<html> </html>

# HTML BRIEF EXPLANATION

"Just like HTML tags give structure to a webpage,
your dedication and effort will shape the foundation
of your future success."

-Sheikh Hafsa Nadeem-

|Sheikh Hafsa Nadeem|
SAYLANI IT MASS TRAINING PROGRAM

# Web and App Development

- Frontend Development {For Website Interface, Like: YouTube Video}
- Backend Development {For Website Functionality, Like: Background work of video}
- Full Stack Development {The Developer who do both Frontend and backend are call Full Stack Developer}

## ➢ Frontend Development: -

1. HTML (Hyper Text Markup Language)
2. CSS (Cascading Style Sheets)
3. JS (JavaScript)

### 1. HTML: -

HTML is the standard markup language used for creating web pages. It provides the structure of a webpage by using a series of elements, such as headings, paragraphs, links, images, and more. These elements are represented by tags, like <h1>, <p>, and <a>. HTML is the backbone of any website, defining the content and its organization.

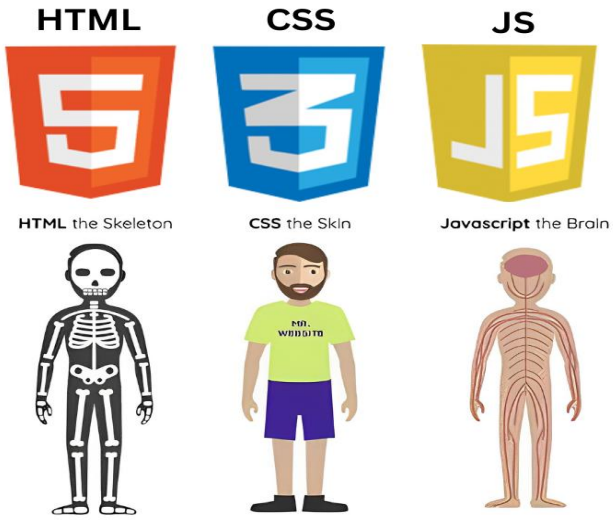
### 2. CSS: -

CSS is a stylesheet language used to describe the presentation of an HTML document. It controls the layout, colors, fonts, and overall visual appearance of a webpage. CSS can be included directly in HTML, embedded within the <style> tag, or linked externally through a .css file.

### 3. JavaScript: -

JavaScript is a scripting language used to create dynamic and interactive effects within web browsers. It allows developers to implement complex features on web pages, such as interactive forms, animations, and real-time content updates. JavaScript can be included directly in HTML or linked externally through a .js file.

**In Real Life Example HTML, CSS & JavaScript are like: -**

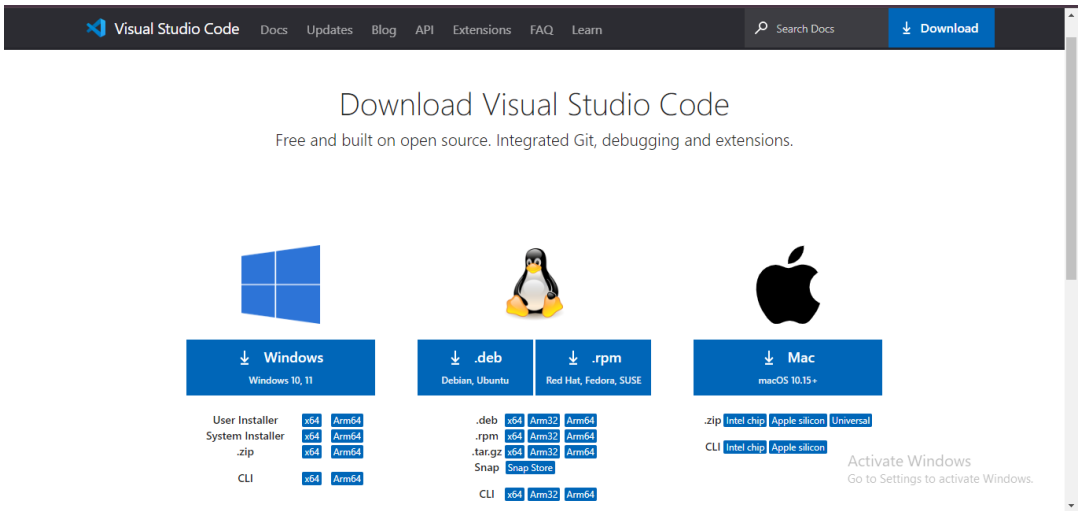



## ➢ What is Vscode?

Vscode stands for Visual Studio code, Code editor is like a note book where we write different things according to over need same we use Vscode for writing different code but in first we write HTML code in a code editor called vscode.

