**HTML Basics**

**🔖 1. Heading Tags**

* It’s a **container tag** used to define headings.
* Types of heading tags:
  + <h1> – Largest heading
  + <h2> – Smaller than <h1>
  + <h3> – Smaller than <h2>
  + <h4> – Smaller than <h3>
  + <h5> – Smaller than <h4>
  + <h6> – Smallest heading

**🔸 2. Bold Tag**

* Used to make text **bold**.
* HTML: <b> ... </b> – Only applies style
* HTML5: <strong> ... </strong> – Adds **importance** along with bold style

**🔹 3. Italic Tag**

* Used to make text **italic**.
* HTML: <i> ... </i> – Only applies style
* HTML5: <em> ... </em> – Adds **emphasis/importance**

**🔸 4. Underline Tag**

* Used to underline the text.
* **Syntax:** <u> ... </u>

**🔹 5. Quotation Tag**

* Used to insert inline quotation marks around the text.
* **Syntax:** <q> ... </q> → “66 99” style quotes

**🔸 6. Strike Tag**

* Used to show **strikethrough** text.
* HTML Tags: <strike> ... </strike> or <s> ... </s>

**🔹 7. Delete Tag**

* Shows text as **deleted** (similar to strike).
* **Syntax:** <del> ... </del>

**🔸 8. Small Tag**

* Displays text in **smaller font size** (similar to <h5> size but without boldness).
* **Syntax:** <small> ... </small>

**🔹 9. Paragraph Tag**

* Used to define **a block of text** (paragraph).
* Ignores extra white spaces.
* **Syntax:** <p> ... </p>

**🔸 10. Preformatted Tag**

* Displays text **exactly as written** (preserves spaces and line breaks).
* **Font style differs** from paragraph tag.
* **Syntax:** <pre> ... </pre>

**🔹 11. Mark Tag**

* Used to **highlight text** (usually in yellow).
* **Syntax:** <mark> ... </mark>

**🔸 12. Center Tag**

* Aligns content **to the center** of the webpage.
* **Syntax:** <center> ... </center>

**🔹 13. Break Row Tag**

* **Non-container tag**.
* Breaks a line and moves content to the next line.
* **Syntax:** <br>

**🔸 14. Horizontal Rule Tag**

* **Non-container tag**.
* Adds a **horizontal line** to separate sections.
* **Syntax:** <hr>

**🔹 15. Subscript Tag**

* Displays content **below the normal line**.
* Commonly used for **chemical formulas** (e.g., H<sub>2</sub>O).
* **Syntax:** <sub> ... </sub>

**🔸 16. Superscript Tag**

* Displays content **above the normal line**.
* Commonly used in **math expressions** (e.g., a<sup>2</sup> + b<sup>2</sup>).
* **Syntax:** <sup> ... </sup>

ATTRIBUTES:

Are the additional information or extra functionality added to the tag.

Always attributes should be given to the starting tag.

In a single line we can add n number of attributes.

The attribute values and Name should separate by = operator.

Value should be quoted.

Syntax: <tag name Attribute = “Value” >----- </tag name>

**ABBREVATION TAG**: It is container tag. Using this tag we can print the abbreviation of txt content in mouse tool tip in html doc.

Attribute used in abbreviation tag is TITLE tag.

Syntax: <abbr title=”-Value” > ------</abbr>

EX: <abbr title = “Royal Challengers Bangalore”> RCB </abbr>

**BDO- Bidirectional Override tag**: by using this tag we can change direction of text content in html doc.

Attribute used here is Direction and dir values or RTL(reverse, Right to Left) and LTR(Left to Right)

Syntax: <bdo dir = ”Value”>-------</bdo>

**IMAGE TAG: to insert a image in html doc.**

Attributes the image tag contains are-

1. SRC= mandatory attribute—contain image address
2. Alt= alternate name for the image
3. Height and width = To define the size of the image

**MARQUEE TAG:**

* It is used to create a scrolling text or image on a webpage.
* This tag is **non-standard** and not supported in HTML5 (but still works in many browsers).
* **Attributes:**
  + direction – Specifies the direction of scroll (left, right, up, down)
  + scrollamount – Speed of the marquee
  + behavior – Scrolling behavior (scroll, slide, alternate)
  + loop – Number of times the marquee should repeat
  + bgcolor – Background color of the marquee
  + height & width – Size of the marquee area

**Syntax:**

<marquee direction="left" scrollamount="5" bgcolor="yellow"> Welcome to HTML! </marquee>

**UNORDERED LIST (<ul>)**

* Used to create **bullet point lists**.
* Each item in the list is wrapped with <li> (list item) tag.
* **Default bullet styles** can be: disc (default), circle, or square (controlled using CSS).

**Syntax:**

<ul>

<li>HTML</li>

<li>CSS</li>

<li>JavaScript</li>

</ul>

**ORDERED LIST (<ol>)**

* Used to create **numbered lists**.
* Each item is also wrapped with <li> tag.
* **Type attribute** defines the style of numbering:
  + 1 (default), A, a, I, i

**Syntax:**

<ol type="A">

<li>Login</li>

<li>Dashboard</li>

<li>Logout</li>

</ol>

**Definition / Description List:**

It is a **container tag**, used to create a list of items with their descriptions in the HTML document. Mainly used to represent **glossary terms**, **FAQ sections**, or **metadata details**.

