Unit 2: HTML/DHTML

HTML

HTML is the standard markup language for creating web pages. It stands for Hyper Text Markup Language. It describes the structure of web pages using markup tags. HTML elements are the building blocks of HTML pages. They are represented by tags. Web browsers do not display the HTML tags, but use them to render the content of the page.

HTML allows to format text, graphics, sound and video and save it all in a text only ASCII (American Standard Code for Information Interchange) file that any computer can read. The key to HTML is in the tags, the keywords enclosed in less than(<) and greater than(>) signs that indicates what kind of content is coming up.

Features of HTML

- It is used for basic layout creating or designing the web page.
- World Wide Web will not exist without HTML.
- It allows embedding text, image, multimedia (audio/video) and links to other documents and the web pages.
- It helps to create structured document by using paragraph, character formatting, links and lists etc.
- It can embed different scripting languages such as CSS, JavaScript which affects the behavior and design of the web page.
- It is case-insensitive i.e. we can use either lowercase, uppercase or both.
- It is platform independent i.e. we can run it in Mac, windows, Unix, Linux OS etc.

Advantages

- It is highly flexible and user friendly
- It is an open technology that supports on almost all the web browsers and platforms.
- It is efficient, reliable and easily understandable.
- It is light-weight documents that takes less time to load.
- Free online tutorials are available.

Disadvantages

- It is complex to design attractive web pages. So additional scripting languages are used such as CSS, JavaScript, and VB Script etc.
- It cannot be used to develop dynamic websites.
- It only defines page layout.
- It is not programing language.

HTML Tags

HTML tags are commands written between less than (<) and greater than (>) signs. These are also known as angle brackets. There are opening and closing tags for many tags and the affected text is contained within the two tags. Both the opening and closing tag use the same command word but the closing tag carries an initial extra forward slash symbol (/).

Syntax: <tagname> text to be affected </tagname>

e.g. computer

HTML tags can be of two types:

1. Singular tags
2. Paired tags

Singular tags (Empty tags)

It is also known as stand-alone tag or empty tag. These tags are also called empty tags. It doesn't have a companion tag or closing tag.

For example: <br> or <br/>, <hr> etch.

Paired tags (Container tags)

It is also called container tag. A tag is said to be paired tag, if there are opening and closing tags. In paired tags, the opening tag activates the effect and the closing tag turns the effect off.
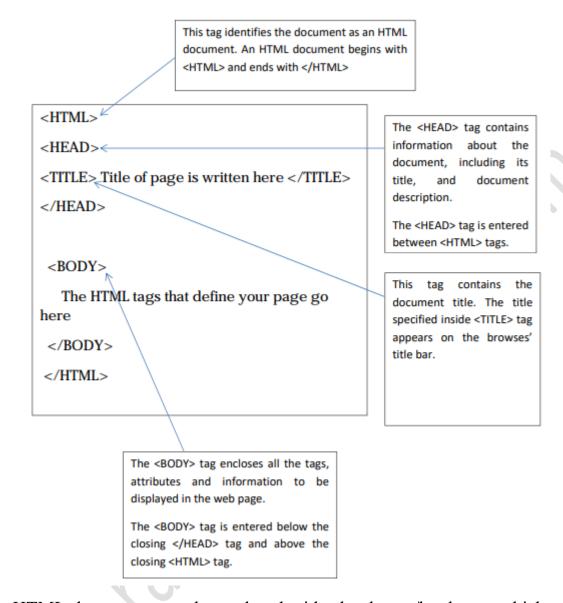
For example: …., <title>….</title> etc.

HTML attributes

An attribute is a special word or set of words contained inside an opening tag that specify additional information of tag like background, color, font, font size and alignment. Attribute can provide additional information about tag element on your page, where HTML elements are the content within the HTML tag. Sometimes attributes come along with attribute values.

For example: …

HTML Document Structure

This tag identifies the document as an HTML document. An HTML document begins with <HTML> and ends with </HTML>

```
<HTML>

<HEAD>

<TITLE> Title of page is written here </TITLE>

</HEAD>


 <BODY>

    The HTML tags that define your page go here

 </BODY>

</HTML>
```

The <HEAD> tag contains information about the document, including its title, and document description.

The <HEAD> tag is entered between <HTML> tags.

This tag contains the document title. The title specified inside <TITLE> tag appears on the browses' title bar.

The <BODY> tag encloses all the tags, attributes and information to be displayed in the web page.

The <BODY> tag is entered below the closing </HEAD> tag and above the closing <HTML> tag.

Every HTML document must be enclosed with <html>…</html> tag which tells the browser that the document is a HTML document. A normal HTML document consists of head and body section.