## ➢ Vscode Installation: -

- You can simply install the vscode from Google.com.
- Firstly, go to google search "vscode install" or "vscode download".
- Then click on the first link and you see this type of interface.



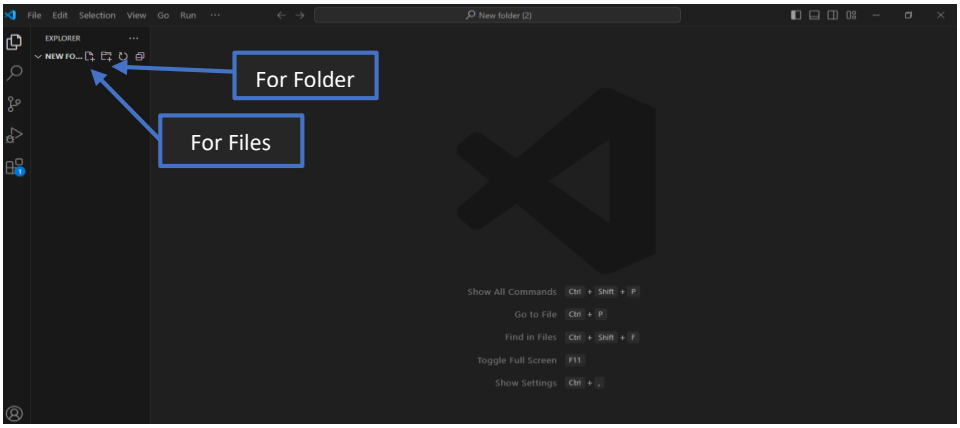

- If you have windows, then click on it or if you are rich then click on the other option.
- Then your Vscode start downloading, they ask you about something just don't waste your time and click on every option they want to, and you good to go. Finally, your Vscode is Installed, now you can Use it.

## ➢ Creating Folder For Work: -

- Firstly, open your device (Like: laptop, Pc, MacBook) ~~Not your Phone~~.


- Right click on it and click on new. Then click on folder.
- Now you can name you folder whatever you want.
- Then open the folder and click on the top bar.
- Type CMD in the top bar of folder and Hit ENTER.
- Then you see your command palate is open then type "code ." and enter
- Now you can see the folder you create earlier is now open in your vscode.

