

HTML:- Hyper text markup language.

HTML is the language of the web. It is used to create website.

We use HTML tags to define look & feel of a website.

With understanding of these tags and how to put them together, we can create beautiful website easily!

Then why CSS & Javascript.

HTML = is used for defining layout of a page - A barebone structure.

CSS = CSS is used to add styling to that barebone page created using HTML.

JavaScript:- JS is used to program logic for the page layout.

A beautiful analogy:-

HTML = car body (only metal)

CSS = car paint, decoration etc.

JS = car engine + interior logic.

A Basic HTML Page:- (Document structure)

<!DOCTYPE html> → specifies this is an HTML doc

<html> → root of an HTML page

<head> → contains page metadata

<title> WAD </title> → containing title

</head>

Basic HTML Tags.

We can add elements inside the body tag to define the page layout.

- HTML elements:-

Everything from starting to the ending tag.

`<body>` → opening tag.

→ content ←

`</body>` → closing tag.

example:- `<h1> my first Heading </h1>`
`<p> my first paragraph </p>`

- Nested HTML elements:-

HTML elements can be nested (this means that element can contain other elements).

- All HTML documents consist of nested HTML elements

ex: `<body>` → Parent element

`<h1> this is heading </h1>` → child element

`<h2> this is another heading </h2>` → sibling element

`</body>`

- HTML Attributes:-

used to add additional information about HTML elements

- always specified in start tag.

- usually come in name / value pairs like:
`name = "value".`

1. The href Attribute:- (Anchor tag).

- The `<a>` tag defines a hyperlink. The `href` attribute specifies the URL of the page the link goes to.

ex: `X`

2. The img Attribute:- (src)

used to add img in an HTML page.

``

relative url of an image.

- img tag should also contain `width` & `height` attributes, which specify the width & height (in pixels)..

``

3. alt Attribute:-

The required `alt` attribute to the `` tag specifies an alternate text for an image.

- If the img for some reason cannot be displayed.

This can be due to a slow connection, or an error in the `src` attribute

ex: ``

4. Style Attribute:-

use it to add style to an element such as color, font, size etc.

ex: `<p style = "color: red;"> This is a para. </p>`

5. The lang Attribute:-

You should always include `lang` attribute inside the `<html>` tag, to declare the language of the web page.

ex: `<html lang = "en">`

6. title Attribute:-

defines some extra information about an element.

ex: `<p title = "I am a tooltip"> para. </p>`

Single or Double Quotes.

Double quotes around attribute values are the most common in HTML, but single quotes can also be used.

HTML Headings

HTML headings are titles or subtitles that you want to display on a webpage.

HTML headings are defined with `<h1>` to `<h6>` tags.

`<h1>` defines the most important heading.

`<h6>` defines the least important heading.

`<h1> heading 1 </h1>`

`<h2> heading 2 </h2>`

`<h3> heading 3 </h3>`

`<h4> heading 4 </h4>`

`<h5> heading 5 </h5>`

`<h6> heading 6 </h6>`

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ex.: `/a>`

2. The img Attribute:- (src)

used to add img in an HTML page.

ex.: ``
→ relative url of an image.

- img tag should also contain `width` & `height` attributes, which specify the width & height of img (in pixels).

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`<h3> heading 3 </h3>`

`<h4> heading 4 </h4>`

`<h5> heading 5 </h5>`

`<h6> heading 6 </h6>`

HTML Paragraphs.

- A paragraph always start on a new line, and is usually a block of text.
- ex. `<p> this is a paragraph. </p>`
`<p> this is another paragraph. </p>`

1. HTML Horizontal Rules:-

`<hr>` tag defines a thematic break in an HTML page

`<hr>` element is used to separate content (or define a change) in an HTML page.

ex. `<h1> Heading </h1>`
`<p> Some Text </p>`
`<hr>`

2. HTML Line Breaks:-

`
` elements defines a line break.
if u want a line break (a new line) without starting a new paragraph.

ex. `<p> this is
 a parac
 with line br. </p>`

The `
` tag is an empty tag, which means that it has no end tag.

