**HTML**

* HTML stands for **H**yper **T**ext **M**arkup **L**anguage, which is the most widely used language on Web to develop web pages
* Markup languages are designed for presentation of text. The language specifies code for formatting, both the layout and style
* Basic HTML Document  
  <!DOCTYPE html>  
  <html>  
   <head>  
   <title>This is document title</title>  
   </head>  
   <body>  
   <h1>This is a heading</h1>  
   <p>Document content goes here.....</p>  
   </body>  
  </html>

|  |  |
| --- | --- |
| <!DOCTYPE...> | This tag defines the document type and HTML version, used by the web browser to understand the version of the HTML |
| <html> | This tag encloses the complete HTML document |
| <head> | This tag represents the document's header which can keep other HTML tags like <title>, <link> |
| <title> | Used inside the <head> tag to mention the document title |
| <body> | This tag represents the document's body |
| <h1> | This tag represents the heading |
| <p> | This tag represents a paragraph. |

**HTML Tags**

* Heading Tags : Every document starts with a heading and you could use different size for each headings.
  + <h1>, <h2>, <h3>, <h4>, <h5>, and <h6>
  + <h1>This is a heading</h1>
* Paragraph Tag : Structures your text into different paragraphs
  + <p>Here is a first paragraph of text.</p>
* Line Break Tag : Creates a line break. anything following **<br />** starts from the next line
  + <p>Hello<br />
* Center Tag : Puts any content in the center of the page or within in a container
  + <center>  
    <p>This text is in the center.</p>  
    </center>
* Horizontal line tag : **<hr>** tag creates a line from the current position
  + <p>This is paragraph one and should be on top</p>  
    <hr />

**HTML Elements**

* An HTML element is defined by a starting tag
* You could also place one HTML element inside another HTML element which is then called a **Nested HTML element**
  + <h1>This is <i>italic</i> heading</h1>

**HTML Attributes**

* An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag
* All attributes will have a name and a value
* Most commonly used attributes are
  + id : uniquely identify any element within an HTML page
    - <p id="html">This para explains what is HTML</p>
  + title : gives a suggested title for the element
    - <h3 title="Hello HTML!">Titled Heading Tag Example</h3>
  + class : associate an element with a style sheet
    - <h3 class=”header”>Titled Heading Tag Example</h3>
  + style : allows to specify css rules within an element
    - <p style="font-size:15px">Some text...</p>

**Formatting Tags**

* Used for fomatting content within HTML page
* Bold tag : **<b>...</b>**
  + Anything that appears within <b>...</b> element, is displayed in bold
  + <p>The following word uses a <b>bold</b> typeface.</p>
* Italic tag : **<i>...</i>**
  + Anything that appears within <i>...</i> element is displayed in
  + <p>The following word uses a <i>italicized</i> typeface.</p>
* Underline tag : **<u>...</u>**
  + Anything that appears within <u>...</u> element, is displayed with underline
  + <p>The following word uses a <u>underlined</u> typeface.</p>
* Strike tag : **<strike>...</strike>**
  + Anything that appears within <strike>...</strike> element is displayed with strikethrough
  + <p>The following word uses a <strike>strikethrough</strike> typeface.</p>
* Big tag : **<big>...</big>**
  + Displays one font size larger than the rest of the text
  + <p>The following word uses a <big>big</big> typeface.</p>
* Small Tag : **<small>...</small>**
  + Displays one font size smaller than the rest of the text
  + <p>The following word uses a <small>small</small> typeface.</p>
* **Grouping contents**
  + **<div></div> :** allow you to group together several elements to create sections or subsections of a page
    - <div id="content" align="left" bgcolor="white">  
      <h5>Content Articles</h5>  
      <p>Actual content goes here.....</p>  
      </div>
  + **<span></span> :** Groups only inline elements, if you have a part of a sentence or paragraph which you want to group together
    - <p>This is the example of <span style="color:green">span tag</span> and the <span style="color:red">div tag</span> alongwith CSS</p>