**Tags used in Description List:**

1. <dl> → Definition List (wraps the entire list)
2. <dt> → Definition Term (the term or title)
3. <dd> → Definition Description (the explanation or description of the term)

**Syntax:**

<dl>

<dt>HTML</dt>

<dd>HyperText Markup Language</dd>

<dt>CSS</dt>

<dd>Cascading Style Sheets</dd>

</dl>

**Nested list:**

A **Nested List** means placing one list inside another list (like a list within a list).  
It helps in representing **hierarchical data** like menus, topics with subtopics, etc.

It can be created using:

* Ordered List (<ol>)
* Unordered List (<ul>)
* Or both combined together

**Syntax:**

<ul>

<li>Fruits

<ul>

<li>Apple</li>

<li>Mango</li>

<li>Banana</li>

</ul>

</li>

<li>Vegetables

<ul>

<li>Carrot</li>

<li>Potato</li>

</ul>

</li>

</ul>

**Table Tag:**

The **table tag** is a **container tag** used to display data in **rows and columns** format in an HTML document.

It is useful for **organizing tabular data**, like marksheets, schedules, etc.

**Tags used in Tables:**

1. <table> – Table tag: Defines the table
2. <tr> – Table Row: Represents a row in the table
3. <th> – Table Header: Represents the heading (bold and centered by default)
4. <td> – Table Data: Represents the actual cell data
5. <caption> - Caption tag: Provides heading for table (ex: border)

**Syntax:**

<table border="1">

<tr>

<th>Name</th>

<th>Age</th>

<th>City</th>

</tr>

<tr>

<td>Alice</td>

<td>22</td>

<td>New York</td>

</tr>

<tr>

<td>Bob</td>

<td>25</td>

<td>London</td>

</tr> </table>

**COLSPAN and ROWSPAN Attributes:**

These attributes are used inside **HTML table tags** to merge cells either **horizontally** or **vertically**.

**1. COLSPAN Attribute:**

Used to **merge multiple columns** (horizontal merge).

* It is an **attribute of <td> or <th>**
* colspan="number" → number of columns to merge

**Syntax:**

<td colspan="value"> ------ </td>

**2. ROWSPAN Attribute:**

Used to **merge multiple rows** (vertical merge).

* It is an **attribute of <td> or <th>**
* rowspan="number" → number of rows to merge

**Syntax:**

<td rowspan="value"> ------ </td>

**Multimedia Tags:**

Multimedia tags in HTML are used to embed **audio**, **video**, and other media files into a web page.  
These tags allow browsers to play multimedia content without the need for additional plugins.

**1. Audio Tag:**

Used to embed **audio files** (like music, narration) into the HTML document.

**Syntax:**

<audio controls> <source src="filename.mp3" type="audio/mpeg"> </audio>

**Attributes:**

* controls → Displays play, pause, volume controls
* autoplay → Plays audio automatically
* loop → Repeats audio continuously
* muted → Starts audio in mute
* src → Audio file path (can be used directly inside <audio>)

**Example:**

<audio controls autoplay loop>

<source src="song.mp3" type="audio/mpeg">

</audio>

**2. Video Tag:**

Used to embed **video files** into the HTML document.

**Syntax:**

<video controls width="300" height="200">

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

</video>

**Attributes:**

* controls → Shows video control buttons
* autoplay → Video starts automatically
* loop → Repeats the video
* muted → Mutes the video initially
* poster → Displays an image before the video plays
* width and height → To define size of the video player
* src → Video file path (can be used directly inside <video>)

**Example:**

<video controls width="320" height="240" poster="preview.jpg">

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

</video>

✅ **Note:**

* Always use <source> for better format support
* Common audio formats: .mp3, .wav, .ogg
* Common video formats: .mp4, .webm, .ogg

**Iframe Tag:**

The **<iframe> tag** stands for **inline frame**.  
It is used to **embed another HTML document or webpage** within the current HTML page.

It acts like a **window** to another web page.

**Syntax:**

<iframe src="URL" width="value" height="value"></iframe>

**Attributes of <iframe> tag:**

1. src – URL of the page to embed (required)
2. width – Width of the iframe (in pixels or %)
3. height – Height of the iframe (in pixels or %)
4. name – Name of the iframe (used to target links)
5. frameborder – Specifies border of the frame (0 for no border)
6. allowfullscreen – Allows full-screen mode
7. loading="lazy" – Improves performance by delaying iframe loading

✅ **Note:**

* Iframes are commonly used for **maps**, **videos**, **external tools**, and **documents**.
* You can also load **YouTube videos** using iframe.

**YouTube Embed Example:**

<iframe width="560" height="315" src="https://www.youtube.com/embed/VIDEO\_ID"

frameborder="0" allowfullscreen></iframe>

**HTML Forms:**

The **<form> tag** is a **container tag** used to **collect user input** in the form of text fields, radio buttons, checkboxes, etc.

