HTML

- HTML stands for HyperText Markup Language.
- HTML is used to create web pages and web applications.
- HTML is widely used language on the web.
- We can create a static website by HTML only.

```
<!DOCTYPE>
<html>
<head>
<title>Web page title</title>
</head>
<body>
<h1>Write Your First Heading</h1>
<h1 title="This is heading tag">Example of title attribute</h1>
 <h2> Heading Tag </h2>
<b> Bold Tag </b>
<i> Italic Tag </i>
<u> Underline Tag</u>
 <p>Write Your First Paragraph.</p>
<p style="color: red">The style is attribute of paragraph tag</p>
<p><br>Papa and mama, and baby and Dot,
    <br>Willie and me?the whole of the lot
          <br>Of us all went over in Bimberlie's sleigh,
            <br>To grandmama's house on Christmas day.
        </p>
<p> An HTML hr tag draw a horizontal line and separate two paragraphs with that line.
<hr> it will start a new paragraph.  </p>
<p>An <abbr title = "Hypertext Markup language">HTML </abbr>language is used to
 create web pages. </p>
<p style="height: 50px; color: blue">It will add style property in element</p>
<p>This tag will <mark>highlight</mark> the text.</p>
<a href=" https://www.facebook.com/">This is a link</a>
<img src="whitepeacock.jpg" height="400" width="600">
<p>In HTML it is recommended to use <strong>lower-
case</strong>, while writing a code. </p>
 <div style="background-color: lightgreen">This is second div</div>
<p style="background-color: pink">This is a block level element</p>
 <a href=" https://www.facebook.com/">Click on link</a>
 <span style="background-color: lightblue">this is inline element</span>
<p>Hello <sup>Write Your First Paragraph in superscript.</sup></p>
<p>Hello <sub>Write Your First Paragraph in subscript.</sub></p>
<p><dfn>HTML </dfn> is a markup language. </p>
<p>Hello <del>Delete your first paragraph.</del></p>
<a href=" https://www.facebook.com/" target="_blank"> this-link </a>
```

```
<blockquote cite="https://www.keepinspiring.me/famous-
quotes/"><p>?The first step toward success is taken when you refuse to be a captive of
 the environment in which you first find yourself.?</p></blockquote>
 <cite>-Mark Caine</cite>

<p> <del>Delete your first paragraph.</del><ins>Write another paragraph.</ins>
</p>
<p>Hello <big>Write the paragraph in larger font.</big></p>
<p>HTML is an <em>easy </em>to learn language.</p>
<p>Hello <small>Write the paragraph in smaller font.</small></p>
<strong>This is an important content</strong>
<p><em>This is an important content</em>, which displayed in italic font.</p>
<h2>  I want to put a <mark> Mark</mark> on your face</h2>
<p> <u>Write Your First Paragraph in underlined text.</u></p>

<p>Hello <tt>Write Your First Paragraph in monospaced font.</tt></p>

<p> <strike>Write Your First Paragraph with strikethrough</strike>.</p>

<p>Steve Jobs said: <q>If You Are Working On Something That You Really Care About,
 You Don?t Have To Be Pushed. The Vision Pulls You.</q>?</p>

 <p><code>class Simple{ public static void main(String args[]){
      System.out.println("Hello Java"); }} </code>
    </p>
<p>Please press <kbd>Ctrl</kbd> + <kbd>Shift</kbd> + t<kbd></kbd> to rest
ore page on chrome.</p>
<address> You can ask your queries by contact us on <a href="">example123@newdo
main.com</a>
   <br> You can also visit at: <br>58 S. Garfield Street. Villa Rica, GA 30187.
  </address>
<img src="good_morning.jpg" alt="Good Morning Friends"/>
<img src="animal.jpg" height="180" width="300" alt="animal image">
<a href="
https://www.facebook.com/"><img src="robot.jpg" height="100" width="100"></a>
<textarea rows="9" cols="70">  User textarea tag example with rows and columns.  <
/textarea>
<p>The business meeting is scheduled on <time datetime="2009-02-
18">next wednesday</time>.</p>
 <video controls="controls">
     <source src="flower.mp4" type="video/mp4">
    <track src="flower.vtt" kind="subtitles" srclang="en" label="English">
    Sorry!Your browser does not support the track
 </video>
<p><tt>This is teletype paragraph</tt></p>
```

```
<p>This tag can be useful to identifying <u>spelling mistakes </u>in an document.</
p>
<ul style="list-style-type: square;">
   <li>HTML</li>
    <li>Java</li>
        <li>JavaScript</li>
        <li>SQL</li>
   </ul>
<p><var>a</var>(<var>b</var>+<var>c</var>)=<var>ab</var>+<var>ac
</var></p>
<video width="320" height="240" controls autoplay loop>
  <source src="movie.mp4" type="video/mp4">
  Your browser does not support the html video tag.
</video>
<ol>
 <li>Aries</li>
 <li>Bingo</li>
 <li>Leo</li>
 <li>Oracle</li>
</ol>
<dl>
  <dt>Aries</dt>
  <dd>-One of the 12 horoscope sign.</dd>
  <dt>Bingo</dt>
  <dd>-One of my evening snacks</dd>
 <dt>Leo</dt>
 <dd>-It is also an one of the 12 horoscope sign.</dd>
  <dt>Oracle</dt>
  <dd>-It is a multinational technology corporation.</dd>
</dl>
<ol>
   <li>Delhi
      <ul>
         <li>NewDelhi</li>
      </ul>
   </li>
   <li>Haryana
      <ul>
         <li>Chandigarh</li>
      </ul>
   </li>
</ol>
<ol type="I">
 <li>HTML</li>
```

```
 <li>Java</li>
 <li>JavaScript</li>
 <li>SQL</li>
</ol>
<iframe src=" https://www.instagram.com/" height="300" width="400"></iframe>
<iframe src=" https://www.instagram.com/" height="50%" width="70%"></iframe>
<iframe src=" https://www.instagram.com/" style="height:300px;width:400px">
<iframe src=" https://www.instagram.com/" style="border:none;"></iframe>
<iframe src=" https://www.instagram.com/" style="border:2px solid tomato;">

<iframe height="300px" width="100%" src="new.html" name="iframe_a"></iframe>
<p><a href=" https://www.instagram.com/" target="iframe_a">User.com</a></p>

<iframe width="550" height="315" src="https://www.youtube.com/embed/JHq3pL4cdy
4" frameborder="0" allow="accelerometer; autoplay; encrypted-
media; gyroscope; picture-in-
picture" allowfullscreen style="padding:20px;"></iframe>

</body>
</html>
```

- **Hyper Text:** HyperText simply means "Text within Text." HyperText is a way to link two or more web pages (HTML documents) with each other.
- **Markup language:** apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.
- Web page can be of the static or dynamic type
- An HTML document is made of many HTML tags and each HTML tag contains different content.

Description of HTML Example

- **<!DOCTYPE>:**instruct the browser about the version of HTML.
- **<html >** :This tag informs the browser that it is an HTML document
- **<head>:** It should be the first element inside the <html> element, which contains the metadata(information about the document). It must be closed before the body tag opens.
- **<title>:** appears at the top of the browser window. It must be placed inside the head tag and should close immediately.
- **<body>** : Text between body tag describes the body content of the page that is visible to the end user.
- **Tim Berners-Lee** is known as the father of HTML.

