
|| HTML Notes ||

-> HTML stands for "Hyper Text Markup Language".

"Hyper Text" :: (1) The way in which the web pages (HTML documents) are linked together.
(2) The link provided in the web pages.

"Markup Language" :: Language used to define the web page (HTML document) with various tags that tells the web browser how to structure it to display.

-> Founder: Berners-Lee

-> Release:

1. Year 1991:: Initial Release
2. Year 1995:: HTML 2.0 (Standard Release)
3. Year 1999:: HTML 4.01 (Major Release)
4. Year 2012:: HTML 5 (Latest Release)

-> World Wide Web Consortium (W3C) recommends to use lowercase tags from HTML 4 and onwards.
For more about World Wide Web Consortium (W3C), visit: <https://www.w3.org/>

-> To know all the HTML tags and their attributes, refer:
https://www.tutorialspoint.com/html/html_tags_reference.htm

-> Overview / Structure:

<!DOCTYPE ...> :: Defines the document type and html version.
<html> :: Encloses the entire HTML document.
It contains a <head> and a <body> tag.
<head> :: Represents the HTML document header.
It contains tags like <meta>, <title> and <link> etc.
<title> :: Represents the HTML document title.
<body> :: Represents the body of the HTML document.
It contains tags like <h1> to <h6>, <section>, <div> and <p> etc.

For demo refer to "hello.html" file.

-> Basic Tags:

<h1> to <h6> :: HEADING TAGS: Six levels of HEADING having different sizes.
"h1" is the largest heading and "h6" is the smallest heading.
<p> :: PARAGRAPH TAG: Represents a paragraph.

 :: LINE BREAK TAG: Breaks the line and starts the text or anything following it from the next line.
<hr /> :: HORIZONTAL LINE TAG: Draws a horizontal line.
<center> :: CENTER TAG: Puts the content inside it to the center of the HTML document or table cell.
<pre> :: PRESERVER FORMAT TAG: Preserves the text inside it and displays the text in the exact format it is written by the user/developer.
 :: NON-BREAKING SPACE: Applies non breaking spaces between the texts if applied instead of normal spaces between the texts. It prevents the splitting/breaking of the text across two lines.

For demo refer to "index.html" and "index02.html".

-> Elements:

HTML Elements basically have 3 parts.

They are - 1. Starting Tag

2. Content

3. Ending Tag [Always preceded with a forward slash("/").]

Example: "<p>A simple paragraph.</p>"

Here "<p>" is the starting tag; "</p>" is the ending tag and the text, "A simple paragraph." is the content of the paragraph element.

HTML Elements are categorized into 2 categories.

They are - 1. Block Elements::

1.1. Block elements appear on the screen as if they have a line break before and after them.

1.2. Examples: <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, , , <dl>, <pre>, <blockquote> <address> and <hr />.

2. Inline Elements::

2.1. Inline elements appear within the sentences.

2.2. Examples: , <i>, <u>, , , <sup>, <sub>, <big>, <small>, , <ins>, , <code>, <cite>, <dfn>, <kbd>, and <var>.

-> Empty Elements:

(1) The
, <hr /> and etc. tags are the examples of EMPTY ELEMENTS or VOID ELEMENTS i.e. these do not have any enclosing tag as they contain nothing.

(2) Empty elements must have space between the the characters("br" or "hr" or "img") and forward slash("/") otherwise, older browsers will be troubled rendering them.

(3) Missing the forward slash("/") will make the empty elements invalid for XHTML.

(4) For more details, visit:

<https://www.geeksforgeeks.org/what-are-empty-elements-in-html/>

-> Nested Element:

Element(s) inside another element is called as NESTED ELEMENT(S).

-> Attributes:

The attribute defines the characteristics of an HTML element.

The attributes have two parts. They are - 1. Name

2. Value

Example: align = "center"

Here "align" is the name of the attribute and "center" is the value of the attribute". The "align" attribute aligns the text/content to the specified position.

World Wide Web Consortium (W3C) recommends to use lowercase attribute names and values from HTML 4 and onwards.