The head section is used for text and tags that do not show directly on the page. The <head> tag contains <title> tags which encapsulate the title of your page. The title is what shows in the top of your browser window when the page is loaded.

The body is used to for text and tags that are shown directly on the page. It comes after </head>tag. The attribute of body tag affects the whole documents.

HTML comments

Comment tag is used to insert a comment in the HTML source code. Browsers will not display comment. It is used to explain tag/code, which will be helpful when we edit the source code later.

Example: <!-- This is a comment -->

Text Formatting tags

Bold Text (tag)

Anything that appears between … tag is displayed in bold.

e.g. Hello world!   **Hello world!**

Italic Text (<i> tag)

Anything that appears between <i>…</i> tag is displayed in Italicized.

e.g. <i>Hello world!</i>   *Hello world!*

Underline Text (<u> tag)

Anything that appears between <u>…</u> tag is displayed with underline.

e.g. <u>Hello world!</u>   <u>Hello world!</u>

Strike text (<strike> tag)

Anything that appears between <strike>…</strike> tag is displayed with strikethrough, which is a thin line through a text.

e.g. <strike>Hello world!</strike>   ~~Hello world!~~

Superscript text (<sup> tag)

Anything that appears between […] tag is written in superscript. i.e. the font size used is the same size as the characters surrounding it but is displayed half a character's height above the other characters.

e.g. Hello ^{world!}   Hello $^{world!}$

Subscript text (<sub> tag)

Anything that appears between _… tag is written in subscript. i.e. the font size used is the same size as the characters surrounding it but is displayed half a character's height beneath the other characters.

e.g. Hello _{world!}   Hello $_{world!}$

Larger Text (<big> tag)

The content of the <big>…</big> tag is displayed one font size larger than the rest of the text surrounding it.

e.g. Hello <big>world!</big>   Hello world!

Smaller Text (<small> tag)

The content of the <small>…</small> tag is displayed one font size smaller than the rest of the text surrounding it.

e.g. Hello <small>world!</small>   Hello world!

Paragraph (<p> tag)

Any text content between <p>…</p> tag is displayed as paragraph. HTML automatically adds an extra blank line before and after a paragraph.

e.g. <p>This is paragraph</p>   This is paragraph

Preformatted Text (<pre> tag)

The content between <pre>…</pre> is displayed as preformatted text in brower.

e.g. <pre>Hello   Hello

          world!</pre>   world!

Headings (<h1>…<h6> tags)

Any document starts with a heading. YOu can use different sizes for your headings. HTML has six levels of headings. Browser adds one line before and one line after that heading.

e.g.   <h1>This is heading 1</h1>   # This is heading 1

        <h2>This is heading 2</h2>   ## This is heading 2

        <h3>This is heading 3</h3>   ### This is heading 3

        <h4>This is heading 4</h4>   #### This is heading 4

        <h5>This is heading 5</h5>   ##### This is heading 5

        <h6>This is heading 6</h6>   ###### This is heading 6

**Line Break (
 tag)**

It moves the cursor to the new line in HTML.

e.g. Hello <br> world!   Hello

                                          world!

Blockquote (<blockquote> tag)

The <blockquote> tag specifies a section that is quoted from another source. Browsers usually indent <blockquote> elements.

e.g. <p>Here is a quote : < /p>

<blockquote>WWF has been protecting the future of nature. </blockquote>

Here is a quote:

        WWF has been protecting the future of nature.

Horizontal Rule (<hr> tag)

The <hr> tag allows to add horizontal line across the web page. It is also a singular tag.

Attributes used

Attribute	Value	Description
align	left, center, right	Specifies the alignment of a <hr> element.
noshade	noshade	Specifies that a <hr> element should render in one solid color.
size	pixel values	Specifies the height of a <hr> element.
width	pixel values, %	Specifies the width of a <hr> element.

e.g. Hello world ! <hr>   Hello world!

Font (tag)

The tag specifies the font face, font size and color of text. HTML5 doesn't support this tag.

Attributes used

Attribute	Value	Description
color	rgb(x,x,x) #RRGGBB colorname	Specifies the color of text.
face	font family	Specifies the font of text.
size	number (1-7)	Specifies the size of text or font.

e.g. This is verdana

This is verdana.

Marquees (<marquee> tag)

An HTML marquee is a scrolling piece of text displayed either horizontally across or vertically down your webpage depending on the settings. This is created by using <marquee> tag.

e.g. <marquee> This is breaking news!!!</marquee>

Attributes used

Attribute	Value	Description
width	pixel, %	Specifies the width of the marquee.
height	pixel, %	Specifies the height of the marquee.

direction	up, down, left, right	Specifies the direction in which marquee should scroll.
behavior	scroll, slide, alternate	Specifies the type of scrolling of the marquee.
scrolldelay	number	Specifies how long to delay between each scroll.
scrollamount	number	Specifies the speed of marquee.
loop	number	Specifies how many times to loop.
bgcolor	color name, hex value	Specifies the background color.
hspace	number, %	Specifies the horizontal space around the marquee.
vspace	number, %	Specifies the vertical space around the marquee.