- W3C (World Wide Web Consortium)
- WHATWG(Web Hypertext Application Technology Working Group)

Features of HTML

- easy and simple language**.**
- effective presentation
- markup language
- facilitates programmers to add a link on the web page
- platform-independent
- facilitates the programmer to add Graphics, Videos, and Sound
- HTML is a case-insensitive language

- Text editors are the programs which allow editing in a written text.
- basic building blocks
  - **Tags:** HTML tag surrounds the content and apply meaning to it.
  - **Attribute:** provides extra information about the element
  - **Elements:** In an HTML file, everything written within tags are termed as HTML elements.
- **<tag** name attribute_name= " attr_value"**>** content **</ tag** name**>**
- HTML tags are like keywords which defines that how web browser will format and display the content.
- with the help of tags, a web browser can distinguish between an HTML content and a simple content.
- But some HTML tags are unclosed tags.
- Each HTML tags have different properties.
- All HTML tags must enclosed within < > these brackets.

HTML Tags are always written in lowercase letters

- **
 Tag**: br stands for break line, it breaks the line of the code.
- **<hr> Tag**: hr stands for Horizontal Rule. This tag is used to put a line across the webpage.

HTML Meta Tags

- DOCTYPE, title, link, meta and style

HTML Text Tags

- <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, , , <abbr>, <acronym>, <address>, <bdo>, <blockquote>, <cite>, <q>, <code>, <ins>, <del>, <dfn>, <kbd>, <pre>, <samp>, <var> and

HTML Link Tags

- <a> and <base>

HTML Image and Object Tags

- <img>, <area>, <map>, <param> and <object>

HTML List Tags

- <ul>, <ol>, <li>, <dl>, <dt> and <dd>

HTML Table Tags

- table, tr, td, th, tbody, thead, tfoot, col, colgroup and caption

HTML Form Tags

- form, input, textarea, select, option, optgroup, button, label, fieldset and legend

HTML Scripting Tags

- script and noscript

HTML Attribute

- HTML attributes are special words which provide additional information about the elements or attributes
- Attributes should always be applied with start tag.
- The Attribute should always be applied with its name and value pair.
- <element **attribute_name**=**"value"**>**content**</element>
- Style attribute is used for applying CSS property on any HTML element
- title attribute is used as text tooltip in most of the browsers.
- IN HTML5, you can also omit use of quotes around attribute values.

HTML Elements

- elements are responsible for creating web pages and define content in that webpage.
- an element is a collection of start tag, attributes, end tag, content between them.

Some elements does not have end tag and content, these elements are termed as empty elements or self-closing element or void elements. These elements are also called as unpaired tag.

- default display and styling purpose in HTML, all the elements are divided into two categories:
  - Block-level element
  - Inline element

- Block-level element
  - structure main part of web page, by dividing a page into coherent blocks.
  - block-level element always start with new line and takes the full width of web page, from left to right.
  - <address>, <article>, <aside>, <blockquote>, <canvas>, <dd>, , <dl>, <dt>, <fieldset>, <figcaption>, <figure>, <footer>, <form>, <h1>-<h6>, <header>, <hr>, <li>, <main>, <nav>, <noscript>, <ol>, <output>, <p>, <pre>, <section>, <table>, <tfoot>, <ul> and <video>.

Inline elements:

- differentiate the part of a given text and provide it a particular function.
- These elements does not start with new line and take width as per requirement.
- The Inline elements are mostly used with other elements.
- <a>, <abbr>, <acronym>, <b>, <bdo>, <big>, <br>, <button>, <cite>, <code>, <dfn>, , <i>, <img>, <input>, <kbd>, <label>, <map>, <object>, <q>, <samp>, <script>, <select>, <small>, , , <sub>, <sup>, <textarea>, <time>, <tt>, <var>.

HTML Formatting

- formatting tags are divided into two categories:
  - Physical tag: These tags are used to provide the visual appearance to the text.
  - Logical tag: These tags are used to add some logical or semantic value to the text.

NOTE: There are some physical and logical tags which may give same visual appearance, but they will be different in semantics.

<b>	This is a physical tag, which is used to bold the text written between it.

	This is a logical tag, which tells the browser that the text is important.
<i>	This is a physical tag which is used to make text italic.
	This is a logical tag which is used to display content in italic.
<mark>	This tag is used to highlight text.
<u>	This tag is used to underline text written between it.
<tt>	This tag is used to appear a text in teletype. (not supported in HTML5)
<strike>	This tag is used to draw a strikethrough on a section of text. (Not supported in HTML5)
<sup>	It displays the content slightly above the normal line.
<sub>	It displays the content slightly below the normal line.
<del>	This tag is used to display the deleted content.
<ins>	This tag displays the content which is added
<big>	This tag is used to increase the font size by one conventional unit.
<small>	This tag is used to decrease the font size by one unit from base font size.

- tag is a logical tag, which displays the content in bold font and informs the browser about its logical importance.

HTML Heading

- Headings in HTML helps the search engine to understand and index the structure of web page.
- H1 to h6

HTML Paragraph

- It is a notable point that a browser itself add an empty line before and after a paragraph.

If we are using various <p> tags in one HTML file then browser automatically adds a single blank line between the two paragraphs

- If you put a lot of spaces inside the HTML p tag, browser removes extra spaces and extra line while displaying the page. The browser counts number of spaces and lines as a single one.
-
 tag is used for line break and it can be used with paragraph elements.
- <hr> tag is used to apply a horizontal line between two statements or two paragraphs

HTML Phrase tag

- The HTML phrase tags are special purpose tags, which defines the structural meaning of a block of text or semantics of text.
- Abbreviation tag : <abbr>
  - tag is used to abbreviate a text. To abbreviate a text, write text between <abbr> and </abbr> tag.
- Marked tag: <mark>
  - content written between <mark> and </mark> tag will show as yellow mark on browser
- Strong tag:
  - tag is used to display the important text of the content
- Emphasized tag :
  - tag is used to emphasize the text, and displayed the text in italic form
- Definition tag: <dfn>
  - <dfn> and </dfn> tags, it allow to specify the keyword of the content
- Quoting tag: <blockquote>
  - <blockquote> element shows that the enclosed content is quoted from another source. The Source URL can be given using the cite attribute, and text representation of source can display using <cite> ..... </cite>element**.**
- Short quote tag : <q>
  - If you will put any content between <q> ..... </q>, then it will enclose the text in double quotes.
- Code tag: <code>
  - <code> </code> element is used to display the part of computer code.
- Keyboard tag: <kbd>
  - <kbd>, indicates that a section of content is a user input from keyboard.
- Address tag: <address>
  - <address> tag defines the contact information about the author of the content.

HTML Anchor

- **HTML anchor tag** defines *a hyperlink that links one page to another page*
- "href" attribute is the most important attribute of the HTML a tag
- href attribute is used to define the address of the file to be linked
- `<a href = "....."> Link Text </a>`
- If we want to open that link to another page then we can use target attribute of <a> tag
- If we use target=”_blank” then the link will open in other tab

- **target** attribute can only use with href attribute in anchor tag.
- **unvisited link** is displayed underlined and blue
- **visited link** displayed underlined and purple.
- **active link** is underlined and red.