## ➢ Creating Files in Vscode: -



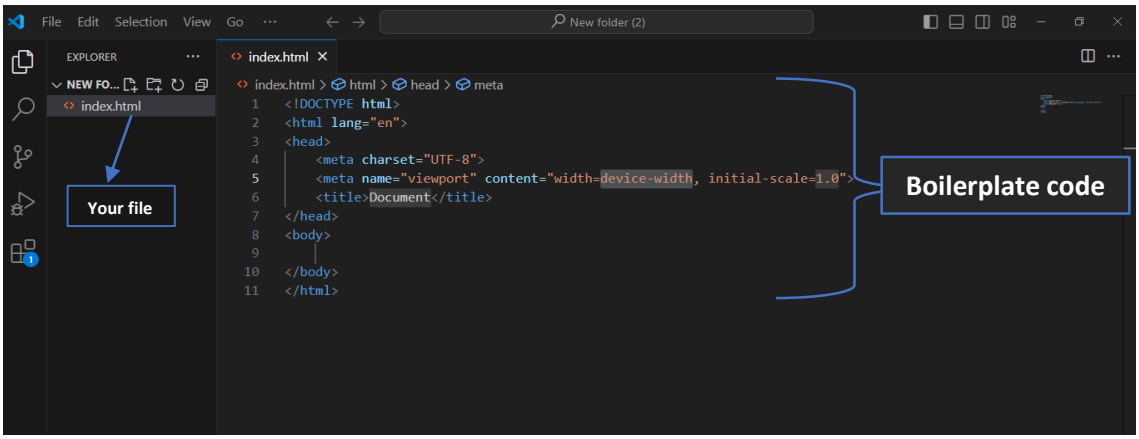

- Firstly, click on the folder icon and type index.html there and click enter.
- HERE'S a question why we create index.html file? Because .html is an extension of html which represents that it's an HTML file similarly we use .css, .js etc. which represents their file names.
- and the 2nd question is why INDEX.HTML?
- here's the answer => we must create over first file name with index.html because index defines the server while hosting the website that it's the first page of a website, when you don't use index.html file then you got a 404 error while deployment.

## ➢ Vscode Benefits: -

When we want to learn about something deeply for information we just click on any think and see something appear like: "MDN Reference" MDN reference is a developer guide from Mozilla Firefox.

## ➢ Boilerplate Code: -

- After creating your index.html file the first thing you do is adding a boilerplate code in the html file.
- When you press "SHIFT + 1", you see there is some code appear. The given code is called "Boilerplate code"
- Which is looking like this:




## ➢ Understanding Boilerplate Code: -

```
1. <! DOCTYPE html>
```

Tells the browser that its document type is Html & you are using root of an html document.

```
2. <html lang="en">
```

Tells the browser about the language if the html code. (html tag is also called parent tag because it's the tag where all the tag work inside its)

```
3.  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    </head>
```

Head is a container for meta data, the items in the head tag is not displayed on the screen but it's important.

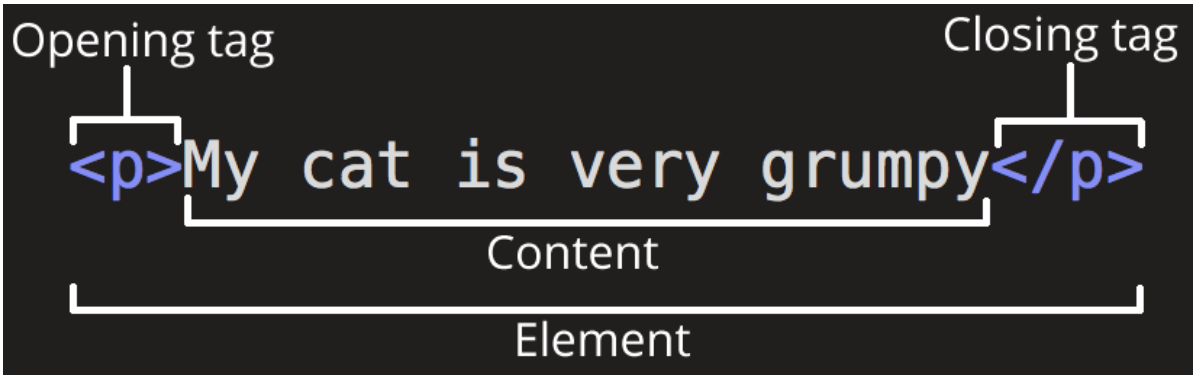
```
4. <body>
      <p>Hello World</p>
   </body>
```

The tags and items inside the body tag are displayed on screen & important too.

## ➢ What is Tags in HTML?

A container for some content or other HTML tags.

- ✓ HTML uses tags (characters that sit inside angled brackets) to give the information they surround special meaning.
- ✓ Tags are often referred to as elements.
- ✓ Tags usually come in pairs. The opening tag denotes the start of a piece of content; the closing tag denotes the end.
- ✓ Opening tags can carry attributes, which tell us more about the content of that element.
- ✓ To learn HTML, you need to know what tags are available for you to use, what they do, and where they can go.




## ➢ Live Server: -

Live Server It makes your existing server live means live server is a Web Extension that helps you to live reload feature for dynamic content. It's a very good extension for all the developers out there since it helps to open up your project in browser within a click.

## ➢ Quick Points: -

- ✓ Html tag is a parent of head & body tag.
- ✓ Most of the html elements have opening & closing tags with content in b/w.
- ✓ Some tags have no content in b/w and don't have any closing tag also are called "self-closing tag".
  Like: <br>, <hr>, <img> etc.
- ✓ We can use inspect element to view page source and dimensions to edit html code.

