Unit-2

Basic HTML Tags

<Head> Tag

- The <head> tag is a container of various important tags like <title>, <meta>, <link>, <base>, <style>, <script>, and <noscript> tags.
- **The HTML <title> Tag**
  - The HTML <title> tag is used for specifying the title of the HTML document. Following is an example to give a title to an HTML document .
- **The HTML <meta> Tag**
  - The HTML <meta> tag is used to provide metadata about the HTML document which includes information about page expiry, page author, list of keywords, page description etc.

<Head> Tag

- **The HTML <base> Tag**
  - The HTML <base> tag is used for specifying the base URL for all relative URLs in a page, which means all the other URLs will be concatenated into base URL while locating for the given item.
  - For example, all the given pages and images will be searched after prefixing the given URLs with base URL http://www.tutorialspoint.com/ directory −

<Head> Tag

- **The HTML <link> Tag**
  - The HTML <link> tag is used to specify relationships between the current document and external resource. Following is an example to link an external style sheet file available in **css** sub-directory within web root −
- **The HTML <style> Tag**
  - The HTML <style> tag is used to specify style sheet for the current HTML document. Following is an example to define few style sheet rules inside <style> tag −

<Head> Tag

- **The HTML <script> Tag**
  - The HTML <script> tag is used to include either external script file or to define internal script for the HTML document. Following is an example where we are using JavaScript to define a simple JavaScript function −

<Body> Tag

- The HTML <body> tag is used for indicating the main content section of the HTML document.
- The HTML <section> tag specifies a section in a document.

<Body> Tag

Attribute	Value	Description
alink	rgb(x,x,x) #xxxxxx colorname	*Deprecated* – Specifies the color of the active links in the document.
background	URL	*Deprecated* – Specifies the background image file path.
bgcolor	rgb(x,x,x) #xxxxxx colorname	*Deprecated* – Specifies the background color.
link	rgb(x,x,x) #xxxxxx colorname	*Deprecated* – Specifies the color of all the links in the document.
text	rgb(x,x,x) #xxxxxx colorname	*Deprecated* – Specifies the color of the text in the document.
vlink	rgb(x,x,x) #xxxxxx colorname	*Deprecated* – Specifies the color of the visited links in the document.

HTML Elements

- All the HTML elements can be categorized into two categories **(a)** Block Level Elements **(b)**Inline Elements.
- **Block Elements**
  - Block elements appear on the screen as if they have a line break before and after them. For example, the <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <ul>, <ol>, <dl>, <pre>, <hr />, <blockquote>, and <address> elements are all block level elements. They all start on their own new line, and anything that follows them appears on its own new line.
- **Inline Elements (Text Level)**
  - Inline elements, on the other hand, can appear within sentences and do not have to appear on a new line of their own. The <b>, <i>, <u>, , , <sup>, <sub>, <big>, <small>, <li>, <ins>, <del>, <code>, <cite>, <dfn>,<a>,<mark> <kbd>,<img> and <var> elements are all inline elements.

HTML Elements

- **Grouping HTML Elements**
  - There are two important tags which we use very frequently to group various other HTML tags (i) tag and (ii) tag
- **The tag**
  - This is the very important block level tag which plays a big role in grouping various other HTML tags and applying CSS on group of elements.
  - Even now tag can be used to create webpage layout where we define different parts (Left, Right, Top etc.) of the page using tag.
  - This tag does not provide any visual change on the block but this has more meaning when it is used with CSS.

HTML Elements

- **The tag**
  - The HTML is an inline element and it can be used to group inline-elements in an HTML document. This tag also does not provide any visual change on the block but has more meaning when it is used with CSS.
  - The difference between the tag and the tag is that the tag is used with inline elements whereas the tag is used with block-level elements.

HTML Elements

- **Line Break Tag**
  - Whenever you use the **
** element, anything following it starts from the next line.
  - This tag is an example of an **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.
- **Centering Content**
  - You can use ** ** tag to put any content in the center of the page or any table cell.

HTML Elements

- **Horizontal Lines**
- Horizontal lines are used to visually break-up sections of a document. The **<hr>** tag creates a line from the current position in the document to the right margin and breaks the line accordingly.
- Again **<hr />** tag is an example of the **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them.
- The **<hr />** element has a space between the characters **hr** and the forward slash. If you omit this space, older browsers will have trouble rendering the horizontal line, while if you miss the forward slash character and just use **<hr>** it is not valid in XHTML