3. pre Element

`<pre>` elements define preformatted text.
The text inside a `<pre>` element is displayed in a fixed-width font (usually courier), & it preserves both spaces & line breaks.

ex. `<pre>`

my Bonnie lies over the ocean .

my Bonnie lies over the sea .

`</pre>`

HTML styles.

HTML style attribute is used to add styles to an element, such as color, font, size, and more.

1. Background color:-

property define the bg-color for an HTML element.

ex. `<body style = "background-color: powderblue;">`

2. Text color:-

`p color` property defines the text color for an HTML element.

ex. `<h1 style = "color: blue;"> This is a heading </h1>`

3. Fonts:-

`font-family` property defines the font to be used for an HTML element.

ex. `<p style = "font-family: verdana;"> Heading </p>`

4. Text Size:-

`font-size` define the text-size

ex. `<h1 style = "font-size: 300%; "> Heading </h1>`

5. Text Alignment:-

`text-align` defines the horizontal text alignment.

ex. `<h1 style = "text-align: center;"> Centered Headin </h1>`

HTML FORMATTING

Formatting elements were designed to display special types of text:-

1. **** - bold text

**** - important text.

**** elements defines bold text, without any extra importance.

ex: **** This text is bold ****.

**** element defines text with strong importance. The content inside is typically displayed in bold.

ex: **** This text is important! ****.

2. HTML **<i>** and **** elements.

<i> element defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.

ex: **<i>** This text is italic **</i>**.

**** element defines emphasized text. The content inside is typically displayed in italic.

ex: **** This text is emphasized ****.

3. HTML **small** element:- defines smaller text.

ex: **<small>** This is some small text. **</small>**.

4. HTML **<mark>** element:-

element defines text should be marked or highlighted

ex: **<p>** Do not forget to buy **<mark>** milk **</mark>** today. **</p>**

5. **del** element:- deleted from a document. Browsers will usually strike a line through deleted text.

ex: **<p>** my fav color is **** blue **** red. **</p>**

6. HTML **<ins>** Element:- defines text that has been inserted into a document.

Browsers will usually underline inserted text.

ex: **<p>** my fav color is **** blue **** **<ins>** red **</ins>**

7. HTML **<sub>** element:- defines subscript text.

Subscript text appears half a character below normal line, and is sometimes rendered in a smaller font.

- Subscript text can be used for chemical formula like H₂O:-

ex: **<p>** This is **_{** subscripted **}** text. **</p>**

8. HTML **<sup>** element:- defines superscript text.

- Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font.

Superscript text can be used for footnotes.

ex: **<p>** This is **^{** superscripted **}** text. **</p>**

Op: This is **superscripted** text.

HTML Style - CSS

CSS stands for Cascading Style Sheets.

CSS saves a lot of work. It can control the layout of multiple web pages all at once.

What is CSS?

Cascading Style Sheets (CSS) is used to format the layout of a webpage.

With CSS, you can control the color, font, the size of text, the spacing between elements and much more!

Using CSS:

CSS can be added to HTML documents in 3 ways:

1. InLine = by using style attribute inside HTML elements.
2. Internal = by using `<style>` element in the `<head>` section
3. External = by using `<link>` element to link to an external CSS file.

HTML Links.

Links are found in nearly all web pages. Links allow users to click their way from page to page.

1. HTML Links - Hyperlinks.

HTML links are hyperlinks.

You can click on a link & jump to another document.

Note: A link doesn't have to be text. A link can be an img or any other HTML document element!

HTML Link-Syntax.

The HTML `<a>` tag defines a hyperlink.

Syntax = `link text`

The most important attribute of the `<a>` element is the `href` attribute, which indicates the link's destination.

e.g. `visit!`

By default, link will appear as follows in all browsers:-

- An unvisited link is underlined and blue.
- A visited link is underlined & purple.
- An active link is underlined and red.

2. HTML Links - The target Attribute.

The target attribute specifies where to open the linked document.

