IS221 : Web Applications Development

Lab 1 – Building a Basic HTML5 Document

This lab will give you practice doing the following:

1. Learn to use basic HTML5 elements to create a simple About Me page.
2. Use basic HTML5 tags and attributes (<html>…</html>, <head>…</head>, <body>…</body>)
3. Create Page Titles, Paragraphs and Headings (<title>...</title>, .. , <h1>...</h1>)
4. Create Links, Images and lists (<a>..., <img>, <ul>...)

Background:

This lab focuses on creating simple html documents and introducing the concept of Markup language and web standards. In essence, the Internet comprises an enormous collection of computers linked together in a network, communicating by sending data to each other. Data/information, is stored on every computer on the internet, and takes many forms from spreadsheets to Word documents, images and sound bites to web pages. These web pages are encoded with a MARK-UP language referred to as HTML. It is the World Wide Web Consortium (W3C) that is responsible for leading the World Wide Web (www) to its full potential by developing protocols and guidelines for the Web. Later HTML specifications are maintained by the World Wide Web Consortium (W3C) as well.

Remember that web pages are usually used as a means of conveying data, or information. Once a web page is created, it gets stored on a web server. On surfing the internet via the web browser (Internet Explorer, Opera, Mozilla Firefox, Google Chrome, etc), any particular web page is located via a URL. The URL is an address that tells the browser where exactly to find the page being sought. The browser requests the web server for a particular page delivering it in virtually less than a second. The Web Server, upon receiving the request, gets the data for the requested page, and delivers it back to the requesting computer. Whatever is seen on the browser is its interpretation of that data. HTML is simply a way to tell the visitor's browser how its data is to be displayed.

Lab Objectives:

- To understand the concept of **Web Standard** and the significance of the **World Wide Web Consortium (W3C)**
- To understand the concept of **markup language** and introduce the Hypertext Markup Language (HTML) as the first basic Web Standard
- To understand the basic steps involved in the process of creating, editing, and viewing an HTML document

- To learn the essential HTML tags in creating web pages
- To view the source code of existing web pages
- To get used to locating and browsing through Web pages via a Web Browser and http protocol

Lab Requirements:

- **Text Editor**: Notepad++ (Recommended) or Notepad
    - *We need a Text editor like Notepad++ to write our HTML code*
- **Web Browser**: Mozilla Firefox or Internet Explorer or Google Chrome, etc
    - *A Web browser is needed to view the resulting output of the web page created*
- USB Flash disk
    - *Please save all your work onto your flash disk*
- Notebook or Writing pad
    - *Keep a writing pad handy so that you can note down any important points covered during the lab class*

Activity: Creating the About Me page

1. Create a folder called **Lab1** in your USB flash disk
2. Download and save the file **Lab1.html** into the Lab1 folder on your USB device.
3. Launch the HTML editor of your choice e.g. **Notepad++.** Open the Lab1.html file in Notepad++ and examine the code. The Lab1.html contains the basic elements of an HTML5 document as follows:

```
<!DOCTYPE html>
    <html>
        <head>

        </head>

        <body>

        </body>
    </html>
```

4. Enter the **title** of the web page between **the <title>…</title>** tag such as *About Your name.*

```
<head>
        <title>About Yourself  </title>
</head>
```

5. Add a **<meta>** element that defines the document type.

```
<head>
        <title>About Yourself </title>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
</head>
```

6. Save your work and then open your **aboutme.html** file in a web browser. (Double clicking on theaboutme.html file will open it in the default web browser. Use Right click->Open with... option to select the browser of your choice.)

   Examine the result of the code you have written on the web browser. Check the **Title Bar** of the browser to see the title that you have entered in the previous step.

Activity : Creating the body of the web page

Now let's start to fill in the body of your *About Me* page. All code that you write will now be between the <body>...</body> tag.

1. Type *About Your Fullname* as the heading of your page using the <h1>...</h1> tag.

```
<body>
        <h1>About Marge Simpson </h1>
</body>
```

   Save your work and refresh the web browser to view the changes made.

2. Next, write a short paragraph about yourself.
   Write a short introduction sentence, eg., *Hi. My name is Marge Simpson.*

   Write another sentence that states your home country and the majors you are studying. Eg., *I'm from Fiji, and am studying BSc majoring in Computing Science and Information Systems at University of the South Pacific*.
   Save your work and refresh the web browser to view the changes made.

   Put a line break using the **
** tag after the first sentence so that the second sentence starts on a new line.
   Save your work and refresh the web browser to view the effect of the
 tag.
3. Add another short paragraph of about 2 - 3 sentences describing you.
4. Make your home country and the majors you are studying bold.