For more about World Wide Web Consortium (W3C), visit: <https://www.w3.org/>

For demo refer to "index03.html".

-> Core Attributes:

There are 4 core attributes used in majority of the HTML elements.

They are -

1. `id` :: It is used to uniquely identify any element inside the HTML document.
2. `title` :: Defines the pop-up title of the element.
When cursor is hovered over the element with title having a value, the value of the title is displayed and moving the cursor away from the element will hide the value of the title.
3. `class` :: Used to specify one or multiple CSS(Cascading Style Sheet) classes with space(s) for styling of elements.
4. `style` :: Allows to specify CSS(Cascading Style Sheet) rules within an element.

For demo refer to "index04.html".

-> Internationalization Attributes:

There are 3 internationalization attributes available for most of the XHTML elements.

They are -

1. `dir` :: Defines the direction in which the text should flow.
For demo refer to "index05.html".
2. `lang` :: Indicates the main language used inside the document.
3. `xml:lang` :: XHTML replacement of the "lang" attribute.

-> Generic Attributes:

Reference: "HTML Generic Attributes.png"

-> Formatting / Text Formatting:

- `` :: BOLD TEXT: Makes the enclosed text as bold text.
- `<i>` :: ITALIC TEXT: Italicizes the enclosed text.
- `<tt>` :: MONOSPACED FONT: Represents the enclosed text with monospaced font.
In monospaced font, all characters have same width.
- `<u>` :: UNDERLINED TEXT: Underlines the enclosed text.
- `<strike>` :: STRIKE TEXT: Enclosed text is displayed with strikethrough i.e;
a thin line through the enclosed text.
- `<ins>` :: INSERTED TEXT: Represents the enclosed text as a inserted text.
- `` :: DELETED TEXT: Represents the enclosed text as a deleted text.
- `<big>` :: LARGER TEXT: Represents the enclosed text with 1 font larger than the current font size.
- `<small>` :: SMALLER TEXT: Represents the enclosed text with 1 font smaller than the current font size.
- `<sub>` :: SUBSCRIPT TEXT: Represents the enclosed text as a subscript.
- `<sup>` :: SUPERScript TEXT: Represents the enclosed text as a superscript.

For demo refer to "index06.html".

-> Grouping Content:

- (1) The `<div>` and `` elements are used to group together several elements to create sections or subsections of a HTML page.
- (2) `<div>` is used for grouping of block-level elements.
- (3) `` is used for grouping of inline elements only such as a part of a sentence or paragraph.

For demo refer to "index07.html".

-> Phrase Tags:

 :: EMPHASIZED TEXT: Represents the enclosed text as emphasized text.
<mark> :: MARKED TEXT: Represents the enclosed text as marked text with yellow ink.
 :: STRONG TEXT: Represents the enclosed text as important text.
<abbr> :: TEXT ABBREVIATION: Represents the enclosed text as abbreviation text.
It must contain the "title" attribute with full description only.
<acronym> :: ACRONYM TEXT: Represents the enclosed text as an acronym.
Currently major browsers do not change the appearance of acronym.
<bdo> :: BI-DIRECTIONAL OVERRIDE: Overrides the enclosed text direction.
<dfn> :: DEFINITION ELEMENT: Represents the enclosed text as a special term when a new key term is introduced. Most browsers render it's content in italic font.
<blockquote> :: BLOCK QUOTATION: Represents the enclosed text as an passage from another source.
<q> :: SHORT QUOTATION: Adds double quote to the enclosed text.
<cite> :: TEXT CITATION: Represents the enclosed text as source of a quoted text.
The content is rendered in italicized text by default.
<code> :: COMPUTER CODE: Represents the enclosed text as computer program code.
The content is displayed in monospaced font.
<kbd> :: KEYBOARD TEXT: Represents the enclosed text as the text to be typed/entered through the keyboard by the reader while talking about computer related stuffs.
<var> :: COMPUTER VARIABLES: Represents the enclosed text as a programming variable.
Usually used in conjunction with the <pre> and <code> elements.
<samp> :: SAMPLE PROGRAM OUTPUT: Represents the enclosed text as sample output of a computer program or script etc.
<address> :: ADDRESS TEXT: Represents the enclosed text as a location address.