• `_self` = default. opens the document in the same window/tab as it was clicked.

• `_blank` = opens the document in a new window or tab.

• `_parent` = opens the document in the parent frame.

• `_top` = opens the document in the full body of the window.

3. HTML Links - Else an img as a link.

To use an img as a link, just put the `` tag inside the `<a>` tag:-

``

``

``

4. Link to an email address.

use `mailto:` inside the `href` attribute to create a link that opens that user's email program.

ex. `Send email`

5. Button as a link:-

To use a HTML button as a link, we have to add some JS code.

`<button onclick="document.location='default.asp'> HTML Tutorial </button>`

HTML Tables.

HTML tables allow web developer to arrange data into rows & columns.

ex. `<table><tr><th> Hi </th><th> Bye </th></tr></table>`

2. Table cells.

Each table cell is defined by a `<td>` and a `</td>` tag.

`td` stands for table data.

ex. `<table><tr><td> Emil </td><td> Linus </td></tr></table>`

op:-

Emil	Linus
------	-------

Note: A table cell can contain all sort of HTML elements: text, img, lists, links, other tables etc.

2. Table rows:-

Each rows starts with a `<tr>` and ends with a `</tr>` tag.

`<tr>` stands for table row.

ex. `<table><tr>`

`<td> Emil </td>`

`<td> Linus </td>`

`</tr>`

`<tr><td> 16 </td>`

`<td> 10 </td>`

`</tr>`

`<table>`

Emil	Linus
16	10

3. Table headers:-

Sometimes we want our cells to be table header cells. In those cases use the `<th>` tag instead of the `<td>` tag.

`th` stands for table header.

HTML colspan & Rowspan.

HTML table can have cells that span over multiple rows and /or columns.

NAME	Age	Class	Gender
Emil	16	9th	Male
Linus	10	8th	Female

`colspan`

`rowspan`

1. Colspan:-

To make a cell span over multiple columns, use the `colspan` attribute.

ex: `<th colspan="2">Name</th>`

name	age
1	1

2. Rowspan:-

To make a cell span over multiple rows, use the `rowspan` attribute.

Note: The value of the `rowspan` attribute represents the numbers of rows to span.

HTML lists.

HTML lists allow web developers to group a set of related items in lists.

ex

An unorderd

item

item

An ordered

1. First item

2. Second item

1. Unordered HTML list:-

An unorderd list starts with the `` tag. Each list item starts with the `` tag. The list items will be marked with bullet (small black circles) by default:

ex

``` coffee `` tea `` milk `

op:-

- coffee
- tea
- milk

2. Ordered list:-

Starts with `` tag. Each list item starts with the `` tag.

op:-

``` coffee `` tea `

3. coffee

2. tea.

3. Description lists:-

HTML also supports description lists.

A description list is a list of terms, with a description of each term.

`<dl>` define description list

`<dt>` defines term (name)

`<dd>` describes each term

ex:-

`<dl>``<dt> coffee </dt>`

op:-

coffee

`<dd> - black hot </dd>`

- black hot

`<dt> milk </dt>`

Milk

`<dd> - white cold </dd>`

- white cold

`</dl>`

HTML Block & inline Elements.

Every HTML element has a default display value depending on what type of element it is. There are two display values: block & inline.

Block-level Elements:-

Always starts on a new line, and the browser automatically add some space (a margin) before & after the element.

1. Colspan:-

To make a cell span over multiple columns, use the `colspan` attribute.

ex:

```
<th colspan="2">Name </th>
```

Name		Age
1	1	10
1	1	11

2. Rowspan:-

To make a cell span over multiple rows, use the `rowspan` attribute.

Starts with `` tag. Each list item starts with the `` tag.

op:-

```
<ol>
  <li> coffee </li>
  <li> tea </li>
```

3. Description lists:-

HTML also supports description lists.

A description list is a list of terms, with a description of each term.

