MAS115 PRESENTATION LAB, WEEK 8

1. The basics of HTML

There are two options for working on this week's sheet: either use the built-in text-editor on your computer, or the online environment repl.it. Start by trying the first option, but if you have problems then switch to the second where it may be easier for us to help.

- To use the text editor on your own computer, start `Notepad` (if using Windows) or `TextEdit` (if using a Mac). Save your blank file in a folder called 'MAS115 Week 8' in a sensible place on your computer, naming it `index.html`.
- To use `repl.it`, so to `https://repl.it` and either sign-in using your University/Gmail account, or create a new account. Once logged in, click the +-symbol to 'create a new repl', then choose 'HTML, CSS, JS'. Name your repl 'MAS115 Week 8'.

Enter the following code into your text editor, or the left-hand pane in `repl.it` (you will need to replace what's already there).

```
<!DOCTYPE html>
<html>
<body>
<p>This is index.html.</p>
</body>
</html>
```

If using Notepad/TextEdit then save your file, go to the folder it is in and open the HTML file called 'index'. This should open in a web-browser and you should see your webpage.

If using `repl.it`, click the green 'Run' button and your page should appear within the right-hand pane. There is a button in the top-corner of this pane to open your page in a new tab which you should do to get a proper look at how the full page will look

Return to your `index.html` file in either Notepad/TextEdit or `repl.it`, and add the following underneath the `<body>` command.

```
<h1>About index pages</h1>
```

Go back to your browser and refresh it (by pressing F5), or click 'Run' in `repl.it`. You should find the page now has a heading.

(1) In your `index.html` file, copy and paste the heading and change it to `<h2>...</h2>`.
(2) Repeat with `<h3>` and `<h4>`. (In fact, you can go as far as `<h6>`.)

The `<h1>`-`<h6>` tags are used to create headings of decreasing importance. Think of them as similar to the `\section`, `\subsection` and `\subsubsection` commands of LaTeX.

(3) Add a new paragraph to your page with the text

```
The index.html page is the first page that a server
will find in a web-directory. For that reason, it
should be the front page when you create for a website.
For more information, see Wikipedia.
```

(4) Search online for the Wikipedia page that discusses index.html files. Once there, copy the URL. Return to your HTML file, and change 'see Wikipedia' to 'see `<a href="...">Wikipedia</a>`', pasting in your URL instead of '...'.

(5) Try changing `<a href="...">` to `<a href="..." target="_blank">`. What does this do?

Find the Wikipedia page for HTML, and look for the picture of Tim Berners-Lee (one of the creators of HTML). Right-click on the image, and save it as `bernerslee.jpg` in the same folder as your webpage (if working on your own computer) or somewhere you can find it easily if using `repl.it`. Return to your webpage and enter the following.

```
<h2>About HTML</h2>
<img src="bernerslee.jpg">
<p>HTML is the language that powers websites. It was developed
by Sir Tim Berners-Lee, who invented the world-wide web.</p>
```

If using Notepad/TextEdit, refresh your browser. If using `repl.it`, go to the 'Files' menu on the left, find the 'Upload file' option (by clicking on the vertical dots), find your image and upload it, then click 'Run'. The image should appear on your page.

(6) Add `alt="Sir Tim Berners-Lee"` to your `<img>` tag, so that it reads `<img src="bernerslee.jpg" alt="Sir Tim Berners-Lee">`. Do you notice any change? What about if you intoduce a typo such as `src="bernerlee.jpg"` in your code? (The 'alt' attribute is seen as good practice as it will give information if your image fails to load or if someone is using a screen-reader.)

(7) Before the `<img>` tag, put `<a href="...">` and after it put `</a>`, where the dots are filled in with URL for the Wikipedia page for Tim Berners-Lee.

(8) Make the link you just created open in a new window.

(9) The image was taken from Wikipedia: such images have copyright licenses that let you reuse them, but we must add a credit. Put `<p>(Image by ..., from Wikipedia)</p>` underneath the image with the name of the copyright holder/photographer if you can find it. (Hint: Click on the picture within Wikipedia to find who took the photo.)