HTML Image

- **HTML img tag** is used to display image on the web page. HTML img tag is an empty tag that contains attributes only, closing tags are not used in HTML image element.
- ATTRIBUTES OF HTML IMAGE TAGS
  - src: source or path of the image
  - alt: alternate text for the image, if it can't be displayed
  - width: specify the width to display the image
  - height:

HTML Table

- We can create a table to display data in tabular form, using <table> element, with the help of <tr>(table row) , <td>(table data), and <th>(table header) elements.
- HTML tables are used to manage the layout of the page
- But it is recommended to use div tag over table to manage the layout of the page

HTML Table Tags

Tag	Description
<table>	It defines a table.
<tr>	It defines a row in a table.
<th>	It defines a header cell in a table.
<td>	It defines a cell in a table.
<caption>	It defines the table caption.
<colgroup>	It specifies a group of one or more columns in a table for formatting.

<col>	It is used with <colgroup> element to specify column properties for each column.
<tbody>	It is used to group the body content in a table.
<thead>	It is used to group the header content in a table.
<tfooter>	It is used to group the footer content in a table.

HTML Border attribute

```
<!DOCTYPE>
<html>
<body>
<table border="1" style="border-collapse:collapse">
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Sironi</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</table>
</body>
</html>
```

CSS Border property

```
<!DOCTYPE>
<html>
<head>
<style>
 table{
            border-collapse: collapse;
            width: 100%;
}
table, th, td {
border: 1px solid black;
```

```
border-collapse: collapse;
}
th, td {
  padding: 10px;
}
table#alter tr:nth-child(even) {
    background-color: #eee;
}
table#alter tr:nth-child(odd) {
    background-color: #fff;
}
table#alter th {
    color: white;
    background-color: gray;
}
</style>
</head>
<body>
<table id="alter">
<thead>
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
</thead>
<tfoot>
        <tr>
          <th>Total</th>
          <th>90</th>
          <th>4175</th>
        </tr>
            </tfoot>

<tbody>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Sironi</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</tbody>
</table>
</body>
</html>
```

HTML Table with colspan

- If you want to make a cell span more than one column, you can use the colspan attribute.

```
<!DOCTYPE>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 5px;
    text-align: left;
}
</style>
</head>
<body>
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">Mobile No.</th>
  </tr>
  <tr>
    <td>Ajeet Maurya</td>
    <td>7503520801</td>
    <td>9555879135</td>
  </tr>
</table>
</body>
</html>
```

HTML Table with rowspan

- If you want to make a cell span more than one row, you can use the rowspan attribute.

```
<!DOCTYPE>
<html>
<head>
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 10px;
}
```

- </style>
- </head>
- <body>
- <table>
- <caption> Row span example </caption>
- <tr><th>Name</th><td>Ajeet Maurya</td></tr>
- <tr><th rowspan="2">Mobile No.</th><td>7503520801</td></tr>
- <tr><td>9555879135</td></tr>
- </table>
- </body>
- </html>

HTML <tbody> tag

- <tbody> tag is used to group the table rows (<tr>) together
- <tbody> tag must be a child of <table> element
- **<tbody>**.....**</tbody>**

HTML <td> tag

- <td> tag is used to specify the cells of an HTML table which contain data of the table
- **<td>**.....**</td>**

HTML Textarea

- multi-line text input control
- unlimited number of characters and the texts are displayed in a fixed-width font
- size of the HTML textarea is defined by <cols> and <rows> attribute, or it can also be defined through CSS height and width properties

HTML <thead> tag

- <thead> elements is used to define header of an HTML table

HTML Time Tag

- **HTML <time> tag** is used to define date and time. It displays time value in a 24 hour clock
- used to encode dates and times in a machine-readable way
- **<time>**Define Time and Date here**</time>**
- There is only one specific attribute of HTML5 time tag that is datetime

HTML Title

- **HTML title tag** is used *to provide a title name for your webpage*. It is necessary for Search Engine Optimization (SEO).
- title tag must be used inside the <head> tag

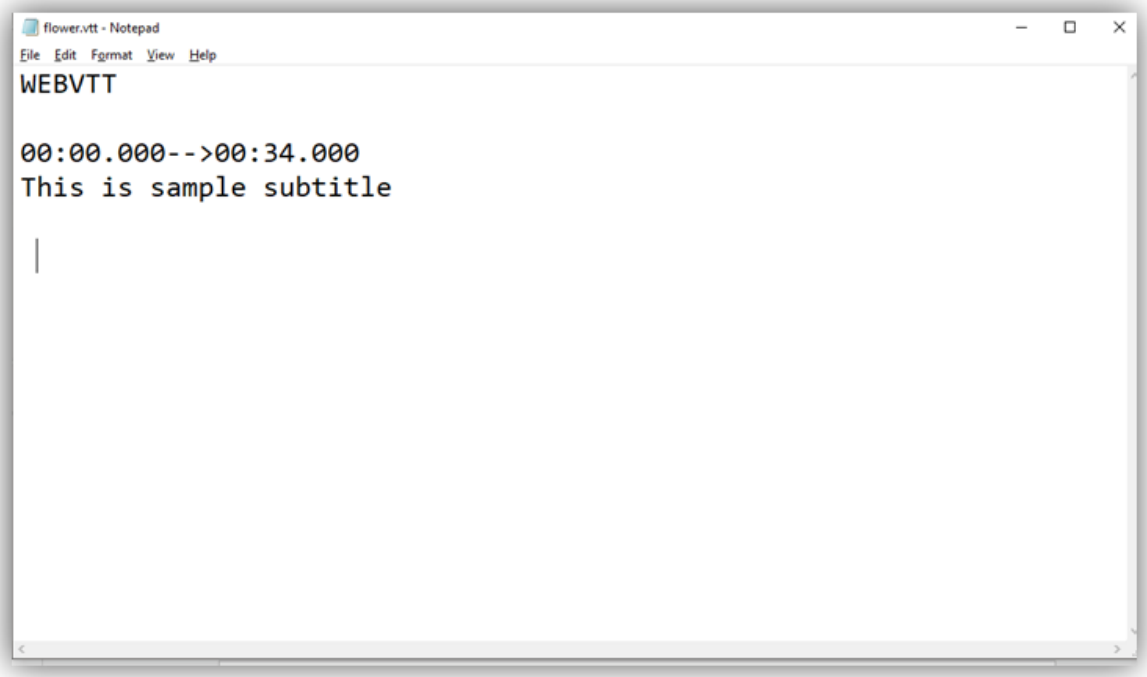
HTML <tr> tag

- <tr> tag is used to define the rows in the table
- <tr> tag can consist one or more <th> head cells and <td> data cells to define a single row of HTML table
- <tr> tag must be a direct child of <table> element or it can be nested child of <thead>, <tbody>, and <tfoot> elements
- **<tr>**.....**</tr>**

HTML <track> tag

- <track> tag is used to define time-based text tracks for a media file.
- <track> tag must use as child element of <audio> and <video> elements.
- <track> tag is used to add subtitle, caption, or any other form of text which displayed when a media file plays.
- **<track** src=" " kind=" " srclang=" " label=" "**>**

How to create WEBVTT file:



-
- First open the notepad and follow the following image first line is fixed for everything and iin second line it is the duration of the subtitle and in the third line it is the subtitles which it will displays this is the format to create WEBVTT file

HTML <tt> tag

- HTML <tt> tag was used to define text in monospaced font or fixed-width fonts

HTML <u> tag

- used to define a span of inline text with a non-textual annotation.