HTML Elements

- **Preserve Formatting**
  - Sometimes, you want your text to follow the exact format of how it is written in the HTML document. In these cases, you can use the preformatted tag **<pre>**.
  - Any text between the opening **<pre>** tag and the closing **</pre>** tag will preserve the formatting of the source document.
- **Nonbreaking Spaces**
  - Suppose you want to use the phrase "12 Angry Men." Here, you would not want a browser to split the "12, Angry" and "Men" across two lines −
  - An example of this technique appears in the movie "12 Angry Men." In cases, where you do not want the client browser to break text, you should use a nonbreaking space entity ** ** instead of a normal space. For example, when coding the "12 Angry Men" in a paragraph,

HTML Elements

- An **HTML element** is defined by a starting tag. If the element contains other content, it ends with a closing tag,
- So here ** .... ** is an HTML element, **<h1>...</h1>** is another HTML element. There are some HTML elements which don't need to be closed, such as **<img.../>**, **<hr />** and **
** elements. These are known as **void elements**.
- HTML documents consists of a tree of these elements and they specify how HTML documents should be built, and what kind of content should be placed in what part of an HTML document.

HTML Elements

- **HTML Tag vs. Element**
  - An HTML element is defined by a *starting tag*. If the element contains other content, it ends with a *closing tag*.
  - For example, ** ** is starting tag of a paragraph and ** ** is closing tag of the same paragraph but ** This is paragraph ** is a paragraph element.
- **Nested HTML Elements**
  - It is very much allowed to keep one HTML element inside another HTML element

Ex: <h1>This is italic heading</h1>

HTML - Attributes

- We have seen few HTML tags and their usage like heading tags **<h1>, <h2>,** paragraph tag **<p>** and other tags. We used them so far in their simplest form, but most of the HTML tags can also have attributes, which are extra bits of information.
- An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag. All attributes are made up of two parts − a **name** and a **value**
  - The **name** is the property you want to set. For example, the paragraph **<p>** element in the example carries an attribute whose name is **align**, which you can use to indicate the alignment of paragraph on the page.
  - The **value** is what you want the value of the property to be set and always put within quotations. The below example shows three possible values of align attribute: **left, center** and **right**.

HTML - Attributes

- Core Attributes
- The four core attributes that can be used on the majority of HTML elements (although not all) are –
- Id
- Title
- Class
- Style

HTML - Attributes

- **The Id Attribute**
- The **id** attribute of an HTML tag can be used to uniquely identify any element within an HTML page. There are two primary reasons that you might want to use an id attribute on an element −
- If an element carries an id attribute as a unique identifier, it is possible to identify just that element and its content.
- If you have two elements of the same name within a Web page (or style sheet), you can use the id attribute to distinguish between elements that have the same name.
- We will discuss style sheet in separate tutorial. For now, let's use the id attribute to distinguish between two paragraph elements as shown below.

HTML - Attributes

- **The title Attribute**
- The **title** attribute gives a suggested title for the element. They syntax for the **title** attribute is similar as explained for **id** attribute −
- The behavior of this attribute will depend upon the element that carries it, although it is often displayed as a tooltip when cursor comes over the element or while the element is loading.
- **The class Attribute**
- The **class** attribute is used to associate an element with a style sheet, and specifies the class of element. You will learn more about the use of the class attribute when you will learn Cascading Style Sheet (CSS). So for now you can avoid it.
- The value of the attribute may also be a space-separated list of class names. For example −

HTML - Attributes

- **The style Attribute**
  - The style attribute allows you to specify Cascading Style Sheet (CSS) rules within the element.

HTML - Attributes

- **Internationalization Attributes**
- There are three internationalization attributes, which are available for most (although not all) XHTML elements.
  - dir
  - lang
  - xml:lang
- **The dir Attribute**
  - The **dir** attribute allows you to indicate to the browser about the direction in which the text should flow. The dir attribute can take one of two values, as you can see in the table that follows

Value	Meaning
ltr	Left to right (the default value)
rtl	Right to left (for languages such as Hebrew or Arabic that are read right to left)

HTML - Attributes

- When *dir* attribute is used within the <html> tag, it determines how text will be presented within the entire document. When used within another tag, it controls the text's direction for just the content of that tag.

- **The lang Attribute**
  - The **lang** attribute allows you to indicate the main language used in a document, but this attribute was kept in HTML only for backwards compatibility with earlier versions of HTML.
  - This attribute has been replaced by the **xml:lang** attribute in new XHTML documents.
  - The values of the *lang* attribute are ISO-639 standard two-character language codes. Check **HTML Language Codes: ISO 639** for a complete list of language codes.

HTML - Attributes

- **The xml:lang Attribute**
  - The *xml:lang* attribute is the XHTML replacement for the *lang* attribute.
  - The value of the *xml:lang* attribute should be an ISO-639 country code as mentioned in previous section.
- **Generic Attributes**
  - Here's a table of some other attributes that are readily usable with many of the HTML tags.