5. Create a horizontal line after this paragraph.
   Save your work and refresh the web browser to view the changes made.

   Next, we will create a list of our courses and favorite websites.

Activity : Adding Sub-Headings, Lists and Hyberlinks

1. Create a Sub-Heading, titled My Courses This Semester, using the <h2>...</h2> tag.
2. Now let's create an ordered (numbered) list to list the courses that you take this semester.
   The structure for an ordered list is as follows:

```
<ol>
  <li>Item 1</li>
  <li>Item 2</li>
  <li>Item 3</li>
</ol>
```

   The above code produces the following output on the web browser:

   1. *Item 1*
   2. *Item 2*
   3. *Item 3*

   Save your work and refresh the web browser to view the changes made.

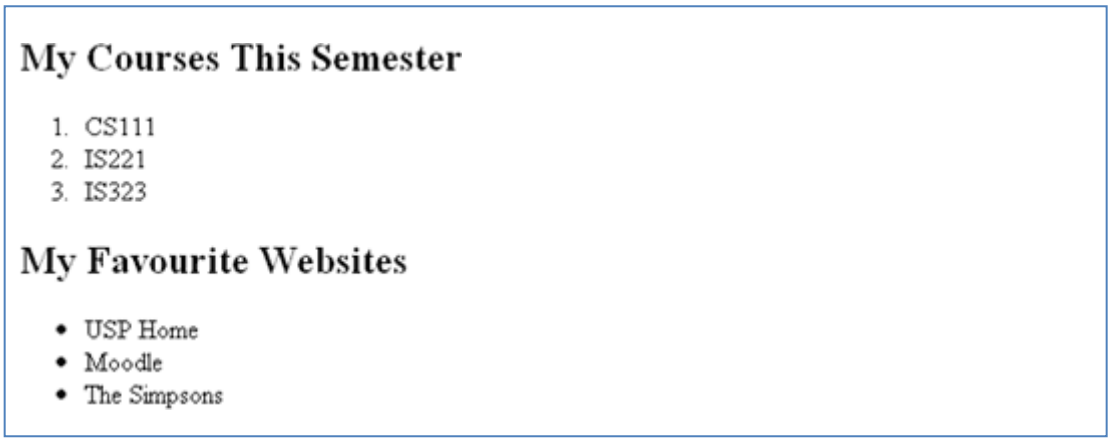
3. Add another sub-heading to the web page titled **My Favourite Websites**.
4. This time we will list the favourite websites as an unordered list, or as bullet points.
   The code structure for an unordered list is similar to an ordered list.

```
<ul>
  <li>Item 1</li>
  <li>Item 2</li>
  <li>Item 3</li>
</ul>
```

   The corresponding output for the above code on the web browser is similar to:

   - *Item 1*
   - *Item 2*
   - *Item 3*

   Enter **USP Home** as the first and **Moodle** as the second item in this list. Add the names of 2 other websites to the list.
5. Save your work and refresh the web browser to view the changes made.
   The two sub-headings and lists should look similar to the screenshot below.



6. The next step will be to create hyperlinks to the websites listed above.
   The web address for the USP Homepage **is http://www.usp.ac.fj**. Update the USP Home list item (
USP Home) to:

   **
USP Home
**

   Save your work and check the changes on the browser. See that clicking on *USP Home* opens the USP homepage.
7. Add the hyperlinks to the remaining sites in the list.
   The web address for the Moodle page is http://www.elearn.usp.ac.fj.
8. Since you are creating hyperlinks, make the text University of the South Pacific, from the paragraph written earlier, hyperlinked to the USP web address http://www.usp.ac.fj as well.

   In the next section, you will add a few images to your web page.