The use of <u> tag should be ignored as it may generate confusion for a hyperlinked text.

HTML Unordered List

- displays elements in bulleted format
- HTML ul tag is used for the unordered list. There can be 4 types of bulleted list
    - disc
    - circle
    - square
    - none

Note: The type attribute is not supported in HTML5, instead of type you can use CSS property of list-style-type. Following is the example to show the CSS property for ul tag.

HTML <var> tag

- <var> tag is a phrase tag which is used to define the variable for a mathematical equation, or in the programming context.
- **<var>**.....**</var>**

HTML Video Tag

- video tag is used for streaming video files such as a movie clip, song clip on the web page.
- three video formats supported for HTML video tag:
    - mp4
    - webM
    - ogg
- mp4 is supported by every browser

HTML Lists

- Lists are used to specify lists of information
- There are three different types of HTML lists:
    - Ordered List or Numbered List (ol)

- Unordered List or Bulleted List (ul)
- Description List or Definition List (dl)

HTML Ordered List

- the ordered HTML lists, all the list items are marked with numbers by default.

HTML Unordered List

- HTML Unordered list, all the list items are marked with bullets

HTML Description List or Definition List

- definition list is very appropriate when you want to present glossary, list of terms or other name-value list.

HTML Nested List

- list within another list is termed as nested list

HTML Ordered List

- displays elements in numbered format
- There can be different types of numbered list:
  - Numeric Number (1, 2, 3) (Type "1")
  - Capital Roman Number (I II III) (Type "I")
  - Small Romal Number (i ii iii) (Type "i")
  - Capital Alphabet (A B C) (Type "A")
  - Small Alphabet (a b c) (Type "a")
- There is start attribute in ordered list
  - <ol type="A" start="5"> : It will show capital alphabets starting with "E".

HTML Form

- **HTML form** is *a section of a document* which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.
- HTML form facilitates the user to enter data that is to be sent to the server for processing
- HTML forms are required if you want to collect some data from of the site visitor.
- **<form** action="server url" method="get|post">
- //input controls e.g. textfield, textarea, radiobutton, button
- **</form>**

HTML Form Tags

Tag	Description
<form>	It defines an HTML form to enter inputs by the used side.
<input>	It defines an input control.
<textarea>	It defines a multi-line input control.
<label>	It defines a label for an input element.
<fieldset>	It groups the related element in a form.
<legend>	It defines a caption for a <fieldset> element.
<select>	It defines a drop-down list.
<optgroup>	It defines a group of related options in a drop-down list.
<option>	It defines an option in a drop-down list.
<button>	It defines a clickable button.

The <form> element does not itself create a form but it is container to contain all required form elements, such as <input>, <label>, etc.

```
<body>
  <form>
    <fieldset>
      <legend>User Information:</legend>

    Enter your name  <br>  <input type="text" name="username">
    First Name: <input type="text" name="firstname"/> <br/>
    Last Name:  <input type="text" name="lastname"/> <br/>
     Enter your address:<br>  <textarea rows="2" cols="20"></textarea>
```

```
<label for="firstname">First Name: </label> <br/>
<input type="text" id="firstname" name="firstname"/> <br/>

<label for="password">Password: </label>
<input type="password" id="password" name="password"/> <br/>

<label for="email">Email: </label>
<input type="email" id="email" name="email"/> <br/>
<label for="gender">Gender: </label>
<input type="radio" id="gender" name="gender" value="male"/>Male<br>
<input type="radio" id="gender" name="gender" value="female"/>Female
<br>

Hobby:<br>
<input type="checkbox" id="cricket" name="cricket" value="cricket"/>
<label for="cricket">Cricket</label> <br>
<input type="checkbox" id="football" name="football" value="football"/>
<label for="football">Football</label> <br>
<input type="checkbox" id="hockey" name="hockey" value="hockey"/>
<label for="hockey">Hockey</label>
<input type="submit" value="submit">
<input type="datetime-local" name="meetingdate"> <br>


</form>
</body>
```

- name attribute is optional, but it is required for the server side component such as JSP, ASP, PHP etc.

> *If you will omit 'name' attribute then the text filed input will not be submitted to server.*

HTML <fieldset> element:

- <fieldset> element in HTML is used to group the related information of a form. This element is used with <legend> element which provide caption for the grouped elements.

HTML Form Example

- <!DOCTYPE html>

```
<html>
<head>
 <title>Form in HTML</title>
</head>
<body>
   <h2>Registration form</h2>
  <form>
   <fieldset>
     <legend>User personal information</legend>
     <label>Enter your full name</label><br>
     <input type="text" name="name"><br>
      <label>Enter your email</label><br>
      <input type="email" name="email"><br>
      <label>Enter your password</label><br>
      <input type="password" name="pass"><br>
      <label>confirm your password</label><br>
      <input type="password" name="pass"><br>
      <br><label>Enter your gender</label><br>
      <input type="radio" id="gender" name="gender" value="male"/>Male  <br>
      <input type="radio" id="gender" name="gender" value="female"/>Female <br/>
      <input type="radio" id="gender" name="gender" value="others"/>others <br/>
       <br>Enter your Address:<br>
      <textarea></textarea><br>
      <input type="submit" value="sign-up">
   </fieldset>
  </form>
 </body>
</html>
```

HTML Form Input Types

- <input type=" ">

Following is a list of all types of <input> element of HTML

text	Defines a one-line text input field
password	Defines a one-line password input field
submit	Defines a submit button to submit the form to server

reset	Defines a reset button to reset all values in the form.
radio	Defines a radio button which allows select one option.
checkbox	Defines checkboxes which allow select multiple options form.
button	Defines a simple push button, which can be programmed to perform a task on an eve
file	Defines to select the file from device storage.
image	Defines a graphical submit button.

<input type="text">

- <input> element of type "text" are used to define a single-line input text field.
- **<form action="https://www.facebook.com/" method="post" target="_blank" enctype="**application/x-www-form-urlencoded **">**
- **<label>**Enter first name**</label>
**
- **<input** type="text" name="firstname" value="firstname" size="40" autofocus**>
**
- **<label>**Enter last name**</label>
**
- **<input** type="text" name="lastname" value="lastname"**>
**
- **<label>**Enter Password**</label>
**
- **<input** type="Password" name="password" value="password"**>
**
- **
<input** type="submit" value="submit"**>**
- **
<input** type="reset" value="Reset"**>**
- ** **Note:****The default maximum cahracter lenght is 20. ** **
- ** **Kindly Select your favorite color** **
- **<input** type="radio" name="color" value="red"**>** Red **
**
- **<input** type="radio" name="color" value="blue"**>** blue **
**
- **<input** type="radio" name="color" value="green"**>**green **
**
- **<input** type="radio" name="color" value="pink"**>**pink **
**
- **<input** type="submit" value="submit"**>**
- ** **Kindly Select your favourite sports** **
- **<input** type="checkbox" name="sport1" value="cricket"**>**Cricket**
**
- **<input** type="checkbox" name="sport2" value="tennis"**>**Tennis**
**
- **<input** type="checkbox" name="sport3" value="football"**>**Football**
**
- **<input** type="checkbox" name="sport4" value="baseball"**>**Baseball**
**
- **<input** type="checkbox" name="sport5" value="badminton"**>**Badminton**