List tags

Special HTML tags are used for creating different lists as in word document. The list can be ordered (numbered) or unordered (bulleted) or definition list.

Ordered list (<ol> tag)

The <ol> tag specifies an ordered list. An ordered list can be either numerical or alphabetic. The successive list elements are tagged with

Attributes used

Attribute	Value	Description
type	1, i, I, A, a	Specifies the numbering format.
start	number	Specifies from where the list is to be counted.

e.g.

<ol type="1" start="1">

dell

Lenovo

acer

output:

1. dell
2. Lenovo
3. acer

Unordered list (<ul> tag)

An unordered list is a collection of related items that have no special order or sequence. This list is created by using <ul> tag followed by <li> tag. Each <li> element is marked with bullet.

Attributes used

Attribute	Value	Description
type	square, disc, circle	specifies the type of bullet used.

e.g. <ul type="disc">

desktop

laptop

palmtop

output:

- desktop
- laptop
- palmtop

Description List (<dl> tag)

The <dl> tag is used for description list. Specially <dt> tag is used to write description title and <dd> tag is used to write description.

e.g. <dl>

<dt>Coffee</dt>

    <dl>Americano</dl>

    <dl>Cappuccino</dl>

<dt>Tea</dt>

    <dl>Milk tea</dl>

    <dl>Black tea</dl>

Output:

Coffee

    Americano

    Cappuccino

Tea

    Milk tea

    Black tea

Hyerlinks

Hyperlink allows the user to switch between the pages when required. Clicking on any text or image will open an entire new web page. To create a link in HTML page, <a> tag is used. It is also called anchor tag as it can also be used to create anchors for links. There are three major types of links:

    i.   Internal link (Intra-page hyperlink) :linking different parts of same page
    ii.   Local link (Inter-page hyperlink) :linking different pages on local computer.
    iii.   External or Global link (Inter-website hyperlink) : linking different we sites

Internal link:

These are links within a document which helps in the navigation of large documents. NAME and HREF attributes are used to create internal link.

e.g.

 click here to go to top of this page

The # symbol identifies the word "top" as a named point within the current document, rather than a separate document.

Local link:

These are links to other web pages of the same website or local computer. It can be used to point any resources like a HTML page, image, sound file etc.

e.g. click here to open the photo

External link:

These are links to the web page of other websites. It can be used to point to webpage of other websites.

e.g. website of basu

Image tag

HTML allows inserting of static and animated images in a web page. HTML supports GIF, JPG/JPEG, PNG file formats. <img> tag is used to insert image in web page.

Attributes used

Attribute	Value	Description
alt	text	Describes or labels about the image.

align	bottom, middle, top, left, right, center	Aligns the image in web page.
width	pixel, %	Specifies the width of the image.
height	pixel, %	Specifies the height of the image.
border	number	Specifies the border width.

Audio

HTML5 provides a standard tag for inserting and playing audio files. Before HTML5 there was not standard for playing audio files on the web page. Audio files had to be played with a plug-in. There are 3 file formats supported by HTML. They are: MP3, Wav and OGG. To insert audio in HTML, <audio> tag is used.

Attributes used

Attribute	Value	Description
Autoplay	Autoplay	Specifies that the audio will start playing as soon as it is ready.
Controls	Controls	Specifies that audio controls should be displayed.
Loop	Loop	Specifies that the audio will start over again, every time it is finished.
Muted	Muted	Specifies that the audio output should be muted.
Preload	Auto, metadata, none	Specifies if and how the author thinks the audio should be loaded when the page loads.
Src	URL	Specifies the URL of the audio file.

Video

Video can be inserted into HTML using <video> tag. There are several ways to insert video. Some of them are:

Attributes used

Attribute	Value	Description
Autoplay	Autoplay	Specifies that the video will start playing as soon as it is ready.
Controls	Controls	Specifies that video controls should be displayed.
Loop	Loop	Specifies that the video will start over again, every time it is finished.
Muted	Muted	Specifies that the video output should be muted.
Preload	Auto, metadata, none	Specifies if and how the author thinks the video should be loaded when the page loads.
Src	URL	Specifies the URL of the video file.

Using <video> tag

E.g. <video width="320" height="240" controls>

    <source src="myvideo.mp4" type="video/mp4">

    </video>

Using <embed> tag

<embed src="myvideo.avi" width="320" height="240" >