HTML - Attributes

Attribute	Options	Function
align	right, left, center	Horizontally aligns tags
valign	top, middle, bottom	Vertically aligns tags within an HTML element.
bgcolor	numeric, hexidecimal, RGB values	Places a background color behind an element
background	URL	Places a background image behind an element
id	User Defined	Names an element for use with Cascading Style Sheets.
class	User Defined	Classifies an element for use with Cascading Style Sheets.
width	Numeric Value	Specifies the width of tables, images, or table cells.
height	Numeric Value	Specifies the height of tables, images, or table cells.
title	User Defined	"Pop-up" title of the elements.

HTML – Formatting Tags

- Bold Text
- Anything that appears within **...** element, is displayed in bold
- Italic Text
- Anything that appears within **...** element is displayed in italicized
- Underlined Text
- Anything that appears within **<u>...</u>** element, is displayed with underline
- Strike Text
- Anything that appears within **<strike>...</strike>** element is displayed with strikethrough, which is a thin line through the text

HTML – Formatting Tags

- Monospaced Font
- The content of a **<tt>...</tt>** element is written in monospaced font. Most of the fonts are known as variable-width fonts because different letters are of different widths (for example, the letter 'm' is wider than the letter 'i'). In a monospaced font, however, each letter has the same width.
- Superscript Text
- The content of a **^{...}** element is written in superscript; 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.
- Subscript Text
- The content of a **_{...}** element is written in subscript; the font size used is the same as the characters surrounding it, but is displayed half a character's height beneath the other characters

HTML – Formatting Tags

- Inserted Text
- Anything that appears within **<ins>...</ins>** element is displayed as inserted text.
- Deleted Text
- Anything that appears within **~~...~~** element, is displayed as deleted text.
- Larger Text
- The content of the **<big>...</big>** element is displayed one font size larger than the rest of the text surrounding
- Smaller Text
- The content of the **<small>...</small>** element is displayed one font size smaller than the rest of the text surrounding

HTML – Phrase Tags

- Emphasized Text
- Anything that appears within **...** element is displayed as emphasized text.
- Marked Text
- Anything that appears with-in **<mark>...</mark>** element, is displayed as marked with yellow ink.
- Strong Text
- Anything that appears within **...** element is displayed as important text.
- Text Abbreviation
- You can abbreviate a text by putting it inside opening <abbr> and closing </abbr> tags. If present, the title attribute must contain this full description and nothing else.

HTML – Formatting Tags

- Acronym Element
- The **<acronym>** element allows you to indicate that the text between <acronym> and </acronym> tags is an acronym.
- At present, the major browsers do not change the appearance of the content of the <acronym> element.
- Text Direction
- The **<bdo>...</bdo>** element stands for Bi-Directional Override and it is used to override the current text direction.
- Special Terms
- The **<dfn>...</dfn>** element (or HTML Definition Element) allows you to specify that you are introducing a special term. It's usage is similar to italic words in the midst of a paragraph.
- Typically, you would use the <dfn> element the first time you introduce a key term. Most recent browsers render the content of a <dfn> element in an italic font.

HTML – Formatting Tags

- Quoting Text
- When you want to quote a passage from another source, you should put it in between **<blockquote>...</blockquote>** tags.
- Text inside a <blockquote> element is usually indented from the left and right edges of the surrounding text, and sometimes uses an italicized font.
- Short Quotations
- The **<q>...</q>** element is used when you want to add a double quote within a sentence.
- Text Citations
- If you are quoting a text, you can indicate the source placing it between an opening **<cite>** tag and closing **</cite>** tag
- As you would expect in a print publication, the content of the <cite> element is rendered in italicized text by default.

HTML – Formatting Tags

- Computer Code
- Any programming code to appear on a Web page should be placed inside **<code>...</code>** tags. Usually the content of the <code> element is presented in a monospaced font, just like the code in most programming books.
- Keyboard Text
- When you are talking about computers, if you want to tell a reader to enter some text, you can use the **<kbd>...</kbd>** element to indicate what should be typed in, as in this example.
- Programming Variables
- This element is usually used in conjunction with the **<pre>** and **<code>** elements to indicate that the content of that element is a variable.

HTML – Formatting Tags

- Program Output
- The **<samp>...</samp>** element indicates sample output from a program, and script etc. Again, it is mainly used when documenting programming or coding concepts.
- Address Text
- The **<address>...</address>** element is used to contain any address.

HTML – Comments

- **Comment** is a piece of code which is ignored by any web browser. It is a good practice to add comments into your HTML code, especially in complex documents, to indicate sections of a document, and any other notes to anyone looking at the code. Comments help you and others understand your code and increases code readability.
  - HTML comments are placed in between **<!-- ... -->** tags. So, any content placed with-in <!-- ... --> tags will be treated as comment and will be completely ignored by the browser.
- **Valid vs Invalid Comments**
  - Comments do not nest which means a comment cannot be put inside another comment. Second the double-dash sequence "--" may not appear inside a comment except as part of the closing --> tag. You must also make sure that there are no spaces in the start-of comment string.