**
- **<input** type="submit" value="submit"**>**
- <input type="button" value="Click me" onclick="alert('you are learning HTML')">
- **<label>**Select file to upload:**</label>**

```
<input type="file" name="newfile">
<input type="submit" value="submit">
<input type="image" alt="Submit" src="login.png"  width="100px">
<input type="color" name="downclick" value="#f5f5dc"> Downclick  <br>
<input type="date" name="Startdate"> Start date:<br><br>
<input type="datetime-local" name="meetingdate">
<input type="email" name="email" required>
<input type="email" name="email"  multiple>
<input type="month" name="newMonth">
<input type="number" name="num" min="50" max="80">
<input type="url" name="website" placeholder="http://example.com"><br>
<input type="week" name="bestweek">
<input type="search" name="q">
<input type="tel" name="telephone" pattern="[0-9]{3}-[0-9]{3}-[0-9]{4}" required>
<input type="text" name="uname" disabled><br><br>
</form>
```

<input type="password">:

- The entered text in password filed converted into "*" or ".", so that it cannot be read by another user.

<input type="submit">:

- <input> element of type "submit" defines a submit button to submit the form to the server when the "click" event occurs
- After clicking on submit button, this will submit the form to server and will redirect the page to **action** value.

<input type="reset">:

- <input> type "reset" is also defined as a button but when the user performs a click event, it by default reset the all inputted values.

<input type="radio">:

- only one radio button option can be selected at a time.

<input type="checkbox">:

- <input> type "checkbox" are displayed as square boxes which can be checked or unchecked to select the choices from the given options

radio buttons allow the user to select only one option at a time, whereas checkbox allows a user to select zero to multiple options at a time

<input type="button">:

- <input> type "button" defines a simple push button, which can be programmed to control a functionally on any event such as, click event.

It mainly works with JavaScript.

<input type="file">:

- <input> element with type "file" is used to select one or more files from user device storage. Once you select the file, and after submission, this file can be uploaded to the server with the help of JS code and file API.

<input type="image">

- <input> type "image" is used to represent a submit button in the form of image.

<input type="color">:

- default value of "color" type is #000000 (black). It only supports color value in hexadecimal format

"color" type only supports color value in hexadecimal format, ***<input> type "color" is used to define an input field which contains a colour***

<input type="date">:

- <input> element of type "date" generates an input field, which allows a user to input the date in a given format
- user can enter the date by text field or by date picker interface.

<input type="datetime-local">:

- <input> element of type "datetime-local" creates input filed which allow a user to select the date as well as local time in the hour and minute without time zone information.

<input type="email">

- <input> type "email" creates an input filed which allow a user to enter the e-mail address with pattern validation. The multiple attributes allow a user to enter more than one email address.

<input type="month">:

- creates an input field which allows a user to easily enter month and year in the format

<input type="number">:

- The <input> element type number creates input filed which allows a user to enter the numeric value. You can also restrict to enter a minimum and maximum value using min and max attribute.
- It will allow to enter number in range of 50-80. If you want to enter number other than range, it will show an error.

<input type="url">:

- <input> element of type "url" creates an input filed which enables user to enter the URL

<input type="week">:

- <input> type week creates an input field which allows a user to select a week and year form

<input type="tel">:

- <input> element of type ?tel? creates an input filed to enter the telephone number
- "tel" type does not have default validation such as email

HTML form Attribute

action attribute

- defines the process to be performed on form when form is submitted
- It can be .php, .jsp, .asp, etc. or any URL where you want to process your form.

method attribute

- defines the HTTP method which browser used to submit the form
- possible values of method attribute can be
  - **post:** when we want to process the sensitive data as it does not display the submitted data in URL
  - **get:** default value while submitting the form. But this is not secure as it displays data in URL after submitting the form.

target attribute

- target attribute defines where to open the response after submitting the form
- following are the keywords used with the target attribute
  - **_self:** then the response will display in current page only.
  - **_blank:** load the response in a new page.

enctype attribute

- enctype attribute defines the encoding type of form-content while submitting the form to the server.
- possible values of enctype can be:
  - **application/x-www-form-urlencoded:**
    - default encoding type
    - All characters are encoded before submitting the form.
  - **multipart/form-data:**
    - does not encode any character
    - used when our form contains file-upload controls.
  - **text/plain (HTML5):**
    - In this encoding type only space are encoded into + symbol and no any other special character encoded.

HTML <input> element attribute

HTML name attribute

One should not omit the name attribute as when we submit the form the HTTP request includes both name-value pair and if name is not available it will not process that input field.

HTML value attribute

- default value of an input field

HTML required attribute

- HTML required is a Boolean attribute which specifies that user must fill that filed before submitting the form

HTML autofocus attribute

- autofocus is a Boolean attribute which enables a field automatically focused when a webpage loads.

HTML placeholder attribute

- When the user enters the value, the placeholder will be automatically removed.

- placeholder attribute can be used with text, password, email, and URL values.

HTML disabled attribute

- disable that input field.
- does not allow the user to interact with that field.
- does not receive click events, and these input value will not be sent to the server when submitting the form.

HTML size attribute

- controls the size of the input field in typed characters.

HTML form attribute

- form attribute allows a user to specify an input filed outside the form but remains the part of the parent form.

HTML style using CSS

```
<!DOCTYPE html>
<html>
<head>
        <title></title>
<link rel="stylesheet" type="text/css" href="style.css">
<style>
      /*Internal CSS using element name*/
           body{background-color:lavender;
            text-align: center;}
            h2{font-style: italic;
             font-size: 30px;
              color: #f08080;}
           p{font-size: 20px;}
        /*Internal CSS using class name*/
           .blue{color: blue;}
           .red{color: red;}
           .green{color: green;}
#myid {
   background-color: lightpink;
   color: black;
   padding: 40px;
   text-align: center;
}
     </style>
</head>
<body style="text-align: center;">
```

- `<h1 id="myid">Example of HTML id</h1>`
- `<h2 style="color: red;">Welcome to HTML</h2>`
- `<h3 style="color: red;font-style: italic; text-align: center;font-size: 50px; padding-top: 25px;">Learning HTML using Inline CSS</h3>`
- `<p class="red blue">This is a red color paragraph</p>`
- `<p style="color: blue; font-size: 25px; font-style: italic ;">This is a great website to learn technologies in very simple way. </p>`
- `</body>`
- </html>
- we have used a style attribute to provide some styling format to our code.
- Each property in CSS has a name-value pair, and each property is separated by a semicolon (;).

Example CSS File

```
body{
        background-color:lavender;
       text-align: center;
}
h2{
        font-style: italic;
        size: 30px;
        color: #f08080;
}
p{
        font-size: 20px;
}

.blue{
         color: blue;
}
.red{
         color: red;
}
.green{
         color: green;
}
```

Three ways to apply CSS

- **Inline CSS:** using style attribute in the HTML elements.
  - It can apply style uniquely in each element.
  - We can use as many properties as we want, but each property should be separated by a semicolon (;).
- **Internal or Embedded CSS:** using <style> tag in <head> section.

- can use internal CSS to apply a style for a single HTML page

- **External CSS:** Define all CSS property in a separate .css file, and then include the file with HTML file using tag in section.
  - contains style code using the class name, id name, tag name, etc
  - We can use this CSS file in any HTML file by including it in HTML file using <link> tag.