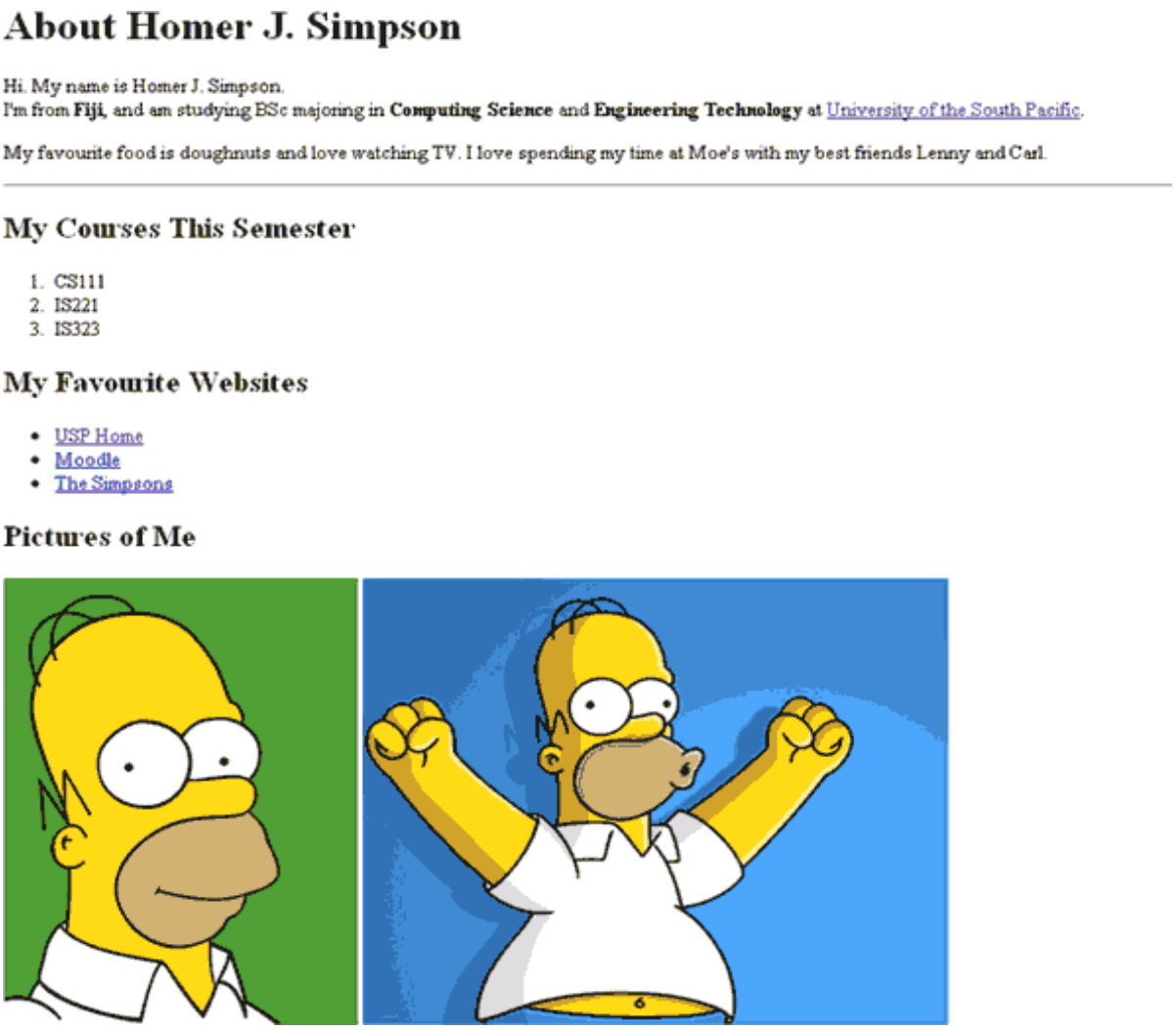
Activity : Putting Images in the Web Page

1. First, add a sub-heading titled **Pictures of Me.**
2. You will add two images of yourself in this section.
   In the Lab1 folder, create another folder called images. This is where you will store all your image files.
3. Save 2 pictures of yourself into the images folder. It is recommended that you use images less than 500x400px in size. This will fit nicely in this web page.
   It's also a good idea to rename the images to simple and short names.
4. Use the <img> tag to insert the first image to your page.
   Eg. If the image name in the images folder is homer1.gif, then the following line will be used to add the image:

   ****

Note: In **src="images/homer1.gif"**, the image filepath contains both the folder name, *images* and the image name, *homer1.gif*. The **alt** attribute, **alt="homer photo"**, contains the value to display if the image could not be displayed and should always be used.

5. Save your work and refresh the browser. You should now see the image displayed on your web page.
6. Repeat Step 4 to add another image to your web page.
7. Complete any unfinished steps and save your work. Then check the resulting output on your web browser.
8. When you have successfully completed all the steps for this lab activity, then you should have your About Me page similar to the figure shown below:



The next activity will add some style to the About Me page.

Activity : Adding style rules to an HTML5 document

1. Add a style element in the <head> section to contain your style rules as follows:

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

        </style>
</head>
```

2. Add a style rule that sets the font-family for the page as shown below. The style rule will contain both a specific style (Arial) and a fallback style (sans-serif) in the case user does not have Arial as an installed font.

```
<head>
        <style type="text/css">
                body {font-family: arial, sans-serif;}
        </style>
</head>
```

3. Write another style that adds a solid thin boarder to the <h1> heading element.

```
<head>
        <style type="text/css">
                body {font-family: arial, sans-serif;}
                h1 {border-bottom: solid thin;}
        </style>
</head>
```

4. Save your file, and view it in your browser.
   This concludes Lab 1.