Introduction to basic HTML elements.

Tools: IDE (VS Code) and Web Browser (Google Chrome or Mozilla)

Standard Procedure for Creating and Viewing an HTML document

- Use a text editor such as VS Code to write the document.
- Save the file as filename.html on a PC. This is called the Document Source.
- Open the file that you have saved in any browser Off-Line
- Your HTML page should now appear just like any other Web page in the browser.
- You may now switch back and forth between the Source and the HTML Document Switch to IDE with the Document Source make changes.
- Save the document again.
- Switch back to the browser.
- Click on RELOAD and view the updated HTML Document.
- Switch to VS Code with the Document Source.

HTML (Hyper Text Markup Language)

1. What is HTML?

- A series of tags that are integrated into a text document.
- A series of tags that are integrated into a text document.
- These look like: <code>formatted text</code> <code> begins the formatting tag. </code> ends the formatting tag.
- These tags are then read by a Browser, which translates the tags into the formatting that they represent

2. What are Tags?

- HTML tags are used to mark-up HTML elements.
- HTML tags are surrounded by the two characters < and >.
- The surrounding characters are called angle brackets.
- HTML tags normally come in pairs like and .
- The first tag in a pair is the start tag; the second tag is the end tag.
- The text between the start and end tags is the element content.
- HTML tags are not case sensitive; means the same as <B>.

3. Structure Tags in HTML

- **HTML Tag**
  <HTML></HTML>
  These tags begin and end an HTML document.

- **HEAD Tag**
  <HEAD></HEAD>
  These tags are in the beginning of the document. Important information is stored in between these tags including: title, meta-data, styles, and programming scripts

- **TITLE Tag**
  <TITLE></TITLE>
  These tags are in-between the HEAD tags and contain the text that appears in the title of the Web page.

- **BODY Tag**
  <BODY></BODY>
  As you may have guessed, the BODY tags contain all the text in the body of the document.

1. HTML Basic Tags

These are the basic tags used in HTML5.

Tag	Description
<!DOCTYPE>	It defines the document type
<html>	It is the root of HTML document
<head>	It defines the head of an HTML document that contains non-visible data like metadata and other information
<body>	It defines the body of a webpage and contains everything that you see on the webpage
<h1> to <h6>	These are a group of heading tags used to create heading in a webpage
<p>	It defines the paragraph in a webpage
<!--...-->	It is used to write comments in HTML documents
 	It defines a line break
<hr>	It creates a horizontal line in a webpage

2. Formatting tags

This is a list of formatting tags in HTML5. It gives us the ability to format the text without using CSS.

Tag	Description
<b>	It is used to define bold text
	It is used to define important text, add more semantic meaning to the tag
<i>	It formats text in *italic form*
	It represents stress emphasis on the text same as i tag
<u>	It underlines the text
<sup>	It defines superscripted text
<sub>	It defines subscripted text
<pre>	It defines preformatted text
<small>	It defines smaller text
<abbr>	It defines abbreviation or an acronym
<code>	It defines a piece of computer code
<kbd>	It is used to display keyboard input
<del>	It is used to display the text that has been remove from the webpage
<ins>	It defines a word that has been inserted in the document. It

	underlines the word
<mark>	It is used to highlight specific text
<blockquote>	It is used for quotation of a text from another source
<s>	It defines the text that incorrect
<address>	It defines the address or contact of users on a webpage
<cite>	It defines the title of a journal, a book, a poem etc.
<dfn>	It is used to specify a word that is going defined within the content
<meter>	It defines a meter scale with a given range and shows the current value. It is also known as gauge
<progress>	It represents the progress of work on the webpage
<q>	It creates quotation around the text
<samp>	It is used to define sample output or a computer program
<template>	It is used to hide a block of code when the page loads
<time>	It is used to define a specific time on the webpage

3. Image tags

The following listed tags are used for images.

