WEEK 3 – INTRODUCTION TO HTML

(HYPER TEXT MARKUP LANGUAGE)

**HTML is a language for describing web pages:**

- HTML stands for Hyper Text Markup Language
- HTML is not a programming language, it is a markup language
- A markup language is a set of markup tags
- HTML uses markup tags to describe web pages

**HTML Tags:**

HTML markup tags are usually called HTML tags

- HTML tags are keywords surrounded by angle brackets like `<html>
  - Eg: `<html>`, `<head>`, `<title>`, `<body>`, `<b>`, `<i>`, `<h1>`, `<u>`, `<hr>` etc
- HTML tags normally come in pairs like `<b>` and `</b>`
- The first tag in a pair is the start tag, the second tag is the end tag
- Start and end tags are also called opening tags and closing tags

**HTML Documents = Web Pages:**

- HTML documents describe web pages
- HTML documents contain HTML tags and plain text
- HTML documents are also called web pages

*Any web browser (like Internet Explorer or Firefox) reads HTML documents and display them as web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.*
General Structure of any HTML web page:

<html>

<head>
   <title> Title of the document : appears on tile bar </title>
</head>

<body>
   (BODY SECTION)
   VISIBLE CONTENT OF THE WEB PAGE GOES HERE
   (or) The content of the document
</body>

</html>

- The text between <html> and </html> describes the web page.
- The <html> tag tells the browser that this is an HTML document.
- The <html> element is also known as the root element.
- The <html> tag is the container for all other HTML elements.

- The <head> section must include a <title> for the document.

- The text between <body> and </body> is the visible page content.
- The <body> tag defines the document’s body.
- The <body> element contains all the contents of an HTML document such as text, hyperlinks, images, tables, lists etc…
HTML ATTRIBUTES:

- HTML tags can have attributes.
- Attributes provide additional information about an html tag.
- Attributes are always specified in the **start tag**.
- Attributes come in name/value pairs like: `name="value"`.

As an example let us see the "style" attributes of `<body>` tag:

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Attribute Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>style</td>
<td>background-color:blue</td>
<td>Specifies a background color for a document</td>
</tr>
<tr>
<td>style</td>
<td>background-image:url('image.jpg')</td>
<td>Specifies a background image for a document</td>
</tr>
</tbody>
</table>

Syntax:

```html
<tagname attribute_name="attribute_value">
...
</tagname>
```

Eq:

```html
<body style="background-color:red"> page content </body>
<body style="background-color:blue"> page content </body>
<body style="background-color:#ff0000"> page content </body>
<body style="background-color:rgb(255,0,0)> pg cntnt </body>
<body style="background-image:url('image.jpg')"> PAGE CONTENT </body>
```
HTML FORMATTING TAGS:

- HTML uses tags like `<b>` and `<i>` for formatting output, like **bold** or *italic* text.
- These HTML tags are called formatting tags.
- More HTML Formatting Tags:

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;b&gt;</code></td>
<td>Defines bold text</td>
</tr>
<tr>
<td><code>&lt;i&gt;</code></td>
<td>Defines italic text</td>
</tr>
<tr>
<td><code>&lt;sub&gt;</code></td>
<td>Defines subscripted text</td>
</tr>
<tr>
<td><code>&lt;sup&gt;</code></td>
<td>Defines superscripted text</td>
</tr>
<tr>
<td><code>&lt;u&gt;</code></td>
<td>Defines underlined text</td>
</tr>
</tbody>
</table>

HTML HEADINGS:

- Headings are defined with the `<h1>` to `<h6>` tags.
- `<h1>` defines the most important heading.
- `<h6>` defines the least important heading.

Eg:

```html
<h1> This is a heading </h1>
<h2> This is a heading </h2>

. . .
<h6> This is a heading </h6>
```
**HTML PARAGRAPHS:**

- Paragraphs are defined with the `<p>` tag.
- Browsers automatically add an empty line before and after a paragraph.

**Eg:**

```html
<p> This is a paragraph </p>
<p> This is another paragraph </p>
```

**TAGS THAT DOESN’T COME IN PAIRS(EXCEPTIONS):**

- `<hr/>`, `<br/>` & `<img/>` have no end tags

1) `<hr/>`: horizontal rule
   - The `<hr/>` tag creates a horizontal line in an HTML page.
   - The `<hr/>` element can be used to separate content in an HTML page.

2) `<br/>`: Line break
   - The `<br/>` tag inserts a single line break.
   - The `<br/>` tag is an empty tag which means that it has no end tag.
   - **Eg:** This text contains `<br/>` a line break

3) `<img/>`: Image
   - In HTML, images are defined with the `<img>` tag.
   - The `<img>` tag is empty, which means that it contains attributes only, and has no closing tag.
   - To display an image on a page, you need to use the `src` attribute. “src” stands for “source”. The value of the src attribute is the URL of the image you want to display.
Syntax for `<img />`:

```html
<img src="url" alt="some_text" />
```

- `url` (unique resource locator) points to the location where image is stored.
- “alt” attribute specifies an alternate text for the image if the image cannot be displayed.
- Eg:
  ```html
  <img src="boat.gif" alt="Big Boat" />
  ```

Other important attributes for `<img />` tag:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>align</td>
<td>top, bottom, middle, left, right</td>
<td>Specifies the alignment of an image according to surrounding elements</td>
</tr>
<tr>
<td>height</td>
<td>pixels (or) %</td>
<td>Specifies the height of an image</td>
</tr>
<tr>
<td>width</td>
<td>pixels (or) %</td>
<td>Specifies the width of an image</td>
</tr>
</tbody>
</table>

Example of `<img />`:

```html
<img src="smiley.gif" alt="Smiley face" height="500" width="420" />```
**HTML HYPER LINKS:**

Links are found in nearly all Web pages. Links allow users to click their way from page to page.

A hyperlink (or link) is a word, group of words, or image that you can click on to jump to a new document.

Links are specified in HTML using the `<a>` tag.

**<a> -- Anchor tag**

- `<a>` tag is used to create link to another document using “href” attribute.
- Syntax:
  
  ```html
  <a href="url"> Link text </a>
  ```
- Example:

  ```html
  <a href="http://www.rutgers.edu/"> Go to Rutgers </a>
  ```

**Attribute “target” for <a> tag:**

`target = “_blank”`

- The “target” attribute will specify where to open the linked document.
- If the value of target attribute is “_blank”, then it will open the linked document in a new browser window or a new tab (this depends upon the browser).

Eg: `<a href="http://www.rutgers.edu/" target="_blank" > Go to Rutgers </a>`
FONT STYLE:

<p style="font-family:arial; color:red; font-size:20px"> A paragraph goes here </p>

DO THIS EVERY TIME YOU START CREATING A HTML DOC:-

<html xmlns="http://www.w3.org/1999/xhtml">

COMMENT TAG:

    <!-- COMMENT TEXT GOES HERE -->

    <!-- TEXT PLACED IN COMMENT TAG IS IGNORE BY BROWSER -->

Syntax of comment tag :    <!--    -->

GOOD ONLINE HTML TUTORIAL:

http://www.w3schools.com