## ➢ Comments in HTML: -

This is a part of code that should not be displayed cause its comment. For commenting the code press ctrl + /.

<! - - This is an html comment - ->

## ➢ Case Sensitive: -

Case sensitive means the code is in upper case or in lower case its always acceptable, HTML is not case sensitive like other's languages. Its means in html.

*<html> == <HTML>*
*<p> == <P>*
*<head> == <HEAD>*
*<body> == <BODY>*
*Similarly, double quotation ("") and single quotation (') are considering as same.*

## ➢ HTML Attributes: -

Attributes are used to add extra information to the tag.

## ➢ Heading Tag: -

Use to display heading in HTML (h1-h6).

h1 (most important)
h2
h3
h4
h5
h6 (least important)

## ➢ Paragraph Tag: -

Paragraph tag are used to add paragraph in HTML.

 This is a simple paragraph

Or if you want a long paragraph but don't want to type it you can do this.

Lorem34 =>lorem is use for adding dummy text in your code. The number 34 indicates the number of words in the text.

## ➢ Bold Tag: -

 tag is used to format the text in bold. It's basically highlight the text in your page.

 BOLD 

## ➢ Italic Tag: -

 tag is used to format the text in italic. It's basically tilt the text in your page.

 Italic 

## ➢ Underline Tag: -

<u> tag is used to format the text and add an underline on it.

<u> Underline </u>

## ➢ Line Break Tag: -

<br> tag is a self-closing tag which is used to break line in your page.

## ➢ Horizontal Ruler Tag: -

<hr> tag is also a self-closing tag which is used to add a horizontal line in your page basically use to separate the content.

- ***Attributes of <hr> tag: -***

  Size= "10" [this will increase the size of a line]

  Color= "red" [this will add color to the line]

## ➢ Subscript and Superscript: -

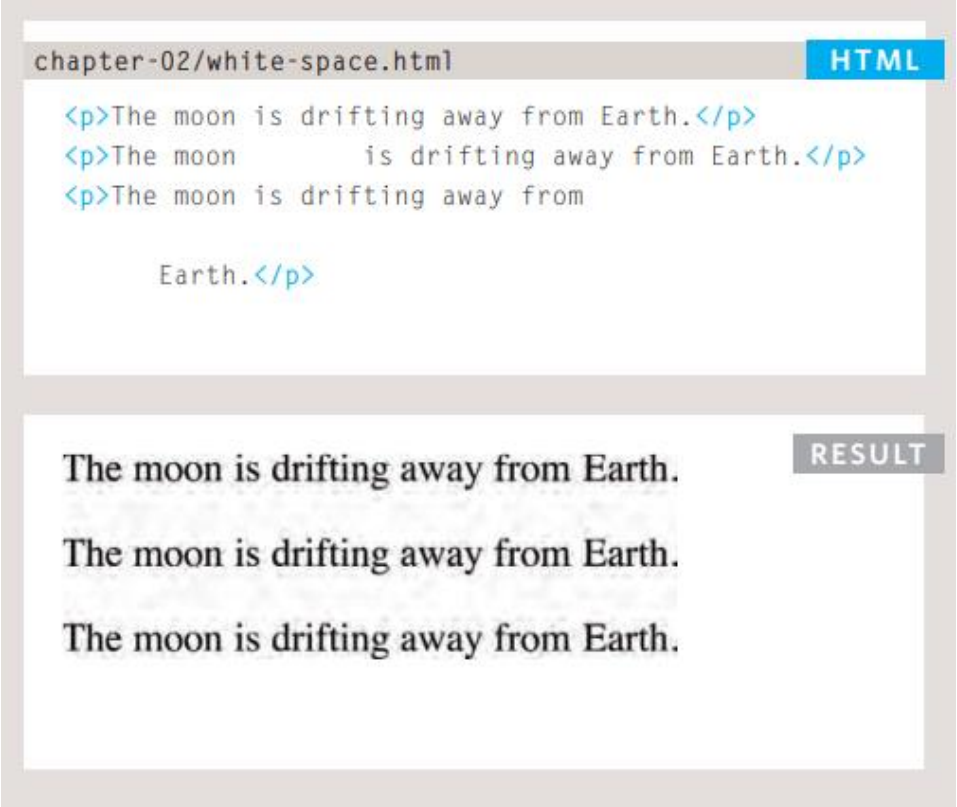
Used to display formulas or mathematical reactions on the screen.