It is mainly used to **send user data to the server** for processing.

**Syntax:**

<form action="url" method="post/get">

<!-- form elements go here -->

</form>

**Attributes of <form> tag:**

1. action → URL to which the form data will be submitted
2. method → HTTP method used to send data:
   * get – Appends data in the URL (visible, less secure)
   * post – Sends data in the request body (secure, preferred for login)

**Input Tag:**

The **<input> tag** is a **self-closing tag OR non container tag** used inside forms to take various types of user input like **text, number, password, file, checkbox, radio button, etc.**

It is one of the **most important tags** in an HTML form.

**Syntax:**

<input type="value" name="value">

**Common Attributes of <input> Tag:**

| **Attribute** | **Description** |
| --- | --- |
| type | Specifies the type of input field (e.g., text, password, checkbox) |
| name | Unique identifier used when submitting the form |
| value | Predefined value of the input field |
| placeholder | Displays hint inside the field |
| required | Makes the field mandatory to fill |
| readonly | Field is not editable |
| disabled | Field is disabled and uneditable |
| maxlength | Sets max number of characters allowed |
| min & max | For numeric/date input – sets range |
| pattern | Used for regular expression validation |
| autocomplete | Suggests previously entered values |
| checked | For checkboxes/radio to be pre-selected |

**Common Form Elements:**

**1. Text Field:**

<input type="text" name="username" placeholder="Enter your name">

**2. Password Field:**

<input type="password" name="pass" placeholder="Enter password">

**3. Radio Button (Single choice out of many):**

<input type="radio" name="gender" value="male"> Male

<input type="radio" name="gender" value="female"> Female

**4. Checkbox (Multiple selection):**

<input type="checkbox" name="hobby" value="cricket"> Cricket

<input type="checkbox" name="hobby" value="reading"> Reading

**5. Submit Button:**

<input type="submit" value="Submit">

**6. Reset Button:**

<input type="reset" value="Clear">

**7. Textarea (Multiline input):**

<textarea name="message" rows="4" cols="30">Enter your message here...</textarea>

**8. Select Dropdown:**

<select name="city">

<option value="blr">Bangalore</option>

<option value="delhi">Delhi</option>

</select>

**9. Image Address:**

<input type= ”image” src=”image address>

**10. Choose File:**

<input type= “file”>

**11. Date:**

<input type= “date”>

**12. Time:**

<input type= “time”>

**13. Email:**

<input type= “email”>

**14. Number:**

<input type= “number”>

**15. URL:**

<input type= “url”>

**16. Telephone number:**

<input type= “tel”>

**17. Range:**

<input type= “range”>

**18. Color**:

<input type= “color”>

**19. Search:**

<input type= “search”>

✅ **Note:**

* All <input> tags are **self-closing**
* Every form element should have a **name attribute** (used during submission)
* label tag can be used for accessibility:

<label for="user">Name:</label>

<input type="text" id="user" name="username">

**Form Section Tags:**

When designing forms, sometimes it’s useful to **group related form elements** for better structure and readability.  
HTML provides two special tags for this purpose:

**1. Fieldset Tag:**

The <fieldset> tag is a **container tag**.  
It is used to **group related elements** inside a form and display them with a **border box** around the grouped controls.

**Syntax:**

<fieldset>

<!-- Grouped form elements -->

</fieldset>

**Example:**

<fieldset>

<legend>Personal Information</legend>

Name: <input type="text" name="name"><br>

Email: <input type="email" name="email">

</fieldset>

**2. Legend Tag:**

The <legend> tag is used **inside a <fieldset>**.  
It defines a **caption or title** for the grouped form elements, and this caption appears at the top border of the fieldset.

**Syntax:**

<fieldset>

<legend>Section Title</legend>

<!-- Form elements -->

</fieldset>

**Default Display Natures in HTML:**

In HTML, every element has a **default display behavior** set by the browser.  
This behavior defines **how the element is arranged on the web page**.

There are mainly **two types**:

**1️. Block-Level Elements:**

* These elements **occupy the full width** of their parent container (from left to right).
* Always start from a **new line**.
* Stack **vertically** on the web page.
* Height & width can be customized.

**Examples:**

<div> </div>

<p> </p>

<h1> to <h6>

<form> </form>

<ul> </ul>

<ol> </ol>

<li> </li>

<section> </section>

<article> </article>

<header> </header>

<footer> </footer>

**2️. Inline Elements:**

* These elements **occupy only the space required** by their content.
* **Do not break** into a new line.
* Placed **horizontally** one after another.
* Height & width **cannot** be changed (only padding, margin for spacing).

**Examples:**

<span> </span>

<a> </a>

<b> </b>

<i> </i>

<u> </u>

<abbr> </abbr>

<q> </q>

<strong> </strong>

<em> </em>

<img> (self-closing)

<input> (self-closing)

<label> </label>

**3️. Inline-Block Elements:**

* Behaves like **inline** (placed side by side) but allows **height and width** to be set like **block elements**.

**Example:**

<img src="image.jpg">

<input type="text">

✅ **Note:**  
You can change the default nature using **CSS display property**:

display: block;

display: inline;

display: inline-block;

display: none;