

## HTML(Tim Berners-Lee is known as the father of HTML)

### 1)HTML-

- HTML stands for **Hyper Text Markup Language** ,used to create the structure of webpage/document .
- It is called **hypertext** because it uses hyperlinks to connect/link two or more web pages with each other.
- It is called a **markup language** rather than a **programming language** bz it is a tag-based language that uses tags to mark up or label content of a web , instead of performing any computational logics unlike programming language.
- Using only HTML,we can create a **static website** only.
- **case-insensitive language**, which means we can use tags either in lower-case or upper-case.But,it is recommended to write all tags in lower-case for consistency, readability, etc.
- It is **platform-independent** because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.

### 2)HTML5-

- It is the fifth(latest) version of HTML which supports new tags/elements like nav, audio,video,data,time,header, footer,section,progress, figcaption, command, time, datalist,figure, meter, aside, canvas, summary, rp, rt, details, wbr, keygen, embed, article, hgroup, bdi, mark, output, source, track, ruby etc, and new APIs as well.
- supported by all new browser like Firefox, Mozilla, Chrome, Safari, etc.
- application can also work correctly without an Internet connection.

3) Web Page: It is a document which is written in HTML and translated by a web browser.

4) Purpose of browser- to read HTML documents and display them correctly.

5) View source code(HTML code of webpage)-

**Ctrl+u**

OR

Right click on webpage ->view source code option

6) HTML document- It is a text document in which HTML is used to define the structure of a web page,saved with the .html or .htm extension.

7) Structure of HTML document -

**<!DOCTYPE html>**

**<html lang="en">**

**<head>**

**Page <meta charset="utf-8">**

**<title>Title</title>**

**<link href="style.css" rel="stylesheet">**

**<script src="javascript.js"></script>**

**<noscript> Computer Portal </noscript>**

**</head>**

**<body>**

**<h1>html document</h1>**

**</body>**

</html>

### Terms -

- <!DOCTYPE html> declaration -It is an instruction(not a tag) which tells the browser about the document type(which is html) and the version of HTML(which is HTML5).
- html tag - It is the root element of an HTML document which marks the beginning and end of the document.It contains the entire content of an HTML document and contains all other tags/elements.
- head tag -It contains metadata about the document, such as the document **title**, **links** to external stylesheets or **scripts**(to include a client-side script (JavaScript))and other information that isn't directly visible on the webpage and **noscript** tag which is used to display text to users who have disabled scripting in their browser or who are using a browser that does not support script.
- <title> tag -It contains the title of an HTML document which is shown in the browser's title bar or in the webpage's tab.  
  
very important for search engine optimization (SEO) to decide the order while showing webpages in search results.
- <body> tag - It contains those contents that are visible on the webpage to the users, such as text, images, links, headings, paragraphs, and other elements.

### 8)Building blocks of HTML-

i)tag- A tag is a keyword enclosed in angle brackets(<>) that indicates the beginning and end of content in an HTML element.

- Self-closing/empty tag -It is a tag that does not have a closing tag, used with that element that does not have any content, like <br> , <img> ,<hr> tag etc.

- In HTML, it is optional to close empty elements.

	<u>Tags</u>	
Heading tags	h1 to h6	used for headings
Paragraph tags	p	used for a paragraph in which a white space (a margin) is added automatically before and after a paragraph and it automatically removes any extra spaces (leaving only 1 Space btw words)and removes all the new lines present in the paragraph.
	pre	It is preformatted text tag, used to display the text in the same manner as it is written in the HTML.It preserves all the spaces and line breaks.
	hr	Used to display a horizontal line
	br	used to add a line break so that the text after this tag can start from a new line
Formatting tags	b	Fr making text bold
	strong	Bold with giving strong importance
	i	Fr making text italic
	em	italic with much verbal emphasis
	mark	to highlight text
	del	display the text that is deleted from document using a strike a line through a deleted text
	ins	display text that is inserted in a document by doing underline
	sup	used for superscripting text
	sub	used for subscripting the text
	u	to underline the text
	strike	To display text with strike through
Quotation tags	q	Used for quotation which inserts quotation marks around the quoted text