- **Subscript:** H<sub>2</sub>O =>This will show in the page like this $H_2O$.

- **Superscript:** A<sup>n</sup>+B => This will show in the page like this $A^n$+B.

## ➢ White Space: -

In order to make code easier to read, web page authors often add extra spaces or start some elements on new lines. When the browser comes across two or more spaces next to each other, it only displays one space. Similarly, if it comes across a line break, it treats that as a single space too. This is known as "white space".




## ➢ Anchor Tag: -

Used to add links to your page in different ways. Anchor tag represents with the text <a>. There are two types of links Absolute link and relative link. Both are defining below:

## Absolute link: -

When we are pasting a link to another website like Google.com to YouTube.com, we call it an Absolute link.

## Relative link: -

But when we paste the link of our own website than it's called relative link (./)

➢ You will commonly come across the following types of links:

- Links from one website to another
  Example: <a href= https://www.google.com/>Google</a>
- Links from one page to another on the same website
  Example: <a> href= "./about.html">About Us</a>
- Links from one part of a web page to another part of the same page
  Example:

```
<h1 id="top">Film-Making Terms</h1>
<a href="#arc_shot">Arc Shot</a><br />
<a href="#interlude">Interlude</a><br />
<a href="#prologue">Prologue</a><br /><br />
<h2 id="arc_shot">Arc Shot</h2>
<p>A shot in which the subject is photographed by an
   encircling or moving camera</p>
<h2 id="interlude">Interlude</h2>
<p>A brief, intervening film scene or sequence, not
   specifically tied to the plot, that appears
   within a film</p>
<h2 id="prologue">Prologue</h2>
<p>A speech, preface, introduction, or brief scene
   preceding the the main action or plot of a film;
   contrast to epilogue</p>
<p><a href="#top">Top</a></p>
```

- Links that open in a new browser window
  Example: <a href=https://www.youtube.com/ target = "_blank">YouTube</a>
- Links that start up your email program and address a new email to someone
  Example: <a href= mailto:hafsanadim@gmail.com:> Email me</a>

## ➢ Big and Small Tags: -

Used to display big & small text on your page.

```
<big> This is big text</big>
<small>This is small text</small>
```

## ➢ Strong Tag: -

The use of the element indicates that its content has strong importance. For example, the words contained in this element might be said with strong emphasis. By default, browsers will show the contents of an element in **bold.**

chapter-02/strong.html HTML

```
<p><strong>Beware:</strong> Pickpockets operate in
   this area.</p>
<p>This toy has many small pieces and is <strong>not
   suitable for children under five years old.
   </strong></p>
```

RESULT

**Beware:** Pickpockets operate in this area.

This toy has many small pieces and is **not suitable for children under five years old.**

## ➢ Emphasis Tag: -

The element indicates emphasis that subtly changes the meaning of a sentence. By default, browsers will show the contents of an element in *italic.*

chapter-02/emphasis.html HTML

```
<p>I <em>think</em> Ivy was the first.</p>
<p>I think <em>Ivy</em> was the first.</p>
<p>I think Ivy was the <em>first</em>.</p>
```

RESULT

I *think* Ivy was the first.

I think *Ivy* was the first.

I think Ivy was the *first*.

## ➢ Blockquote Tag: -

The <blockquote> tag specifies a section that is quoted from another source.

The element is used for longer quotes that take up an entire paragraph. Note how the element is still used inside the element. Browsers tend to indent the contents of the element; however, you should not use this element just to indent a piece of text — rather you should achieve this effect using CSS.

HTML chapter-02/quotations.html

```
<blockquote cite="http://en.wikipedia.org/wiki/
  Winnie-the-Pooh">
  <p>Did you ever stop to think, and forget to start
     again?</p>
</blockquote>
<p>As A.A. Milne said, <q>Some people talk to
   animals. Not many listen though. That's the
   problem.</q></p>
```

RESULT

Did you ever stop to think, and forget to start again?

