Web Application Development
Practical 2: Cascading Style Sheets

An editor such as VS Code or Notepad should be used to edit the HTML.

This week's practical looks at the application of *cascading style sheets* (CSS) to HTML files. CSS is used to separate online content from its presentation so that changes to the look and feel of an entire site can be performed by changing a single external style sheet. If, for example, you needed to change the font and colour of every heading in a web site, the job is made extremely simple by using an external style sheet, whereas it would be extremely tedious (not to mention error-prone) to have to make the change manually in every page on the site.

You can find more detailed notes on cascading style sheets in your lecture notes. **Further details** are also available at the w3c schools CSS tutorial and reference page, located respectively at:

- http://www.w3schools.com/css/
- http://www.w3schools.com/cssref/default.asp

These are a valuable resource when defining style sheets, as they describe how to use each css definition and provides examples to illustrate.

Additional notes for this practical:
This week's practical should be stored in a folder called **practical2** within the COMP30680 folder you created in the first practical. Create a subfolder of the practical2 folder called **images**. Any images downloaded for this practical should be stored here.

In all of the following exercises, you must create a full HTML document. You can use the HTML template that you saw in practical 1, with your own content in the <title>…</title> and <body>…</body> tags. Every HTML page has to have the <!DOCTYPE …> declaration at the top to comply with the HTML specification. HTML pages can be validated using http://validator.w3.org.

External stylesheets should be used unless otherwise indicated. Remember that there should be no HTML tags in your stylesheet.

CSS can be validated using http://jigsaw.w3.org/css-validator/.

Practical Exercises

Mark-up the following exercises in HTML and CSS.

Exercise 1

Create a style sheet that styles the <h1>, <h2>, <h3> and <em> tags. Each tag should have the following properties defined: color (note the American spelling, without a 'u'), letter-spacing, text-decoration, font-size, font-family (e.g. Times) and font-weight. You may define additional properties for these tags if you wish. You can find what the valid values for any of these properties are by visiting http://www.w3schools.com/css. The sections that are particularly relevant to this exercise are 'CSS Text' and 'CSS Font'.

Create a HTML page that links this style sheet and displays some text using each of the redefined tags. Save these files as **e1.css** and **e1.html** in the practical2 folder.
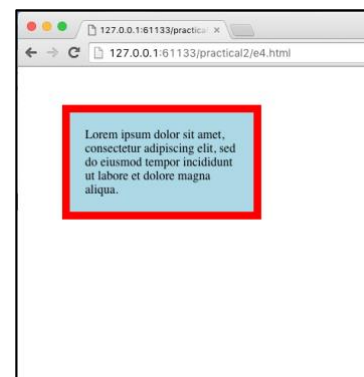
Exercise 2

The aim of this exercise is to format a single Web page using two different external style sheets. Create a Web page that contains a list of 5-10 books. Each book should have fields for title, author, publisher and a short summary. Each of these fields should be formatted differently, using a CSS class. All books should share the same format for each field (i.e. the title field for all books should be formatted the same). Create an external style sheet called **e2a.css** to control this. Save the book page as **e2a.html** in the practical2 folder.

Create a second style sheet called **e2b.css,** which defines a different style for each field. Save another copy of the book page that uses this second external style sheet as **e2b.html** in the practical2 folder.

Exercise 3

Create a HTML file called **e3.html**. Using a document level style sheet create a block of text within the body of the page that is 200px wide, has a light-blue background colour, padding of 20px, a 10px border that is red, and a margin of 50px. See right.

Exercise 4

Recreate the following table using HTML and CSS. Name the HTML file **e4.html** and the CSS file **e4.css**.

Web application development Class of 2016

Language	Percentage
Python	65%
Java	19%
HTML	100%
CSS	100%
C++	24%
Lisp	1%

Note: There are multiple solutions for this exercise. I have included one solution in the practical files but try it for yourself for now.

Think carefully about which properties should apply to table, to tr, to td, and to th. To get the alternate row colors, you'll need to apply a class to every alternate row, then set a background-color for this class. To text-align the second column, I used the 'last-child' pseudo-element; it's easier than setting a new class for every one of those td elements. Look it up.

Exercise 5

Recreate the following navigation bar using an unordered list in HTML and appropriate styles in an external CSS file. Name the html file **e5.html** and the CSS file **e5.css**.

HOME	NEWS	ARTICLES	FORUM	CONTACT	ABOUT

Again there are multiple solutions for this exercise.

Extras:

If you have time left when you complete these exercises please go to this page and try out some of the CSS exercises: http://www.w3schools.com/css/exercise.asp.

You may also want to try experimenting with document level and inline style sheets.