For demo refer to "index08.html".

-> Comments:

- (1) "A COMMENT is a piece of code that is ignored by the web browser."
- (2) Comments increase code readability and helps the developer and others to understand the code.
- (3) Comments do not nest.
- (4) There should be no space at the starting and at the ending of the comment string.
- (5) Examples: 1. "<!-- A sample valid single line comment. -->"
2. "<!-- A sample valid
multi line
comment.
-->"

For demo refer to "index09.html".

-> Images:

 :: IMAGE TAG: Inserts an image in a web page.
Attributes => src - Path to a valid image file(PNG / JPEG / GIF). [Mandatory Attribute]
alt - Represents the alternative text for an image if the image cannot be displayed or was not found. [Mandatory Attribute]
width - Sets image width in terms of pixels or percentage.
height - Sets image height in terms of pixels or percentage.
border - Sets image border with provided thickness.
"0" thickness means no border.
align - Sets the image alignment to the center or right side of the page.

For demo refer to "index10.html".

-> Tables:

Tables allow us to arrange data like text, images, links and other tables etc. into rows and columns of cell.

<table> :: TABLE: Represents an entire table.

Attributes => border - Sets table border with provided thickness.

"0" thickness means no border.

cellpadding - Represents the distance between cell borders and content within the cell.

cellspacing - Represents the space between table cells.

width - Sets table width in terms of pixels or percentage.

height - Sets table height in terms of pixels or percentage.

<tr> :: TABLE ROW: Represents table rows.

<td> :: TABLE DATA: Represents table data cells.

By default it's content are left aligned.

Attribute => rowspan - Merges two or more rows into a single row.

colspan - Merges two or more columns into a single column.

<th> :: TABLE HEADING: Represents the heading of each column of a table.

By default, it's content are center aligned and bold.

<caption> :: TABLE CAPTION: Represents the title or explanation for the table and it shows up at the top of the table. [Deprecated]

Other Attributes:

bgcolor - Sets background color for whole table or just for one cell. [Deprecated]

background - Sets background image for whole table or just for one cell. [Deprecated]

bordercolor - Specifies the border color of the table. [Deprecated]

A table may be divided into 3 portions. They are -

<thead> :: TABLE HEAD: Represents a separate table header.

<tbody> :: TABLE BODY: Represents the main content of the table.

<tfoot> :: TABLE FOOT: Represents a separate table footer.

Nested Table:

One table inside another table.

For demo refer to "index11.html".

-> List:

A list is a collection of related items.

There are 3 types of list. They are -

1. :: UNORDERED LIST: * Items have no special order / sequence.

* Each item is marked with a bullet.

* Attribute => type - Specifies the type of bullet.

The default type is "disc".

Other values are "square" and "circle".

2. :: ORDERED LIST: * Items are put in a numbered list.
* The numbering starts at one and is incremented by one for each successive element.
* Attribute => type - Specifies the type of numbering.
The default type("1") is a number.
Value "I" for upper-case numerals.
Value "i" for lower-case numerals.
Value "A" for upper-case letters.
Value "a" for lower-case letters.
start - Specifies the starting point of the numbering.
3. <dl> :: DEFINITION LIST: * Items are listed like in a dictionary or encyclopedia.
* Idle for presenting a glossary, list of terms or other name / value list.

Other Elements:

 :: LIST ITEM: Represents an item in a ordered / unordered list.
<dt> :: TERM: Represents a term in a definition list.
<dd> :: TERM DEFINITION: Represents the definition of a term in a definition list.

For demo refer to "index12.html".