Commonly used CSS properties:

Properties-name	Syntax	Description
background-color	background-color:red;	It defines the background color of that element.
color	color: lightgreen;	It defines the color of text of an element
padding	padding: 20px;	It defines the space between content and the border.
margin	margin: 30px; margin-left:	It creates space around an element.
font-family	font-family: cursive;	Font-family defines a font for a particular element.
Font-size	font-size: 50px;	Font-size defines a font size for a particular element.
text-align	text-align: left;	It is used to align the text in

		a selected position.

Class Attribute in HTML

- class name can be used by CSS and JavaScript to do some tasks for HTML elements.
- class attribute can be defined within <style> tag or in separate file using the (.) character.

class name is case-sensitive

- can use multiple class names (more than one) with HTML elements. These class names must be separated by a space.

HTML id with CSS

- In CSS, if you want to select an element with a specific id, write a hash (#) character, followed by the id of the element.
- HTML class name can be used by multiple elements while An HTML element can only have one unique id that belongs to that single element

HTML id with JavaScript

- <!DOCTYPE html>
- <html>
- <head>
- <style>
- #myid{
- color:blue;
- }
- </style>
- </head>
- <body>
- <h2>HTML id with JavaScript</h2>
- <h1 id="myid">Hello User</h1>
- <button onclick="displayResult()">Change text</button>
- <script>
- function displayResult() {
- document.getElementById("myid").innerHTML = "All the best for future!";
- }
- </script>
- </body>

- </html>

HTML iframes

- display a nested webpage
- hence it is also called as an Inline frame.
- <iframe src="URL"></iframe>
- You can also change the size, color, style of the iframe's border.

Iframe Target for a link

- Your specified target attribute of the link must refer to the name attribute of the iframe.

Attributes of <iframe>

Attribute name	Value	Description
allowfullscreen		If true then that frame can be opened in full screen.
height	Pixels	It defines the height of the embedded iframe, and the default height is 150 px.
name	text	It gives the name to the iframe. The name attribute is important if you want to create a link in one frame.
frameborder	1 or 0	It defines whether iframe should have a border or not. (Not supported in HTML5).
Width	Pixels	It defines the width of embedded frame, and default width is 300 px.
src	URL	The src attribute is used to give the path name or file name which content to be loaded into iframe.
sandbox		
		This attribute is used to apply extra restrictions for the content of the frame
	allow-forms	It allows submission of the form if this keyword is not used then form submission is blocked.
	allow-popups	It will enable popups, and if not applied then no popup will

		open.
	allow-scripts	It will enable the script to run.
	allow-same-origin	If this keyword is used then the embedded resource will be treated as downloaded from the same source.
srcdoc		The srcdoc attribute is used to show the HTML content in the inline iframe. It overrides the src attribute (if a browser supports).
scrolling		
		It indicates that browser should provide a scroll bar for the iframe or not. (Not supported in HTML5)
	auto	Scrollbar only shows if the content of iframe is larger than its dimensions.
	yes	Always shows scroll bar for the iframe.
	no	Never shows scrollbar for the iframe.

HTML JavaScript

- most popular scripting language is JavaScript used for websites.
- Script is a small program which is used with HTML to make web pages more attractive, dynamic and interactive

```
<!DOCTYPE html>
<html>
<body>
<input type="button" value="Click" onclick="alert('Hi, how are you')">
<button type="button"  onclick="document.getElementById('demo').innerHTML = Date()">
Click me to display Date and Time.</button>
<p id="demo"></p>
<script>
document.getElementById("demo").innerHTML = "Hello User";
</script>
</body>
</html>
```

HTML <script> Tag

- used to specify a client-side script

- we can place <script> tag within <body> or <head> section.
- mainly used to manipulate images, form validation and change content dynamically

HTML events with JavaScript

- An event is something which user does, or browser does such as mouse click or page loading are examples of events, and JavaScript comes in the role if we want something to happen on these events.
- <element event = "JS code">

Event Event Name	Handler Name	Occurs when
onBlur	blur	When form input loses focus
onClick	click	When the user clicks on a form element or a link
onSubmit	submit	When user submits a form to the server.
onLoad	load	When page loads in a browser.
onFocus	focus	When user focuses on an input field.
onSelect	select	When user selects the form input filed.

- **1) JavaScript can change HTML content.**
- **2) JavaScript can change HTML style**

- <!DOCTYPE html>
- <html>
- <body>
- JavaScript can change the content of an HTML element:
- <button type="button" onclick="myFunction()">Click Me!</button>
- JavaScript can change the style of an HTML element
- <script>
- function myFunction() {
- document.getElementById("demo").innerHTML = "Hello User";

```
    document.getElementById("demo").style.fontSize = "25px";
    document.getElementById("demo").style.color = "brown";
    document.getElementById("demo").style.backgroundColor = "lightgreen";

}
</script>
</body>
</html>
```

3) JavaScript can change HTML attributes.

```
<html>
<body>
<script>
function light(sw) {
    var pic;
    if (sw == 0) {
        pic = "pic_lightoff.png"
    } else {
        pic = "pic_lighton.png"
    }
    document.getElementById('myImage').src = pic;
}
</script>
<img id="myImage" src="pic_lightoff.png" width="100" height="180">
<p>
<button type="button" onclick="light(1)">Light On</button>
<button type="button" onclick="light(0)">Light Off</button>
</p>
</body>
</html>
```

Use External Script

- Save JavaScript external files using .js extension.
- `<script type="text/javascript" src="URL "></script>`
- **HTML CODE:**

```
<!DOCTYPE html>
<html>
  <head>
   <script type="text/javascript" src="external.js"></script>
   </head>
    <body>
     <h2>External JavaScript Example</h2>
      <form onsubmit="fun()">
        <label>Enter your name:</label><br>
```

- <input type="text" name="uname" id="frm1">
- <label>Enter your Email-address:</label>
- <input type="email" name="email">
- <input type="submit">
- </form>
- <noscript>This text is not visible in the browser.</noscript>
- </body>
- </html>
- **JavaScript code:**
- function fun() {
- var x = document.getElementById("frm1").value;
- alert("Hi"+" "+x+ "you have successfully submitted the details");
- }

HTML <noscript> Tag

- The text written within <noscript></noscript> tag is not displayed on the browser.

HTML Comments

- comments will not be visible on the webpage.
- <! -- Write commented text here -->

Absolute File Paths

- specifies full URL address.

Relative File Paths

- specifies to a file which is related to the location of current page
- prefer to use independent file paths

HTML Head

- container for metadata (data about data).
- whose content is not displayed in the browser on page loading. It just contains metadata about the HTML document
- Metadata defines the document title, character set, styles, links, scripts, and other meta information.

HTML <title> Element

- define the title of the document
- <title> element must be placed between <head> element

recommended length is 65 to 70 characters including spaces.