**Meta Tags**

* HTML lets you specify metadata
* The **<meta>** tag is used to provide such additional information
* You can add metadata to your web pages by placing <meta> tags inside <head> and </head> tags
* Used by search engines and other web crawlers to pull data
* Most commonly used attributes
  + Name : Name for the property, example includes keywords, description, author etc
  + Content : Specify property value
  + Http-equiv : used for http response message headers, it can be used to refresh a page
* **Keywords :** specify important keywords related to the document and later these keywords are used by the search engines while indexing your webpage
  + <meta name="keywords" content="HTML, Meta Tags, Metadata" />
* **Description :** short description about the document, this is also used by search engines
  + <meta name="description" content="Learning about Meta Tags." />
* **Document refresh :** Refresh after every n seconds
  + <meta http-equiv="refresh" content="5" />
* **Page Redirection :** Redirects your page to any other webpage
  + <meta http-equiv="refresh" content="3; url=http://www.tutorialspoint.com" />

**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
* HTML comments are placed in between <!-- ... --> tags
* <!-- Document Header Starts →
* Multi line comments
  + <!--   
    This is a multiline comment and it can  
    span through as many as lines you like.  
    →

**HTML Image Tag : <img>**

* You can insert any image in your web page by using <img> tag
  + <img src="http://cricfrog.com/wp-content/uploads/2015/12/Today-Cricket-Match-Prediction.jpg" alt="Login" />
* **alt attribute :** alternate text for an image, if the image cannot be displayed
* Image width / height **:** set using width and height attributes.
  + <img src="http://cricfrog.com/wp-content/uploads/2015/12/Today-Cricket-Match-Prediction.jpg" alt="Test Image" width="150" height="100"/>
* Image border : using border attribute
  + <img src="http://cricfrog.com/wp-content/uploads/2015/12/Today-Cricket-Match-Prediction.jpg" alt="Test Image" border="3"/>
* Image alignment : using align attribute
  + <img src="http://cricfrog.com/wp-content/uploads/2015/12/Today-Cricket-Match-Prediction.jpg" alt="Test Image" border="3" align="right"/>

**HTML TABLES**

* Used to arrange a set html elements
* Created using **<table>**, **<tr>**, **<td>, <th>,** **<thead>**, **</tbody>** tags
* **Cellpadding and Cellspacing, Border**
  + Cellspacing attribute defines the width of the border
  + Cellpadding represents the distance between cell borders and the content within a cell
* <table border="1" cellpadding="5" cellspacing="5">  
   <thead>  
   <tr>  
   <th>Name</th>  
   <th>Email</th>  
   </tr>  
   </thead>  
   <tbody>  
   <tr>  
   <td>Arun</td>  
   <td>arun.gopan@marlabs.com</td>   
   </tr>  
   </tbody>  
  </table>
* Colspan & Rowspan attributes
  + colspan attribute merge two or more columns into a single column
  + rowspan merge two or more rows
* Width / Height attributes
  + <table border="1" width="600" height="250"></table>

**HTML LISTS**

* **<ul> :**  Unordered list, list items using plain bullets.
  + no special order or sequence
  + <ul>  
     <li>Cricket</li>  
     <li>Football</li>  
     <li>Tennis</li>  
     <li>Baseball</li>  
    </ul>
  + **type** attribute : square, disc, circle
    - <ul type="square">
* **<ol>** - Ordered list, use different schemes of numbers to list your items,
  + <ol>  
     <li>Cricket</li>  
     <li>Football</li>  
     <li>Tennis</li>  
     <li>Baseball</li>  
    </ol>
    - **type** attribute : 1, I, i, a, A

**Linking Documents <a> (Anchor tag)**

* Used to create hyperlinks
  + <a href="http://www.marlabs.com/" target="\_self">Marlabs</a>
  + **Target** attribute : specify the location where linked document is opened
    - \_blank : Opens the link in a new window
    - \_self : Opens the link in a same window
    - \_parent : Opens the link in a parent window
* Email Tag
  + <a href= "mailto:arun.gopan@marlabs.com">Send Email</a>
  + Opens the default email client installed on the machine

**HTML IFRAMES <iframe>**

* The <iframe> tag defines a rectangular region within the document in which the browser can display a separate document, including scrollbars and borders
* Can be placed anywhere in your document body
  + <iframe src="http://www.marlabs.com/" width="555" height="200">  
     Sorry your browser does not support inline frames.  
    </iframe>