Tag	Description
<img>	It defines image on webpage
<figure>	It defines a self-contained container for image, code snippets, diagrams, etc.
<figcaption>	It defines a caption for the <figure>
<picture>	It defines a container to provide multiple resources for an image
<area>	It defines an area inside the image using coordinates
<map>	It defines a map on an image and creates a clickable area
<canvas>	It defines an area to draw something on the webpage using JavaScript
<svg>	It defines a container for SVG image

4. Link or navigation tags

These tags are used to create any hyperlink, defining connection with other resources or creation navigation menu.

Tag	Description
<a>	It defines a hyperlink to connect to other webpages
<link>	It defines connects other document with HTML document or defines some relationship
<nav>	It used to wrap navigation links

5. List tags

Tag	Description
	It defines an ordered list
	It defines an unordered list
	It defines an item in a list
<dl>	It defines a description list
<dt>	It defines name or tern in description list
<dd>	It defines description of item in the description list

6. Form & input tags

Tag	Description
<form>	It is used to create a form on webpage
<input>	It defines input of different type
<label>	It defines label for the <input> element
<textarea>	It defines resizable multi-line plain text input
<select>	It provides a control to select from multiple options
<optgroup>	It defines a group of options in <select> element
<option>	It defines an item to select within <select> element
<fieldset>	It defines group of multiple labels and inputs
<legend>	It defines a caption for a <fieldset>
<datalist>	It provides a control to select among multiple options as well as to submit your own new option
<button>	It defines a button

7. Table tags

Tag	Description
<table>	It defines a table
<thead>	It groups the head content of the table
<tbody>	It groups the body content of the table
<tfoot>	It groups the footer content of the table
<tr>	It defines a row in the table
<th>	It defines a header cells in table
<td>	It defines a cells in table
<caption>	It defines a caption for the table
	It defines a column group in the table

<colgroup>	
<col>	It gives a property to the column within the <colgroup>

8. Media tags

Tag	Description
<audio>	Used to define audio content on the webpage
<video>	Used to define video content on the webpage
<track>	It defines text track (subtitle) for the audio and video
<source>	It specify multiple resources from the media like audio, video and picture

9. Meta tags

Tag	Description
<meta>	It defines metadata about the webpage (not visible to users)
<link>	It defines a base URL for all the relative URLs of the webpage

10. Style and programming tags

Tag	Description
<style>	It is used to provide CSS for the HTML elements of the document
<script>	It defines JavaScript program for the webpage

11.General tags

Tag	Description
	It defines a group of elements within the HTML document
	It defines an inline section within the document
<header>	It defines header of the webpage or a section
<main>	It defines main content of the webpage
<footer>	It defines footer of the webpage or a section
<article>	It defines an article within the document
<section>	It defines section in the webpage
<details>	It defines a section that user can view or hide
<summary>	It defines a visible part of the <details> element

Some useful resources:

HTML Formatting:
https://www.w3schools.com/html/html_formatting.asp

HTML Links:
https://www.w3schools.com/html/html_links.asp

HTML Images:
https://www.w3schools.com/html/html_images.asp

HTML Tables:
https://www.w3schools.com/html/html_tables.asp

```
<table>
  <tr>
    <th>Company</th>
    <th>Contact</th>
    <th>Country</th>
  </tr>
  <tr>
    <td>Alfreds Futterkiste</td>
    <td>Maria Anders</td>
    <td>Germany</td>
  </tr>
  <tr>
    <td>Centro comercial Moctezuma</td>
    <td>Francisco Chang</td>
    <td>Mexico</td>
  </tr>
</table>
```

HTML Lists:
https://www.w3schools.com/html/html_lists.asp

```
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

Block and Inline Elements:
https://www.w3schools.com/html/html_blocks.asp

Iframes:

https://www.w3schools.com/html/html_iframe.asp

```
<iframe src="demo_iframe.htm" height="200" width="300" title="Iframe
Example"></iframe>
```

Layout: (Will study more in CSS)
https://www.w3schools.com/html/html_layout.asp

- <header> - Defines a header for a document or a section
- <nav> - Defines a set of navigation links
- <section> - Defines a section in a document
- <article> - Defines an independent, self-contained content
- <aside> - Defines content aside from the content (like a sidebar)
- <footer> - Defines a footer for a document or a section
- <details> - Defines additional details that the user can open and close on demand
- <summary> - Defines a heading for the <details> element

Forms:
https://www.w3schools.com/html/html_forms.asp