HTML – Comments

- **Multiline Comments**
  - So far we have seen single line comments, but HTML supports multi-line comments as well.
  - You can comment multiple lines by the special beginning tag <!- - and ending tag --> placed before the first line and end of the last line
- **Conditional Comments**
  - Conditional comments only work in Internet Explorer (IE) on Windows but they are ignored by other browsers. They are supported from Explorer 5 onwards, and you can use them to give conditional instructions to different versions of IE.
- **Using Comment Tag**
  - There are few browsers that support <comment> tag to comment a part of HTML code.

HTML - Images

- Images are very important to beautify as well as to depict many complex concepts in simple way on your web page. This tutorial will take you through simple steps to use images in your web pages.
- **Insert Image**
  - You can insert any image in your web page by using **<img>** tag. Following is the simple syntax to use this tag.
  - The <img> tag is an empty tag, which means that, it can contain only list of attributes and it has no closing tag.

HTML - Images

- You can use PNG, JPEG or GIF image file based on your comfort but make sure you specify correct image file name in **src** attribute. Image name is always case sensitive.
- The **alt** attribute is a mandatory attribute which specifies an alternate text for an image, if the image cannot be displayed.

HTML - Images

- **Set Image Location**
- Usually we keep all the images in a separate directory. So let's keep HTML file test.htm in our home directory and create a subdirectory **images** inside the home directory where we will keep our image test.png.

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HTML - Images

- **Set Image Width/Height**
- You can set image width and height based on your requirement using **width** and **height** attributes. You can specify width and height of the image in terms of either pixels or percentage of its actual size.

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HTML - Images

- **Set Image Border**
- By default, image will have a border around it, you can specify border thickness in terms of pixels using border attribute. A thickness of 0 means, no border around the picture.

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HTML - Images

- Set Image Alignment
- By default, image will align at the left side of the page, but you can use **align** attribute to set it in the center or right.

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HTML - Tables

- The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.
- The HTML tables are created using the **<table>** tag in which the **<tr>** tag is used to create table rows and **<td>** tag is used to create data cells.
- The elements under <td> are regular and left aligned by default.
- The **border** is an attribute of <table> tag and it is used to put a border across all the cells. If you do not need a border, then you can use border = "0".

HTML - Tables

- **Table Heading**
- Table heading can be defined using **<th>** tag.
- This tag will be put to replace <td> tag, which is used to represent actual data cell.
- Normally you will put your top row as table heading as shown below, otherwise you can use <th> element in any row.
- Headings, which are defined in <th> tag are centered and bold by default.

HTML - Tables

- **Cellpadding and Cellspacing Attributes**
- There are two attributes called *cellpadding* and *cellspacing* which you will use to adjust the white space in your table cells.
- The cellspacing attribute defines space between table cells, while cellpadding represents the distance between cell borders and the content within a cell.

HTML - Tables

- **Colspan and Rowspan Attributes**
  - You will use **colspan** attribute if you want to merge two or more columns into a single column.
  - Similar way you will use **rowspan** if you want to merge two or more rows.
- **Tables Backgrounds**
  - You can set table background using one of the following two ways −
    - **bgcolor** attribute − You can set background color for whole table or just for one cell.
    - **background** attribute − You can set background image for whole table or just for one cell.
  - You can also set border color also using **bordercolor** attribute.

HTML - Tables

- **Table Height and Width**
  - You can set a table width and height using **width** and **height** attributes.
  - You can specify table width or height in terms of pixels or in terms of percentage of available screen area.
- **Table Caption**
  - The **caption** tag will serve as a title or explanation for the table and it shows up at the top of the table.
  - This tag is deprecated in newer version of HTML/XHTML.

HTML - Tables

- **Table Header, Body, and Footer**
  - Tables can be divided into three portions − a header, a body, and a foot.
  - The head and foot are rather similar to headers and footers in a word-processed document that remain the same for every page, while the body is the main content holder of the table.
- The three elements for separating the head, body, and foot of a table are −
  - **<thead>** − to create a separate table header.
  - **<tbody>** − to indicate the main body of the table.
  - **<tfoot>** − to create a separate table footer.

HTML - Tables

- A table may contain several <tbody> elements to indicate *different pages* or groups of data.
- But it is notable that <thead> and <tfoot> tags should appear before <tbody>
- **Nested Tables**
  - You can use one table inside another table. Not only tables you can use almost all the tags inside table data tag <td>.