**HTML ELEMENTS CATEGORISATION**

* **Block Elements :** Will always have a line break before and after element
  + <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <ul>, <ol>, <hr />
* **Inline Elements :** Can appear within sentences.
  + <b>, <i>, <u>, <strong>, <big>, <small>
* **Grouping Elements :** Groups various html elements
  + <div>, <span>

**HTML Backgrounds**

* **Bgcolor :** <table bgcolor="#f1f1f1" ></table>
* **Background :** <table background="/images/html.gif" width="100%" height="100"></table>

**HTML FONTS <font>**

* Adds style, size, and color to the text on your website
* **size attribute :** value ranges from 1 - 7
  + <font size="1">Font size="1"</font><br />
* **Face attribute :** 
  + <font face="Times New Roman" size="5">Times New Roman</font>
* **Color attribute :**
  + <font color="#FF00FF">This text is in pink</font>

**HTML FORMS <form>**

* Used to collect information from the users who visits the site
  + <form action="action url" method="GET|POST">  
     form elements like input, textarea etc.  
    </form>
* **Form attributes :** 
  + **Action :** Backend script ready to process your passed data
  + **Method :** Method to be used to upload data. The most frequently used are GET and POST methods.
  + **Target :** Specify the target window or frame where the result of the script will be displayed
    - \_blank, \_self, \_parent
  + **Enctype** : specify how the browser encodes the data before it sends it to the server
    - mutlipart/form-data : for binary data in the form of files like image
* **Form controls :** 
  + **Text Input :** 
    - Single-line : one line of user input, such as search boxes or names
    - Password : single-line text input but it masks the character
    - Multi-line : Support multiple line inputs, created using **<textarea></textarea>** tag
  + **Checkboxes :** Used when more than one option needs to be selected
    - <input type="checkbox" name="maths" value="on"> Cricket  
      <input type="checkbox" name="physics" value="on"> Football
  + **Radio button :** Allows only any one option to be selected
    - <input type="radio" name="subject" value="maths"> Cricket  
      <input type="radio" name="subject" value="physics"> Football
  + **Select box :** provides option to list down various options
    - <select name="dropdown">  
      <option value="1" selected>Cricket</option>  
      <option value="2">Football</option>  
      </select>
  + **File Upload :** allow a user to upload a file
    - <input type="file" name="fileupload" />
  + **Button controls :** 
    - **Submit button :** used to submit a form
      * <input type="submit" name="submit" value="Submit" />
    - **Reset button :** resets controls in a form to intial value
      * <input type="reset" name="reset" value="Reset" />
    - **Button:** used to trigger client side scripts
      * <input type="button" name="ok" value="OK" />
    - **image :** image can be used as background for button
      * <input type="image" name="imagebutton" src="/html/images/logo.png" />
  + **Hidden form controls :**
    - Hidden form controls are used to hide data inside the page which later on can be pushed to the server
      * <input type="hidden" name="user\_id" value="10" />
* **HTML Marquees :**
  + scrolling piece of text displayed either horizontally across or vertically down your webpage depending on the settings
  + <marquee direction="right">This text will scroll from left to right</marquee>

**HTML Style Sheet (CSS - Cascading style sheets)**

* Cascading Style Sheets (CSS) describe how documents are presented on screens
  + **Cascading in CSS** : Since more than one stylesheet rule could apply to a particular piece of HTML, there has to be a known way of determining which specific stylesheet rule applies to which piece of HTML
* Applying style without using CSS
  + <p><font color="green" size="5">Hello, World!</font></p>
* Applying style using CSS
  + <p style="color:green;font-size:24px;">Hello, World!</p>
* **Type of CSS :** 
  + **External Style Sheet** **:** Define style sheet rules in a separate .css file and then include that file in your HTML document using HTML <link> tag
  + **Internal Style Sheet :** Define style sheet rules in header section of the HTML document using <style> tag
  + **Inline Style Sheet :** Define style sheet rules directly along-with the HTML elements using style attribute