```
<form action="/action_page.php">
  <label for="fname">First name:</label><br>
                <input type="text" id="fname" value="John"><br><br>
  <input type="submit" value="Submit">
</form>
```

https://www.w3schools.com/html/exercise.asp

CSS (Cascading Style Sheet)

There can be three ways of adding CSS into HTML files:

1. **External**

```
<link rel="stylesheet" href="styles.css">
```

2. **Internal**

```
<style>
body {
    background-color: linen;
} h1
{
    color: maroon;
    marginleft: 40px;
}
</style>
```

3. **Inline**

```
<p style="color:blue;">This text will display in blue.</p>
```

Comments in CSS

```
/* This is a single-line comment */
/* This is a
    multi-line comment*/
```

Selectors

Universal Selector	Applies to all elements in the document	* {} Targets all elements on the page
Type Selector	Matches element names	h1, h2, h3 {} Targets the <h1> , <h2> and <h3> elements
Class Selector	Matches an element whose class attribute has a value that matches the one specified after the period (or full stop) symbol	.note {} Targets any element whose class attribute has a value of note p.note {} Targets only elements whose class attribute has a value of note
ID Selector	Matches an element whose id attribute has a value that matches the one specified after the pound or hash symbol	#introduction {} Targets the element whose id attribute has a value of introduction
Child Selector	Matches an element that is a direct child of another	li>a {} Targets any <a>elements that are children of an element (but not other <a> elements in the page)
Descendant Selector	Matches an element that is a descendent of another specified element (not just a direct child of that element)	p a {} Targets any elements that sit inside a element, even if there are other elements nested between them
Adjacent Sibling Selector	Matches an element that is the next sibling of another	h1+p {} Targets the first element after any <h1> element (but not other <p> elements
General Sibling Selector	Matches an element that is a sibling of another, although it does not have to be the directly preceding element	h1~p {} If you had two elements that are siblings of an element, this rule would apply to both

CSS works by associating rules with HTML elements. These rules govern how the content of specified elements should be displayed. A CSS rule contains two parts: a selector and a declaration.

This rule indicates that all <p> elements should be shown in the Arial typeface.

Selectors indicate which element the rule applies to. The same rule can apply to more than one element if you separate the element names with commas.