	abbr	used to show the full form of the abbreviation/acronym on mouse hover the text as tooltip and its abbreviation is shown using dotted underline  <p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>
	address	To display the contact information for the author/owner of a document in italic
	cite	To display the title of a work (e.g. a book, a poem, a song, a movie, a painting, a sculpture, etc.) in italic
Layout tags	header	Used for header for a document
	footer	Used for footer for a document
	nav	Used for navbar contains set of nav links
	section	Used for any section in a document
	aside	Used for sidebar
Table tags	td	Used for a table cell
	tr	Used for a table row cell
	th	Used for table header cell
	table	Used for table
	caption	Used to give title to the table but remain present within the table tag
	thead	Used to group the header content of table
	tbody	Used to group the body content of table
	tfoot	Used to group the footer content of table
	img	used to insert an image in a web page.
Images	picture	used to display different images for different devices or screen sizes.  <u>Syntax-</u>  <picture>  <source srcset="image-large.jpg" media="(min-width: 750px)">  <source srcset="image-medium.jpg" media="(min-width: 450px)">

		<pre>&lt;source srcset="image-small.jpg"&gt;</pre> <pre>&lt;img src="image-default.jpg" alt="Default image"&gt; //img tag must be at last</pre> <pre>&lt;/picture&gt;</pre>
	form	to create an HTML form for user input

ii) **attribute**-It gives extra information about an HTML element, present within its opening tag and consists of a name and a value (enclosed in double or single quotes), separated by an equal sign (=) .

Note-In some rare situations, like when the attribute value itself contains quotes, it is necessary to use single quotes: name='John "ShotGun" Nelson' and vice-versa.

- **Types of attributes in HTML** -

i) **Boolean attribute**-an attribute with no value whose presence indicates that the attribute is "true," and whose absence indicates that the attribute is false.

Eg- checked, disabled, readonly, required etc.

ii) **General Purpose Attributes**- attributes that can be used with any element and are not specific to a particular element such as id, title, class, style, etc.

Attribute	
href	To specify the URL of any web page <pre>&lt;a href="https://www.codingninjas.com/"&gt; Coding Ninjas &lt;/a&gt;</pre>
src	to specify the path/url of the image in img tag
height,width	to specify height and width of image in img tag
alt	to display the alternate text instead of the image when image can't loaded/displayed due to a slow connection, or an error in the src attribute.
style	To add styles to an HTML element, such as colour, font, size, and more <pre>&lt;p style="color:blue;"&gt; Coding Ninjas &lt;/p&gt;</pre>
lang	to specify the language of the Web page in html tag <pre>&lt;html lang="en"&gt;&lt;/html&gt;</pre>
title	To display some extra information about a HTML element as a tooltip.

	<code>&lt;p title="I'm a tooltip"&gt;This is a paragraph.&lt;/p&gt;</code>
<b>id</b>	<p>Used to identify an element of HTML document uniquely. No two elements in the whole HTML document can have the same id.</p> <p>also used to jump to specific part of webpage using id and href attribute</p> <pre>&lt;h2 id="C4"&gt;Chapter 4&lt;/h2&gt; &lt;a href="#C4"&gt;Jump to Chapter 4&lt;/a&gt;</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• id is case sensitive</li> <li>• The id name cannot start with a number, and should not have any whitespace(spaces, tabs, etc.).</li> </ul>
<b>class</b>	<p>used to identify a group of elements that have something in common. Multiple elements in a HTML document can have the same class name.</p> <ul style="list-style-type: none"> <li>• class is case sensitive</li> </ul>

iii)[element](#)-It is a combination of opening tag, content, closing tag.

Syntax-

`<tag name attribute_name= " attr_value"> content </ tag name>`

## 9)[Types Of HTML elements](#) -

i)[inline elements](#)- elements that are displayed on the same line instead of starting from a new line and takes width same as width of the content.

Eg- `<span>`, `<a>`, `<strong>`, `<img>`,`<input>` etc.

ii)[Block-level elements](#)-elements starts from a new line and takes width same as the whole horizontal of the container.

Eg- `<p>`, `<div>`, `<h1>` etc.

## 10)[Comment in HTML](#)-

`<!-- Write your comments here -->`

11) **Favicon**- a small image displayed before the page title in the browser tab.

in head tag -

```
<link rel="icon" type="x-icon" href="favicon_url">
```

12) **URL/ web address**-It specifies the addresses/location of resources like web pages, images, videos, etc on the internet,used to request web pages by web browser from web server.