-> Inline Frame:

<iframe> :: INLINE FRAME: * Defines the rectangular region within the web page in which a separate webpage / document can be displayed (including scrollbars and borders).
* Attributes => src - URL / Path of the webpage / document.
name - Assigns a name to the frame.
frameborder - Determines whether to display borders of the frame or not.
This attribute can have only 2 values i.e; "1" for YES and "0" for NO. [Deprecated]
height - Specifies the height of the frame.
width - Specifies the width of the frame.
marginheight - Specifies the height of the space between the top and the bottom of the frame's borders and its contents in terms of pixels. [Deprecated]
marginwidth - Specifies the width of the space between the left and the right of the frame's borders and its contents in terms of pixels. [Deprecated]
scrolling - Determines whether to provide scrollbars or not.
The values are "yes", "no" or "auto". [Deprecated]
longdesc - Provides link to another document containing a long description of the contents of the frame. [Deprecated]

For demo refer to "index13.html".

-> Hyperlink:

Hyperlinks allow visitors to navigate between web sites by clicking on words, phrases and images.

<a> :: ANCHOR TAG: * Represents a hyperlink.
* Content of this element becomes the part of the hyperlink.
* Attributes => href - Specifies the URL of a web page. [Mandatory]
 target - Specifies the location where the linked web page will be opened.
 "_self" value opens the linked web page in the same frame.
 "_blank" value opens the linked web page in a new window or tab.
 "_parent" value opens the linked web page in the parent frame.
 "_top" value opens the linked web page in the full body of the window.
 An inline frame name can also be provided.
 [Note: "name" attribute is deprecated in html5.]

<base> :: BASE TAG: * Provides the base path for all the links in a web page (/ HTML document).
* Placed within document header.
* Attribute => href - Specifies the base URL. [Mandatory]

Link Colors:

The below 3 attributes are used in <body> tag to set the color of any hyperlink.

They are - (1) link - Sets the color for the given link.
 (2) alink - Sets the color for the active link.
 (3) vlink - Sets the color for the visited link.

For demo refer to "index14.html", "index15.html", "index16.html", "index17.html" and "index18.html".

-> Form:

"Forms are used to collect some data from the site visitor."

<form>: FORM TAG: It is used to create a HTML form.
Attributes => action - Script to be executed on form submission.
 method - Type of method to be used to upload data. (GET | POST)
 target - Specifies the target window / frame where the output of the action
 will be displayed. Same as "target" attribute of anchor tag.
 enctype - Specifies the encoding type of the data to be uploaded on form submission.
 "application/x-www-form-urlencoded" is the standard value.
 "multipart/form-data" is the value for uploading binary data like image,
 word file etc.

For more; visit: https://www.w3schools.com/tags/tag_form.asp

<input>: INPUT TAG: Specifies the type of input / form control(s) which takes user input.
Attributes => type - Specifies the type of the input control. [Mandatory]
 name - Specifies the name of the input control.
 value - Specifies the initial value when the page is loaded.
Always use <label> tag to define labels for input tag(s).
For more; visit: https://www.w3schools.com/tags/tag_input.asp

Input / Form Controls:

Different types of input / form controls are used to collect data from the site visitor.

The "type" attribute of <input> tag is used to specify the type of form control.

They are -

1. Text Input Controls:

It is of the following 3 types -

1.1. Single-Line Text Input Controls (type="text"): Takes only one line of user text input.

Attributes => size - Specifies the width of the text-input control.

maxlength - Specifies the maximum number of characters
can be entered inside the text-input control.

1.2. Password Input Controls (type="password"): A single line text input that masks the characters as soon as the user enters it.

Attributes => size - Specifies the width of the password-input control.

maxlength - Specifies the maximum number of characters
can be entered inside the password-input control.

1.3. Multi-Line Text Input Controls: Takes multiple lines of text inputs.

<textarea>: TEXT BOX: Takes multiple lines of user text input.

Attributes => name - Specifies the name of the text box.

rows - Specifies the number of rows of text box.

cols - Specifies the number of columns of text box.

2. Checkboxes Controls (type="checkbox"): Used when multiple option might be selected.

Attribute => checked - Sets the option as checked by default(if specified).

3. Radio Box Controls (type="radio"): Used when only one out of many options need to be selected.

Attribute => checked - Sets the option as selected by default(if specified).

4. Select Box Controls: Provides a drop down box which lists down various options among which one or multiple options can be selected.

<select>: SELECT BOX: Provides a drop down list of options.

Attributes => name - Specifies the name of the select box.

size - Used to present a scrolling list of box.

multiple - Allows to select multiple items from menu(if specified).