Declarations indicate how the elements referred to in the selector should be styled. Declarations are split into two parts (a property and a value), and are separated by a colon.

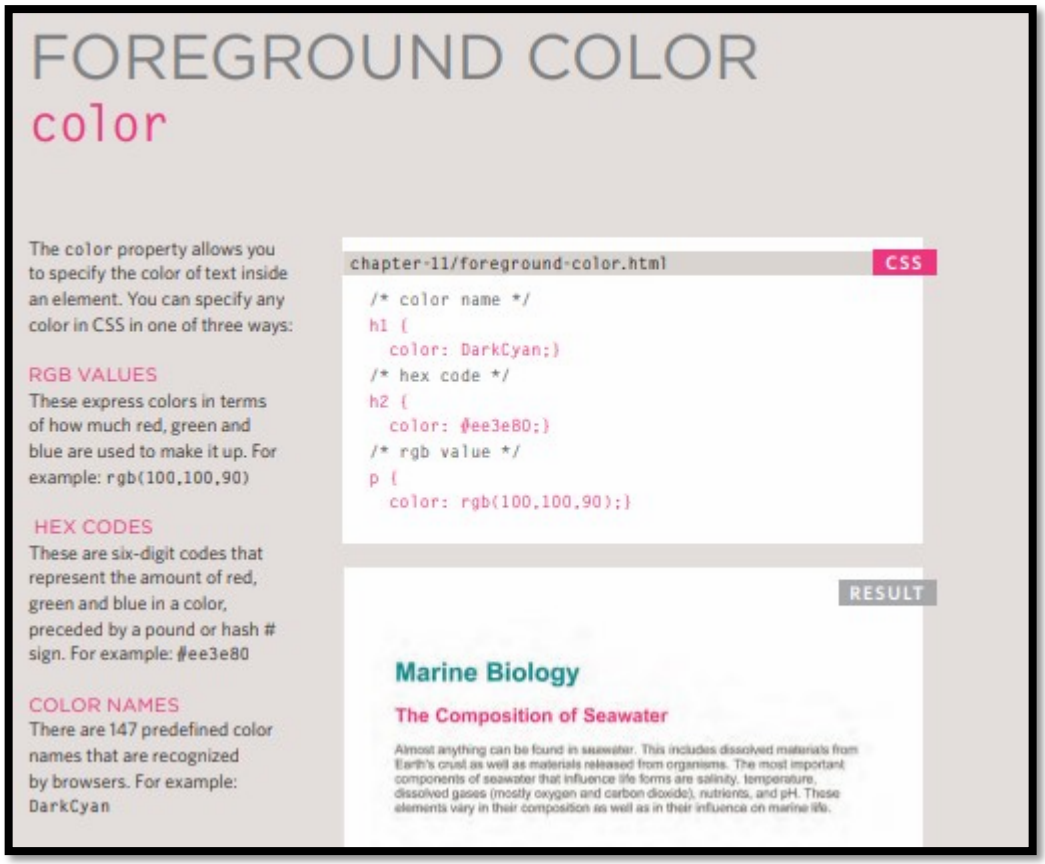
CSS declarations sit inside curly brackets and each is made up of two parts: a property and a value, separated by a colon. You can specify several properties in one declaration, each separated by a semi-colon.

This rule indicates that all <h1>, <h2> and <h3> elements should be shown in the Arial typeface, in a yellow color.

Properties indicate the aspects of the element you want to change. For example, color, font, width, height and border.

Values specify the settings you want to use for the chosen properties. For example, if you want to specify a color property then the value is the color you want the text in these elements to be.

Specifying colors in CSS:



In the same way you can set the background color of each element by using *background-color* property.

Specifying font-family:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Font Family</title>
        <style type="text/css">
            body {
                font-family: Georgia, Times, serif;
            }
            h1, h2 {
                font-family: Arial, Verdana, sans-serif;
            }
            .credits {
                font-family: "Courier New", Courier,monospace;
            }
        </style>
    </head>
    <body>
    <h1>Briards</h1>
    <p class="credits">by Ivy Duckett</p>
    <p class="intro">The
        <a class="breed" href="http://en.wikipedia.org/wiki/Briard">briard</a>,
        or berger de brie, is a large breed of dog traditionally used as
        a herder and guardian of sheep...</p>
    </body>
</html>
```

Some other useful CSS code snippets:

```
body {
  font-family: Arial, Verdana, sans-serif;
  font-size: 12px;}
h1 {
  font-size: 200%;}
h2 {
  font-size: 1.3em;}
```

Font-weight:

```
.credits {
        font-weight: bold;
}
```

Font-style:

text-transform:

```
.credits {
        font-style: italic;
}
```

```
h1 {
 text-transform: uppercase;}  h2 {
        text-transform: lowercase;}
.credits {
         text-transform: capitalize;}
```

text-decoration:

```
credits {
  text-decoration: underline;
}
a {
        text-decoration: none;
}
```

Line-height:

```
p {
        line-height: 1.4em;
}
```

text-align:

```
 h1 {
   text-align: left;
}
p {
            text-align: justify;}
credits {
             text-align: right;
}
```

vertical-align:

```
#six-months {
 vertical-align: text-top;} #oneyear {
 vertical-align: baseline;} #twoyears
{
        vertical-align: text-bottom;}
```

REFRENCES: https://www.w3schools.com/css/default.asp
EXERCISES: https://www.w3schools.com/css/exercise.asp