HTML

COMP1004

HTML - HyperText Markup Language

- Adds semantics/meaning (for computers) to documents (web pages)
- Standardised; currently on version 5
- Lots of Tags to create Elements and give Structure
- Enhanced with CSS & JavaScript
- Parsed and rendered by Browsers

TAGS

- Tags are the basic building blocks of HTML
- A tag starts with a < (less than) and ends with a > (greater than)
- Tags can be of three types
  - Start tag: ** **
  - End tag: ** **
  - Self Closing **<hr>** (previously **<hr />**)
- Tags wrap some content to give it some additional meaning.
- Tags should balance; If you have a start tag, you need to have an end tag unless it's self-closing
- There is a fixed set of tags within the current HTML version.

COMMON TAGS

<h1></h1> Heading 1
** ** Paragraph
**
** Unordered list
**
** List item
** ** Division (divides a page)
<header></header> Page header
<footer></footer> Page footer
<main></main> Main content of a page

<a> Hyperlink or Anchor
<img/> Embed an image
<table></table> Table container
<tr></tr> Table row
<td></td> Table data (cell)
<pre></pre> Preformatted text
<form></form> Form container
<fieldset></fieldset> Group form fields

ELEMENTS

Elements are tags and content together

- **<h1>Hello world!</h1>**
- The text “Hello world!” is contained inside the **h1 tag**
- This will increase the text size to a **heading size 1** (the biggest)
- The whole line “<h1>Hello world!</h1>” is called a **heading element**

While most tags/elements give text content more structure, some create much more complex objects on the page:

- img, video, audio, embed, object
- form, input, iframe, button

ATTRIBUTES

Tags can have **attributes**, These are **key-value pairs**

-
- The part **src=”picture.jpg”** is the attribute
- The **src=** part is the key
- The **“picture.jpg”** part is the value

The above is an example of how to use the <img> tag to load an image onto a web page

- The **src** is short for **source**, meaning the **image source**
- The link to the image is within the quotation marks

Note: Images can be in **.jpg**, **.png** or **.gif** file format

COMMON ATTRIBUTES

- title
- width
- height
- src
- href
- value

What do they mean?

Review the link below and find out!

http://www.w3schools.com/tags/ref_attributes.asp

ANCHOR TAG (LINKS)

An anchor tag:

- Google link

This is an anchor (or link), they are the "Hyper" in HTML. They can link to other pages within your website, sections within a page, external sites and even applications.

- The href attribute, or **Hypertext REFerence** contains the link text to browse to a web page
- Note the **Google link** text is contained inside the <a> tag's open and closing tags

NESTING

To build up a page to achieve a desired layout, you may need to nested tags within each other:

```
<ul>
    <li>List item</li>
    <li><a href="somepage.html">A link to some page</a></li>
</ul>
```

- With each layer of nesting, the tag get indented.
- Try to do this in your HTML as well as it will lead to easier to read code.
- Not all elements can have other HTML tags nested inside them.
- No stray start or end tags.

AVAILABLE TAGS

- Over 150 tags
- You will need to learn the common ones
- Learn when to use each of these tags and for which type of content
- What is the best tag to use ?
- Favour meaningful tags over generic tags
- ** ** is a generic tag used to divide the page
- Avoid using it for everything as this is a common pitfall
- Use other structural tags like **<nav> <main> <header> <article>**

DOCUMENT STRUCTURE

- **Doctype** - Tells use what version of HTML is being used
- **HTML** - Root tag of the document, everything else should be nested inside here.
- **Head** - Provide meta information. Nothing in this section is displayed on the page
- **Body** - All content should be in this section
- **Title** - Set the title of the web page
- **Link** - Link a CSS style sheet with the page
- **Script** - Import a JS script into the page.

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8"/>
        <title>A web page</title>
        <link rel="stylesheet" href="style.css"/>
    </head>
    <body>
        <h1>hello world</h1>
        <script src="js/main.js"></script>
    </body>
</html>
```

STRUCTURE VS LAYOUT

- **HTML** provides **structure**, **not layout!**
- **CSS** is responsible for **layout**
- If an element needs to be positioned somewhere on the page, **CSS** is way to do this.
- **Do not** use HTML tags such as hr, br or tables to create layout in a page
- Content will appear on the page in the order it is in the HTML document

VALID HTML

- As HTML is based on rules, we can check our HTML against these rules in an automated process
- These tools are called Validators
- There are a number of HTML Validators available online as a service
- By ensuring our HTML is valid, it is more likely to be parsed and rendered correctly by a Browser.

Choose a website, run it through the validator at https: //validator.nu/