Hyper Text Markup Language (HTML)

tutorial referenced from http://www.w3schools.com

Section I

What is HTML ?
HTML is the main and most popular ***markup language*** for displaying web pages.

What is a markup language and how does it differ from programming languages ?
Markup languages like HTML in its ***basic*** form describes to a web browser what to display (images, text, videos, etc...) and how to display it (color, size, etc...), it has no logic structure or data types.
but programming languages tell ***the computer*** what to do and how to do it with logical controls and structures.

What are HTML tags ?
HTML tags are used to describe document contents. Tags are keywords surrounded by angle brackets (e.g.), and they usually come in pairs like and ;
the first tag in a pair (e.g) is the start tag, the second tag (e.g.) is the end tag.

What are HTML elements ?
HTML tags and elements are often used to describe the same thing, but strictly speaking, an HTML element is everything between the start tag and the end tag (including the tag itself)

Example for HTML element : This is a paragraph

HTML element

HTML tag start

HTML tag end

What are HTML attributes ?
HTML elements (discussed before) can have attributes that provide additional information about an element. Attributes are always specified in the start tag.
Attributes come in a name/value pairs like: **name="value"**
HTML links are defined with the **<a>** tag. The link address is specified in the **href** attribute

 Click here to open Academy Website

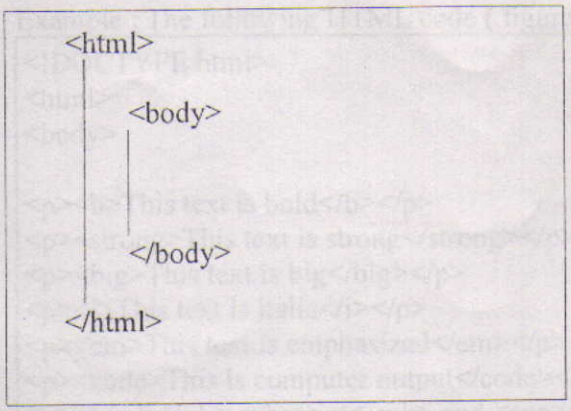
tag start

Attribute name

Attribute value

HTML element including a tag and an attribute

What is a Web Browser ?
The purpose of a web browser (Chrome, Internet Explorer, Mozilla Firefox, Safari, etc...) is to read documents written in HTML and display them as web pages. The browser itself does not display the HTML tags, but uses the tags to interpret the content of pages.



HTML Page Structure

The text between <html> and </html> describes the webpage.

The text between <body> and </body> is the visible page content

Since the early life of web, many version of HTML have been implemented.

Version	Year
HTML	1991
HTML+	1993
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML 1.0	2000
HTML 5	2012
XHTML 5	2013

Section II

HTML Formatting tags

1) Text Formatting Tags

HTML uses tags to format output, like setting it to bold or italic, etc...

Tag	Effect
Enter text here	The tag set the output to bold
<big> Enter text here </big>	The <big> tag will make the text big
Enter text here	The tag will make the text italic
_{Enter text here}	The <sub> tag will make a subscript text
^{Enter text here}	The <sup> tag will make superscript text
Enter paragraph here	The tag will start a new paragraph

Example : The following HTML code (figure 1a) will generate the output shown in (figure 1b)

```
<!DOCTYPE html>
<html>
<body>

<p><b>This text is bold</b></p>
<p><strong>This text is strong</strong></p>
<p><big>This text is big</big></p>
<p><i>This text is italic</i></p>
<p><em>This text is emphasized</em></p>
<p><code>This is computer output</code></p>
<p>This is<sub> subscript</sub> and <sup>superscript</sup></p>

</body>
</html>
```

Figure 1a : HTML Code

This text is bold

This text is strong

This text is big

This text is italic

This text is emphasized

`This is computer output`

This is $_{\text{subscript}}$ and $^{\text{superscript}}$

Figure 1b : HTML Code rendered by Web Browsers

2) Citations, Quotations & Definition tags

Tag	Effect
<abbr>	Defines an abbreviation
<acronym>	Defines an acronym
<bdo>	Defines the text direction
<blockquote>	Defines a long quotation
<q>	Defines a short quotation
<cite>	Defines a citation
<dfn>	Defines a definition term

The previous tags are combined with attributes to produce the required output.

Try the following tags, and see the resulting output :

1) Can you answer <acronym title="As Soon As Possible">ASAP</acronym>?
2) The <abbr title="Arab Academy For Science, Technology">AAST</abbr> was founded in 1972.
3) <bdo dir="rtl">Here is some right to left text</bdo>

HTML Hyperlinks

A hyperlink is a word, string, or image that you can click on to jump to a new document or a new section within the current document. When you move the cursor over a hyperlink in a Web page, the arrow will turn into a little hand.

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

The <a> tag can be used in two ways:

1. To create a link to another document, by using the **href** attribute
2. To create a bookmark inside a document, by using the **name** attribute

The HTML code for a link is simple. It looks like this:

Click here to go to the academy website

Tip: The *"Link text"* doesn't have to be text. It can be an image or any other HTML element.

The target attribute specifies where to open the linked document.
The example below will open the linked document in a new browser window or a new tab:

Visit AAST !

The **name** attribute specifies the name of an anchor.
The **name** attribute is used to create a bookmark inside an HTML document.
Bookmarks are not displayed in any special way. They are invisible to the reader.

Example :

create a section named "Colleges" with the title " Academy Colleges" in the document

Academy Colleges

create a hyperlink to the "Academy Colleges" section in the same document

Visit the Academy Colleges Section

 visit aast

HTML Images

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 Image : ****
The **alt** attribute specifies an alternate text for an image, if the image cannot be displayed for many reasons, including slow connection speed, etc... or in case the user is using a screen reader.

The **height** and **width** attributes are used to specify the height and width of an image.
The attribute values are specified in pixels by default:

****

Tip: It is a good practice to specify both the height and width attributes for an image. If these attributes are set, the space required for the image is reserved when the page is loaded. However, without these attributes, the browser does not know the size of the image. The effect will be that the page layout will change during loading.

<img src = "3eed.jpg" alt = "3eed">

HTML Tables

Tables are defined with the <table> tag. A table is divided into rows (with the <tr> tag), and each row is divided into data cells (with the <td> tag). td stands for "table data," and holds the content of a data cell. A <td> tag can contain text, links, images, lists, forms, other tables, etc.

Example : The code in figure 2a will produce the table shown in figure 2b

```
<table>
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>row 2, cell 2</td>
</tr>
</table>
```

table raw

table data.

Figure 2a : HTML Code

row 1, cell 1 row 1, cell 2
row 2, cell 1 row 2, cell 2

Figure 2b:
Borderless table produced

If you do not specify a border attribute, the table will be displayed without borders. Sometimes this can be useful, but most of the time, we want the borders to show.
To display a table with borders, specify the border attribute (Figure 3a, 3b)

```
<table border="1">
<tr>
<td>row 1, cell 1</td>
<td>row 1, cell 2</td>
</tr>
<tr>
<td>row 2, cell 1</td>
<td>row 2, cell 2</td>
</tr>
</table>
```

Figure 3a : HTML Code

row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

Figure 3b: Produced table with a border width of 1

```
<table border = "1">
<tr>
<th> Header1 </th>
<th> Header2 </th>
</tr>
```