- URL stands for Uniform Resource Locator

**Syntax**-

**scheme://prefix.domain:port/path/filename**

Eg-https://www.w3schools.com/html/index.html

**Terms**-

**scheme** - denotes the type of Internet service (most common is http or https)

**prefix** - denotes a prefix of domain (default for http is www)

**domain** - defines the Internet domain name for a website(like w3schools.com)

**port** -denotes the port number at the host (default for http is 80)

**path** - denotes a path at the server (If omitted: the root directory of the site)

**filename** - denotes the name of a document or resource

Scheme	Short for	Used for
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

- **HTTP(Hypertext Transfer Protocol)**-It does not encrypt the data so anyone can intercept /understand/see the data .



- [HTTPS\(Hypertext Transfer Protocol Secure\)](#)-It is a more secure version of HTTP that uses encryption to protect the data.It uses Secure Sockets Layer (SSL) to encrypt the data .

### [Types of URL-](#)

- [Absolute URL](#)-It is full URL (address) for a resource on internet , including the protocol (http:// or https://) and the full domain path
- [Relative URI](#)-It is URI of the resource relative to the location of the current web page within the same current domain/website without including the protocol and domain information.

### 13)[&nbsp;nbsp;](#)-an entity in HTML which stands for non-breaking space

- used to create a space that will not break into a new line.
- Two words separated by a non-breaking space will stick together (not break into a new line).

### 14)[Viewport](#)-It is the part of a web page visible to user which varies with the change of device .

`<meta name="viewport" content="width=device-width, initial-scale=1.0">`

- meta tag is used to control the webpage's dimensions and scaling.
- The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
- The initial-scale=1.0 part sets the initial zoom level when the page is first loaded by the browser.

### 15)[Semantic tags](#) - tags that have meaningful names which tell about the type of content present within it.

- helps to make your web page more accessible, more SEO-friendly, and more readable.
- Eg- main,header,footer,nav,section,aside tag etc.

### 16)[Non-Semantic tags](#) -Tags whose names don't tell anything about what kind of content is present within it.

Eg-

i) div-It is a block-level tag used as a container used to group different HTML elements of a webpage and to create the layout of the webpage.

ii) span-It is an inline tag used as a container used to target the specific portion of the text of webpage for styling,...etc

17) List- used to group related items together.

- Unordered list-

ul- for unordered list

li- for list item shown using bullets by default in output

```
<ul>
```

```
<li>Coffee</li>
```

```
<li>Tea</li>
```

```
<li>Milk</li>
```

```
</ul>
```

- Ordered list-

ol- for ordered list

li- for list item shown using numbers by default in output

```
<ol>
```

```
<li>Coffee</li>
```

```
<li>Tea</li>
```

```
<li>Milk</li>
```

```
</ol>
```

18) Table-used to arrange data into rows and columns.

```
<table>
```

```
<caption>Table Title</caption> <!-- caption of table -->
```

```
<thead>
  <tr>
    <th>Header content 1</th>
    <th>Header content 2</th>
  </tr>
</thead>
<tbody>
  <tr>
    <td>Body content 1</td>
    <td>Body content 2</td>
  </tr>
</tbody>
<tfoot>
  <tr>
    <td>Footer content 1</td>
    <td>Footer content 2</td>
  </tr>
</tfoot>
</table>
```

## 19) [Links](#)-

### i) [Link to an Email Address](#)-

link created using **mailto:** inside the url of href ,on clicking it ,opens the user's email program for sending mail

### [Syntax](#)-

`<a href="mailto:someone@example.com">Send email</a>`

ii) [open link at targeted place](#)-Use target attribute in anchor(<a>) tag

### **Syntax-**

`<a href="https://www.w3schools.com/" target="_blank" >Visit W3Schools!</a>`

- **\_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

iii) [Link to call app](#)-It trigger the user's call app with a phone number

with the number already filled in so the user does not have to type the phone number manually.

`<a href="tel:+917884199439"> Call Us </a>`

20) [Form](#)-It component of webpage that helps to collect user input and to submit data to a web server.