<a href="page3.html">Page 3</a><br />
</div>
<div id="content">
Content goes here</div>
<div id="footer">
<a href="contact.html">Contact Details</a>
</div>
</div> <!-- closes the container div -->
```


Finally

- CSS is recommended for layout and NOT tables
- Browser Compatibility Issues
- Use Internal and External Styles and try and avoid inline styles
- Use reference lists for CSS
- eg <http://w3schools.com/cssref/default.asp>

Lab

- Open html files used in earlier labs
 - Apply different styles to different elements
 - Use internal and external styles
 - Look at examples of CSS for styling and layout
 - Create different layouts
-
- You should be working on your first assessment which is on Moodle
 - Part of this assessment requires you to show a different layout for the home page and the detail pages