(10) Search for a video on Youtube called 'What is the World Wide Web?'. Once you've found it, click on 'share', then 'embed'. Copy and paste

the HTML code that appears to the bottom of your webpage. If you can't access this video, try to find something similar from a different site and use that instead.

2. The head of an HTML file

Between the `<html>` and `<body>` commands, add the following title, which will not appear on the page itself but in the tab label in the browser

```
<head>
<title>Index pages and HTML</title>
</head>
```

The *head* of an HTML document — the bit between the `<head>` and `</head>` tags — should be thought of as similar to the preamble in a LaTeX document. Here, we set up the look of the page and control things like the title.

2.1. **Controlling the look of webpages.** So far, we've used HTML in the same way that we started using LaTeX, letting the computer decide how the final page will look. Very few webpages look this plain. The look of the document is controlled using *Cascading Style Sheets* (CSS for short).

We'll cover the basics of CSS next time. For now, download the file at `http://mas115.group.shef.ac.uk/docs/week8lab.css`, saving in the same folder as your `.html` file as `week8lab.css`, or uploading the file to `repl.it` as before. Now add the following code to the head of your `.html` file.

```
<link rel="stylesheet" type="text/css" href="week8lab.css">
```

This command tells the browser to format the page according to the style sheet you downloaded. It should have changed the look of the document noticeably. You can view the stylesheet by opening it in Notepad. Play around with it to see what you can alter. You'll need to save the file and refresh the browser each time you make a change.

3. Linking pages

To practice making pages that interlink with each other, create a new file called `about.html` (if using `repl.it` click the 'Add file' button in the 'Files' menu). Give the page a main heading 'About this work', then a paragraph with the text 'This work was created for the Week 8 MAS115 computer lab at the University of Sheffield'.

> *The quickest way to do this will be to copy and paste the code from your index page, and delete the bits you don't need.*

Make 'University of Sheffield' into a link to `http://www.shef.ac.uk`. Finally, let's create a menu to navigate between the two pages. At the start of the body, add the following.

```
<nav>
<ul>
<li><a href="index.html">Home</a></li>
```

```
<li><a href="about_me.html">About me</a></li>
</ul>
</nav>
```

Also copy this to the top of `index.html`. This should create a menu at the top of each page.

4. ZIP files

ZIP files are a convenient way to bundle together multiple files, especially if they need emailing. They are useful for websites, which often consist of multiple files all of which are needed for the site to function properly.

To ZIP a bunch of files, in Windows you should be able to select the files, right-click then choose 'Send to', 'Compressed (zipped) folder'. On a Mac, the process is similar, and you should choose 'Compress x Items'. Try it with the files from the website you created today. (If using `repl.it`, downloading your files will automatically create a ZIP file.)

If the above don't work for you, Peazip is free ZIP software that you can download and use following the instructions below.

(11) Start Peazip (install it from the Software Center if necessary).
(12) In Peazip, go to the folder your website is in and select all the files.
(13) Click 'Add' in the top left-hand corner.
(14) In the 'Output' box, choose a destination and the filename `MAS115week8`.
(15) Ensure the options selected are ZIP, Normal and Single Volume.
(16) Click OK to create one file containing all the files from your website.

Note that a website often won't display properly from within a zipped folder: you will need to unzip it again and extract the files to a new folder.

5. LEARNING FROM EXISTING SITES

One very useful feature of the world-wide web is that the HTML source for any page you visit is viewable. Go to the MAS115 webpage and view the source by right-clicking anywhere on the webpage and choosing 'View source'. You could look at some other pages too. You'll often notice lots of complicated code, but the basics of how text and images are displayed are just as we've done so far.

HOMEWORK

There is no homework this week! Make sure you finish and submit your miniproject, and pay attention to announcements and video lectures as to what happens in the next stage of the project (peer assessment).