As A.A. Milne said, "Some people talk to animals. Not many listen though. That's the problem."

## ➢ Quotation Tag: -

The element is used for shorter quotes that sit within a paragraph. Browsers are supposed to put quotes around the element, however Internet Explorer does not — therefore many people avoid using the element.

## ➢ Abbreviation Tag: -

<abbr> tag stands for abbreviation. If you use an abbreviation or an acronym, then the element can be used. A title attribute on the opening tag is used to specify the full term.

## ➢ Forms Tag in Html: -

In HTML, a form is a container element that holds on various forms elements like input fields, checkboxes, radio button, submit buttons and many more. It's used to collect user input and submit it to the server for processing.

The <form> tag is the main element that wraps all the form elements. Here's a breakdown of the attributes and tags commonly used in a form.

## ➢ Forms Attributes: -

- ***action:*** Specifies the URL where the form data will be submitted/sent.
- ***method:*** Specifies the HTTP method (GET, POST, PUT, DELETE, etc.)
- ***enctype:*** Specifies the encoding type (e.g. multipart/form-data for file uploads).
- ***target:*** Specifies the target attributes (e.g. _blank for new tab).
- ***novalidation:*** Specifies that the form should not be validated on submission.

## ➢ Different Types of Tags in Forms: -

- ***<input>:*** Used for various input fields such as (text, password, email, number, date, submit etc.)

***-Attributes: -***

**-type:** Specifies the input type (text, password, checkbox, radio, date, etc.)

**Purpose:** The type attribute in an HTML input element specifies the kind of data the input field should accept, determining the behavior and appearance of the input field.

**-name:** Specifies the input name.

**Purpose:** The name attribute specifies the key by which the input data will be identified when the form is submitted. It is essential for backend processing because it defines how the data will be labeled in the key-value pairs sent to the server.

**-value:** Specifies the input value.

**Purpose:** The value attribute specifies the default value of the input element. This value is the data that gets submitted with the form when the input is not changed by the user. For certain input types (like radio buttons

or checkboxes), it defines the value that will be sent if that particular option is selected.

-**placeholder:** Specifies a placeholder text.

**Purpose:** The placeholder attribute in an HTML input element provides a short hint that describes the expected value of the input field. It is displayed inside the input field as a light, greyed-out text when the field is empty, and disappears when the user starts typing.

-**required:** Specifies that the input is required.

**Purpose:** The required attribute in an HTML input element indicates that the field must be filled out before submitting the form.

## ➢ All <input> Types in Html: -

1. **text:** A single-line text input field.
   - Example: <input type="text" name="name">
2. **password:** A single-line text input field for passwords.
   - Example: <input type="password" name="password">
3. **email:** A single-line text input field for email addresses.
   - Example: <input type="email" name="email">
4. **tel:** A single-line text input field for telephone numbers.
   - Example: <input type="tel" name="phone">
5. **number:** A single-line text input field for numbers.
   - Example: <input type="number" name="age">
6. **date:** A input field for dates.
   - Example: <input type="date" name="birthdate">
7. **time:** A input field for times.
   - Example: <input type="time" name="appointment">
8. **datetime-local:** A input field for dates and times.
   - Example: <input type="datetime-local" name="event">
9. **month:** A input field for months.
   - Example: <input type="month" name="expiration">
10. **week:** A input field for weeks.
    - Example: <input type="week" name="week">
11. **url:** A single-line text input field for URLs.
    - Example: <input type="url" name="website">
12. **search:** A single-line text input field for search queries.
    - Example: <input type="search" name="query">
13. **color:** A input field for colors.

- Example: <input type="color" name="favoritecolor">

14. **checkbox:** A checkbox input field.
    - Example: <input type="checkbox" name="terms">
15. **radio:** A radio button input field.
    - Example: <input type="radio" name="gender" value="male">
16. **file:** A file upload input field.
    - Example: <input type="file" name="resume">
17. **hidden:** A hidden input field.
    - Example: <input type="hidden" name="token" value="12345">
18. **image:** An image input field (used for graphical submit buttons).
    - Example: <input type="image" src="submit.png" alt="Submit">
19. **reset:** A reset button input field.
    - Example: <input type="reset" value="Reset">
20. **submit:** A submit button input field.
    - Example: <input type="submit" value="Submit">

