HTML Notes

- going forward, we won't be using java as the presentation layer of our project

Definitions

Client: computer that is running/using an application

Server: providing data to the client

HTML

- Hyper Text Markup Language
  - this is not a programming language
  - it's a markup language
    - this means that it tells us how a document should be displayed (how it should look when viewed)

Purpose of html: to display information and content to a webpage

`.html` - is the file extension

- this tells our browser to interpret and parse the characters inside the file to create a webpage

- HTML contains/uses a paricular syntax (elements and attributes)

N.B.: html defines the structure and content, and NOT the style or dynamic behavior of a webpage

HTML Elements = core building blocks of a webpage

- they define the structure
- they tell us what changes (markup) should be applied to given components/portions of our web page.
- they does this using tags
- the tags denote the type of element and how the browser should read the content inside

syntax: `<tagname>Content goes here</tagname>`

- some tags are self-closing `<img ......./>`

Basic Elements of an HTML page

```
<!DOCTYPE html>
<html>
    <head></head>
    <body>
        CONTENT
```

```
    </body>
</html>
```

N.B.:

- tags should not overlap
- tags should be nested
- tags should always be closed

```
NO: <h1><b>Incorrect Bold Header</h1></b>
NO: <h1>Header
```

```
Yes: <h1><b>Correctly Bolded Header</b></h1>
Yes: <h1><b>Also </b>correct bold header</h1>
```

Block and Inline Elements

- Block Elements for a large structure to contain other elements

    - create a new line by default
    - `<html>, <body>, <div>, <p>, <h1>`
- Inline Elements contain data or other inline elements

    - and no new line is added by default
    - `<button>, <input>, <b>, <i>, <a>, <span>`

HTML elements can have Attributes

Attributes: are key=value pairs that give metadata about the tag

```
<img src="PATH/to/get/grumpycat.jpeg" alt="grumpy cat image"/>
```

Global attributes: attributes that can be applied to any element on the page

- title, id, class, lang, style, etc.

```
<p id="paragraph">This is a paragraph</p>
```

CSS

Cascading Style Sheets

- language for styling html documents

    - it specifies certains rules for layout and display in key:value pairs.
- helps display html elements

- style things like background color, font color, size, etc.

- highly reusable

- makes webpages more human accessible and user friendly

A CSS consists of a set of rules that define style for a web page - the rules are composed of selectors and decalarations

Selector: identifies which areas of our webpage we wish to apply the design changes to

Declaration: tells us what changes or modifications to make to the selected areas (elements) - declaration is comprised of a property and a value surround by curly braces.

syntax: selector { declaration(s) }

```
body {
    background-color: blue;
    margin: 10px;
    font-size:.....
}
```
Three ways to implement CSS in our HTML

1. Inline CSS

- CSS statements that are inside of an element tag `<h1 style="color: red">My Header</h1>`

2. Internal CSS

- CSS code inside of a `<style>` tag inside of the `<head>` element

```
<head>
    <style>
        div {
            border: 5em;
        }

        p {
            color: purple;
        }

    </style>
</head>
```

3. External CSS

- CSS code that is abstracted out of our html document into a separate stylesheet (`.css`)
- then we reference that file inside our head element, using a link tag