HTML <style> Element

- used to style the HTML page

HTML <link> Element

- <link> element is used to link an external style sheet to your webpage
- <link rel="stylesheet" href="style.css">

HTML <meta> Element

- specify the character set, page description, keywords, authors and other metadata on the webpage.
- <meta charset="UTF-8">
- "UTF-8" which means it can handle to display any language.
- This will be in head tag
- <meta name="description" content="Free Web tutorials">
- If you give a meta description then it will be useful for the relevant search to perform by search engines.
- <meta name="keywords" content="HTML, CSS, XML, JavaScript">
- keyword value is also used to provide keywords for a search engine
- <meta name="author" content="Akon">
- specifies the name of the person who wrote the page content
- <meta http-equiv="refresh" content="30">
- <meta http-equiv="refresh" content="10; url= https://www.facebook.com/”>
- The above is auto refresh method
- <meta name="viewport" content="width=device-width, initial-scale=1.0">

HTML <base> Element

- <base> element is used to specify the base URL and base target for all relative URLs in a page.
- <base href=" https://www.facebook.com/" target="_blank">
- <!DOCTYPE html>
- <html>
- <head>
- <meta charset="UTF-8">
- <meta name="description" content="Free Web tutorials">
- <meta name="keywords" content="HTML,CSS,XML,JavaScript">

- <meta name="author" content="Akon">
- </head>
- <body>
- All the meta information are set.
- </body>
- </html>

HTML Layouts

- HTML layouts provide a way to arrange web pages in well-mannered, well-structured, and in responsive form

-
- Every website has a specific layout to display content in a specific manner.

> *HTML layouts create an individual space for every part of the web page. So that every element can arrange in a significant order.*

Description of various Layout elements

HTML <header>

- <header> element is used to create header section of web pages. The header contains the introductory content, heading element, logo or icon for the webpage, and authorship information.

HTML <nav>

- <nav> elements is a container for the main block of navigation links. It can contain links for the same page or for other pages.

HTML <section>

- <section> elements represent a separate section of a web page which contains related element grouped together. It can contain: text, images, tables, videos, etc.

HTML <article>

- tag is used to contain a self-contained article such as big story, huge article, etc.

HTML <aside>

- HTML <aside> define aside content related to primary content. The <aside> content must be related to the primary content. It can function as side bar for the main content of web page.

HTML <footer>

- HTML <footer> element defines the footer for that document or web page. It mostly contains information about author, copyright, other links, etc.

HTML <details>

- HTML <details> element is used to add extra details about the web page and use can hide or show the details as per requirement.

HTML Sample WebPage

```
<html>
 <head>
        <title>First Webpage</title>
        <style>
                li{ display: inline-block;
                        padding: 10px;

                        text-align: center;
                        }
                        li a{
                                display: block;
                                color: white;
                                background-color: green;
                                padding:20px;
                                text-decoration: none;
                                border: solid black 2px;
                                border-radius: 10px;
                                float:left;
                                padding-left: 150px;
```

```
                padding-right: 150px;
            }
            li a:hover
            {
                background-color: #90ee90;
            }
        </style>
    </head>
    <body>
        <header style="background-color: #303030; height: 80px;width: 100%;border: solid black 1px;border-radius: 10px;">
        <h1 style="font-size: 30px; color: white;text-align: center; padding-top: 15px;">Welcome to MyFirstWebpage</h1>
    </header>
    <nav style="background-color:#bcdeef;border: solid black 1px;border-radius: 10px;">
            <h1 style="text-align: center;">Navgation Links</h1>
            <ul>
                <li><a href="#">link1</a></li>
                <li><a href="#">link2</a></li>
                <li><a href="#">link3</a></li>
                <li><a href="#">link4</a></li>
            </ul>
        </nav>
        <section style="background-color:#ff7f50; width: 100%;border: solid black 1px;border-radius: 10px;">
        <h2>Introduction to HTML</h2>
        <p>HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser.</p>
    </section>
        <article style="width: 100%;border: solid black 1px;border-radius: 10px; background-color: #fff0f5;">
        <h2>History of Computer</h2>
        <p>Write your content here for the history of computer</p>
        </article>

        <aside style="background-color:#e6e6fa;width:100%;border: solid black 1px;border-radius: 10px;">
    <h2>Sidebar information</h2>
    <p>This conatins information which will represent like a side bar for a webpage</p>
    </aside>
    <footer style="background-color: #f0f8ff; width: 100%; text-align: center;border: solid black 1px;border-radius: 10px;">
    <h3>Footer Example</h3>
    <p>© Copyright 2018-2020. </p>
```

```
        </footer>
        <details style="background-color: #f5deb3">
    <summary>This is visible section: click to show other details</summary>
    <p>This section only shows if user want to see it. </p>
  </details>
  <details>
    <summary>HTML is acronym for?</summary>
    <p style="color: blue; font-size: 20px;">Hypertext Markup Language</p>
  </details>
  </body>
</html>
```

HTML Sample WebPage 2

```
<html>
<head>
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
<style>
div.container {
    width: 100%;
    border: 1px solid gray;
}
header, footer {
    padding: 1em;
    color: white;
    background-color: #000080;
    clear: left;
    text-align: center;
}
nav {
    float: left;
    max-width: 160px;
    margin: 0;
    padding: 1em;
}
nav ul {
    list-style-type: none;
    padding: 0;
}
nav ul li{
        display: inline-block;
        padding: 10px;
        text-align: center;
}
nav ul li a {
    display: block;
```

```
        color: white;
        background-color: green;
        padding:20px;
        text-decoration: none;
        border: solid black 2px;
        border-radius: 10px;
        float:left;
        padding-right: 90px;
}
nav ul li a:hover
                        {
                                background-color: #90ee90;
                        }
article {
  margin-left: 200px;
  border-left: 1px solid gray;
  padding: 1em;
  overflow: hidden;
  text-align: center;

}
</style>
</head>
<body>
<div class="container">
<header>
        <h1 style="font-size: 30px; color: white;text-align: center; padding-top: 15px;">Welcome to MyFirstWebpage</h1>
</header>
<nav style="background-color:#bcdeef;border: solid black 1px;border-radius: 10px;">
                <h1 style="text-align: center;">Navgation Links</h1>
                <ul>
                        <li><a href="#">link1</a></li>
                        <li><a href="#">link2</a></li>
                        <li><a href="#">link3</a></li>
                        <li><a href="#">link4</a></li>
                </ul>
        </nav>
        <article style="border: solid black 1px;border-radius: 10px; background-color: #fff0f5;">
        <h2>Johnny Johnny Rhyme</h2>
        <p>Johny Johny Yes Papa<br>

                Johny, Johny<br>
```

- Yes, Papa?
- Eating sugar?
- No, papa!
- Telling lies?
- No, papa!
- Open your mouth
- Ah, ah, ah!
-
- Johny, Johny
- Yes, Papa?
- Eating sugar?
- No, papa!
- Telling lies?
- No, papa!
- Open your mouth
- Ah, ah, ah!
-
- </article>
- <footer style="background-color: #f0f8ff; width: 100%; text-align: center;border: solid black 1px;border-radius: 10px;">
- <h3>Footer Example</h3>
- © Copyright 2018-2020.
- </footer>
-
- </body>
- </html>

CSS Frameworks

- To get a proper layouts we no need to write the whole codes again and again we can use boot strap for that it is a open source platform
- These are the following bootstrap links you can use
- https://www.w3schools.com/bootstrap4/default.asp
- https://www.w3schools.com/bootstrap/default.asp
- https://www.tutorialrepublic.com/twitter-bootstrap-tutorial/
- https://www.tutorialspoint.com/bootstrap/index.htm
- https://www.javatpoint.com/bootstrap-tutorial
- https://websitesetup.org/bootstrap-tutorial-for-beginners/
- https://bootstrapious.com/tutorials

HTML Responsive

1. <!DOCTYPE html>
2. <html>
3. <meta name="viewport" content="width=device-width, initial-scale=1.0">

```
<body>
<h2>Responsive Image</h2>
<p>"max-width:100%" makes the image responsive and also ensures that the image
doesn't get bigger than its original size.</p>
<p>Resize the browser window to see the effect.</p>
<img src="img_girl.jpg" style="max-width:100%;height:auto;"> (Change the image)
</body>
</html>
```

HTML Entities

- if you use less than (<) or greater than (>) symbols in your text, the browser can mix them with tags that's why character entities are used in HTML to display reserved characters.
- Each entity starts with symbol ampersand (&) and ends with a semicolon (;).