## ➢ Different Attributes for each <input> type: -

**1. text:**
- value: Sets the initial value
- placeholder: Sets a placeholder text
- maxlength: Sets the maximum length
- minlength: Sets the minimum length
- pattern: Sets a regular expression pattern
- required: Specifies that the field is required

**2. password:**
- value: Sets the initial value
- placeholder: Sets a placeholder text
- maxlength: Sets the maximum length
- minlength: Sets the minimum length
- required: Specifies that the field is required

**3. email:**
- value: Sets the initial value
- placeholder: Sets a placeholder text
- maxlength: Sets the maximum length
- minlength: Sets the minimum length
- required: Specifies that the field is required
- multiple: Allows multiple email addresses

**4. tel:**
- value: Sets the initial value

- placeholder: Sets a placeholder text
- maxlength: Sets the maximum length
- minlength: Sets the minimum length
- required: Specifies that the field is required
- pattern: Sets a regular expression pattern

**5. number:**

- value: Sets the initial value
- min: Sets the minimum value
- max: Sets the maximum value
- step: Sets the increment step
- required: Specifies that the field is required

**6. date:**

- value: Sets the initial value
- min: Sets the minimum date
- max: Sets the maximum date
- required: Specifies that the field is required

**7. time:**

- value: Sets the initial value
- min: Sets the minimum time
- max: Sets the maximum time
- required: Specifies that the field is required

**8. datetime-local:**

- value: Sets the initial value
- min: Sets the minimum date and time
- max: Sets the maximum date and time
- required: Specifies that the field is required

**9. month:**

- value: Sets the initial value
- min: Sets the minimum month
- max: Sets the maximum month
- required: Specifies that the field is required

**10. week:**

- value: Sets the initial value
- min: Sets the minimum week
- max: Sets the maximum week
- required: Specifies that the field is required

**11. url:**

- value: Sets the initial value
- placeholder: Sets a placeholder text
- maxlength: Sets the maximum length
- minlength: Sets the minimum length

- required: Specifies that the field is required

12. **search:**
    - value: Sets the initial value
    - placeholder: Sets a placeholder text
    - maxlength: Sets the maximum length
    - minlength: Sets the minimum length
    - required: Specifies that the field is required
13. **color:**
    - value: Sets the initial value
    - required: Specifies that the field is required
14. **checkbox:**
    - checked: Specifies whether the checkbox is checked
    - value: Sets the value of the checkbox
    - required: Specifies that the field is required
15. **radio:**
    - checked: Specifies whether the radio button is checked
    - value: Sets the value of the radio button
    - required: Specifies that the field is required
16. **file:**
    - accept: Specifies the accepted file types
    - multiple: Allows multiple file uploads
    - required: Specifies that the field is required
17. **hidden:**
    - value: Sets the value of the hidden field
18. **image:**
    - src: Specifies the image source
    - alt: Specifies the alternative text
    - width: Sets the image width
    - height: Sets the image height
19. **reset:**
    - value: Sets the value of the reset button
20. **submit:**
    - value: Sets the value of the submit button

- **<textarea>:** used for multi-line text input.

**- Attributes:**

- name: specifies the textarea name
- cols: specifies the column width
- rows: specifies the row height

- **<select>:** used for dropdown menus

**- Attributes:**

- name: specifies the select name
- multiple: specifies whether multiple options can be selected

- **<option>:** used within <select> to define options

**- Attributes:**

- value: specifies the option value
- selected: specifies whether the option is selected by default

- **<label>:** used to associate a text label with an input field

**- Attributes:**

- for: specifies the input field ID

- **<button>:** used for form submission or reset

**- Attributes:**

- type: specifies the button type (submit, reset, button)

- **<fieldset>:** used to group related form elements

**- Attributes:**

- disabled: specifies whether the fieldset is disabled

- **<legend>:** used to provide a caption for a fieldset

**Here's a basic form structure:**

```
<form action="/submit" method="post">
  <label for="name">Name:</label>
  <input type="text" id="name" name="name" required>
  <br>
  <label for="email">Email:</label>
  <input type="email" id="email" name="email" required>
  <br>
  <button type="submit">Submit</button>
</form>
```