`<dl>` define description list

`<dt>` defines term (name)

`<dd>` describes each term

ex:- `<dl>`

op:-
coffee

`<dt>` coffee `<dd>`

- black hot

`<dt>` milk `<dd>`

MILK

`<dd>` - white cold `<dd>`

- white cold

`</dl>`

4. Unordered HTML list:-

An unordered list starts with the `` tag. Each list item starts with the `` tag. The list items will be marked with bullets (small black circles) by default:

ex: ``

`` coffee ``

• coffee

`` tea ``

• tea

`` milk ``

• milk

``

HTML Block & inline Elements.

Every HTML element has a default display value depending on what type of element it is. There are two display values: block & inline.

Block-level Elements:-

always starts on a new line, and the browsers automatically add some space (a margin) before & after the element.

A block-level element always takes up the full width available.

Two commonly used block elements are:
 <p> defines a paragraph
 <div> defines division or a section.

ex:- <p> Hello world </p>
 <div> Hello world </div>

Some ex of block-level:-
 address, dd, article, header, footer, section, h1, and so on.

2. Inline Element:-
- does not start on a new line.
 - always only takes up as much width as necessary.

This is a element inside a paragraph.

ex:- Hello world

Some ex of inline element:-
 a, big, b, code, input, output and so on.

Note: An inline element cannot contain a block-level element.

3. The <div> element:-
- often used as a container for other HTML elements
 - no required attributes, but style, class & id are common.

When used together with CSS, the <div> element can be used to style blocks of content.

ex:- <div style="background-color: black">
 <h2> London </h2>
</div>

4. The Element:-

 element is an inline container used to mark up a part of text, or a part of a document.
 - no required attributes, but style, class & id are common.

When used together with CSS, the element can be used to style parts of the text.

ex:- <p> My mother has blue eyes and my father has dark green eyes </p>

Op. My mother has blue eyes and my father has dark green eyes.

HTML forms.

An HTML form is used to collect user input. The user input is most often sent to a server for processing.

ex:- First name:

Last name:

1. The <form> Element.

HTML <Form> element is used to create an HTML form for user input:-

<form>

form elements

</form>.

<form> elements is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons etc.

2. The <input> element:-

The HTML <input> element is the most used form element.

An <input> element can be displayed in many ways, depending on type attribute.

ex:-

type.

Description

<input type = "text">

Displays a single-line text input field.

<input type = "radio">

displays a radio button (for selecting one of many choices)

<input type = "checkbox">

displays a checkbox (for selecting zero or more of many choices)

<input type = "submit">

displays a submit button (for submitting the form).

<input type = "button">

display a clickable button.

Web pages often contain multimedia elements of different types and formats.

Browser support

The first web browsers had support for text only, limited to a single font in a single color.

Later came browsers with support for colors, fonts, img, and multimedia!

Multimedia formats:

Multimedia elements (like audio or video) are stored in media files.

The most common way to discover the type of a file, is to look at the file extension.

Multimedia files have formats and different extensions like: .wav, .mp3, .mp4, .mpg, .wmv, and .avi

Common Audio formats
MP3 is the best format for compressed recorded music. The term MP3 has become synonymous with digital music.

If your website is about recorded music, MP3 is the choice.

Note: Only MP3, WAV and Ogg audio are supported by the HTML standard.

HTML video:

The HTML <video> element is used to show a video on a web page.

1. <video> element.

To show a video in HTML, use the <video> element.

ex: <video width="320" height="240" controls>
<source src="movie.mp4" type="video/mp4">
</video>

HTML Video - Methods, Properties, and Events.

The HTML DOM defines methods, properties, and events for the `<video>` elements.

This allows you to load, play, and pause video as well as setting duration & volume.

There are also DOM events that can notify you when a video begins to play, is paused, etc.

HTML Audio.

The HTML `<audio>` element is used to play an audio file on a web page.

How it works:-

The `control` attribute adds audio controls, like play, pause and volume.

The `<source>` element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.

The text between the `<audio>` and `</audio>` tags will only be displayed in browsers that do not support the `<audio>` element.