Result	Description	Entity Name	Entity Number
	non-breaking space		160
<	less than	<	60
>	greater than	>	62
&	ampersand	&	38
"	double quotation mark	"	34
'	single quotation mark (apostrophe)	'	39
¢	cent	¢	162
£	pound	£	163
¥	yen	¥	165
€	Euro	€	8364
©	copyright	©	169
®	registered	®	174

	trademark		

Entity names are case sensitive

Diacritical Marks in HTML

- some special types of letters used in HTML whichhave some glyph added to the top or below the letters. These glyphs are called diacritical mark.
- like grave (`) and acute (´) are called accents

Mark	Character	Construct	Result
`	a	à	à
´	a	á	á
ˆ	a	â	â
~	a	ã	ã
`	O	Ò	Ò
´	O	Ó	Ó
ˆ	O	Ô	Ô
~	O	Õ	Õ

HTML Symbols

- many mathematical, technical and currency symbols which are not present on a normal keyboard. We have to use HTML entity names to add such symbols to an HTML page.

Mathematical Symbols Supported by HTML

Char	Number	Entity	Description
∀	∀	∀	FOR ALL

∂	∂	∂	PARTIAL DIFFERENTIAL
∃	∃	∃	THERE EXISTS
∅	∅	∅	EMPTY SETS
∇	∇	∇	NABLA
∈	∈	∈	ELEMENT OF
∉	∉	∉	NOT AN ELEMENT OF
∋	∋	∋	CONTAINS AS MEMBER
∏	∏	∏	N-ARY PRODUCT
∑	∑	∑	N-ARY SUMMATION

Greek Symbols Supported by HTML

Char	Number	Entity	Description
A	Α	Α	GREEK CAPITAL LETTER ALPHA
B	Β	Β	GREEK CAPITAL LETTER BETA
Γ	Γ	Γ	GREEK CAPITAL

			LETTER GAMMA
Δ	Δ	Δ	GREEK CAPITAL LETTER DELTA
E	Ε	Ε	GREEK CAPITAL LETTER EPSILON
Z	Ζ	Ζ	GREEK CAPITAL LETTER ZETA

Some Important Symbols Supported by HTML

Char	Number	Entity	Description
©	©	©	COPYRIGHT SIGN
®	®	®	REGISTERED SIGN
€	€	€	EURO SIGN
™	™	™	TRADEMARK
←	←	←	LEFTWARDS ARROW
↑	↑	↑	UPWARDS ARROW
→	→	→	RIGHTWARDS ARROW

↓	↓	↓	DOWNWARDS ARROW
♠	♠	♠	BLACK SPADE SUIT
♣	♣	♣	BLACK CLUB SUIT
♥	♥	♥	BLACK HEART SUIT
♦	♦	♦	BLACK DIAMOND SUIT

HTML Charset

- HTML Character Sets or HTML Encoding
- <meta charset="UTF-8">
- ASCII stands for American Standard Code for Information Interchange.
- ASCII provides 128 different alphanumeric characters that could be used on the internet: numbers (0-9), English letters (A-Z), and some special characters like! $ + - ( ) @ <> .

ASCII Character Set

ANSI Character Set

ISO-8859-1 Character Set

UTF-8 Character Set

HTML URL Encode

- URL stands for Uniform Resource Locator.
- scheme://prefix.domain:port/path/filename
  - **scheme** is used to define the type of Internet service (most common is http or https).
  - **prefix** is used to define a domain prefix (default for http is www).

- **domain** is used to define the Internet domain name (like User.com).
- **port** is used to define the port number at the host (default for http is 80).
- **path** is used to define a path at the server (If omitted: the root directory of the site).
- **filename** is used to define the name of a document or resource.

Following is a list of some common types of schemes used in URL:

- http(HyperText Transfer Protocol):Common web pages. Not encrypted.
- https (Secure HyperText Transfer Protocol):Secure web pages. Encrypted.
- ftp(File Transfer Protocol): Downloading or uploading files.
- file: A file on your computer.

- URLs cannot contain spaces. URL encoding normally replaces a space with a plus (+) sign, or %20

Character	From Windows-1252	From UTF-8
€	%80	%E2%82%AC
£	%A3	%C2%A3
©	%A9	%C2%A9
®	%AE	%C2%AE
À	%C0	%C3%80
Á	%C1	%C3%81
Â	%C2	%C3%82
Ã	%C3	%C3%83
Ä	%C4	%C3%84
Å	%C5	%C3%85

-

Global Attributes

- attributes which are common for all HTML elements.
- supported by both standard and non-standard element.
- Following is the complete list of global attributes with their description:

Attributes	value	Description
accesskey	character	It is used to generate

		keyboard shortcuts for the current element.
class	classname	It is used to provide the class name for the current element. It is mainly used with the stylesheet.
Contenteditable	true false	It determines whether the content within an element is editable or not.
contextmenu	menu_id	It defines the id for the <menu> element which is used as a context menu (a menu appear on right click) for an element.
data-*	somevalue	It is used to store element-specific private data which can be

		accessed by Javascript.
dir	rtl ltr auto	It specifies the direction of the content inside the current element.
draggable	true false auto	It specifies whether the content within an element is movable or not using Drag and Drop API.
dropzone	copy move link	It specifies the action is taken on the dragged element when it is dropped, ¬¬ such as whether it is copied, moved or linked.
hidden		It is used to hide the element from view.
id	id	It specifies a unique id for the element. It can be

		used with CSS and JavaScript.
lang	language_code	It specifies the primary language for the content of an element.
style	style	It is used to apply inline CSS to the current element.
spellcheck	true false	It specifies whether the content should be checked for spelling errors or not.
tabindex	number	It determines the tabbing order of an element.
title	text	It is used to provide the title, name, or some extra information about the element.
translate	yes no	It specifies whether the content of the element

		should be translated when the page is localized or not.

HTML Event Attributes

- When a browser reacts on user action, then it is called as an event.
- In HTML5 there are lots of event attributes available which can be activated using a programming language such as JavaScript.

Windows Event Attributes

- Windows events are related for the window object, and it can only be applied with <body> tag

Form Event Attributes

- Form event occurs when the user performs some action within the form such as submitting the form, selecting input field, etc.

Keyboard Event Attributes

- Keyboard event occurs when a user interacts with the keyboard.

Mouse Event Attributes

Clipboard Event Attributes

Media Event Attributes

HTML 5 Tags

List of HTML 5 Tags