<option>: Specifies the option(s) of a select box.

Attributes => value - Specifies the value to be used if the option was selected.

selected - Specifies the value to be initially selected by default
when the page is loaded.

label - Alternative way of labeling options.

5. File Upload Boxes (type="file"): Used to upload a file as an input.

Other attribute => accept - Specifies the type of file, that can be uploaded.

To know the possible values of this attribute, visit:

https://www.w3schools.com/tags/att_input_accept.asp

6. Hidden Controls (type="hidden"): Used to hide the form / input control inside the page.

7. Button Controls (type="submit|image|button|reset"): Used to create different types of clickable buttons.

They are -

7.1. submit - Provides a button that automatically submits a form
when clicked .

7.2. reset - Provides a button that automatically resets the input
/ form controls to their default values when clicked.

- 7.3. button - Provides a button that triggers a client-side script when clicked.
- 7.4. image - Provides an image as a clickable button.
The source of the image is provided in "src" attribute.

For demo refer to "index19.html" file.

-> Header:

The header of the web page is represented by <head> tag.

It contains the following tags:

<title>: TITLE TAG: Specifies the title of the web page.

<meta>: META TAG: * Provides the metadata about the web page such as page expiry, page author, list of keywords and page description etc.

* For more: https://www.w3schools.com/tags/tag_meta.asp

<base>: BASE TAG: * Provides the base path for all the links in a web page (/ HTML document).

* Attribute => href - Specifies the base URL. [Mandatory]

<link>: LINK TAG: * Specifies the relationship between the current document and external resources.

* For more: https://www.w3schools.com/tags/tag_link.asp

<style type="text/css"></style>: STYLE TAG: * Specifies stylesheet for current HTML document.

* For more: https://www.w3schools.com/tags/tag_style.asp

<script type="text/javascript"></script>: SCRIPT TAG: * Embeds client-side script(JavaScript) within current HTML document.

* Either contains JavaScript code or points to an external JavaScript(".js") file through "src" attribute.

* For more: https://www.w3schools.com/tags/tag_script.asp

For demo refer to "external.css", "external.js" and "index20.html".

-> Embedding Object:

An object can be any external resources such as a web page, a picture, a media player, or a plug-in application.

<object>: OBJECT TAG: * Represents an external resource.

* Attributes: data - Specifies the path to a valid object. [Mandatory]

type - Specifies the object type.

typemustmatch - Ensures the object and the type of the object must match.

height - Specifies the height of the object in terms of pixels.

width - Specifies the width of the object in terms of pixels.

* For more: https://www.w3schools.com/tags/tag_object.asp

For demo refer to "index21.html" file.

-> Embedding Video and Audio:

<video>: VIDEO TAG: * Used to embed a video content in the web page.

* Attribute: => height - Specifies the height of the video player in terms of pixels.

width - Specifies the width of the video player in terms of pixels.

poster - Specifies the valid path to the image to be shown until the video is downloading or user hits the play button.

<audio>: AUDIO TAG: Used to embed a audio / sound content in the web page.

Common attributes for <video> and <audio> tags:

src - Specifies the valid path to a video / audio content. [mandatory]
autoplay - Plays the video / audio as soon as it is ready when the page is loaded.
control - Provides video / audio controls such as:

1. Play
2. Pause
3. Seeking
4. Volume
5. Fullscreen toggle [For video only.]
6. Captions/Subtitles [For video only when available.]
7. Track [For video only when available.]

loop - Starts over the video / audio again after every time it is finished.

muted - Specifies the audio output of the video / audio will be muted.

For more about video: https://www.w3schools.com/tags/tag_video.asp

For more about audio: https://www.w3schools.com/tags/tag_audio.asp

For demo refer to "index22.html", "index23.html" and "index24.html".

-> Semantic Elements:

* Definition:: "Element with a meaning(i.e. same for both browser and developer)."

* Non-semantic elements(<div> and) tells nothing about their contents.

* Semantic elements(<form>, <table>, <article>,) define their contents.

* List of semantic elements::

<article>: Specifies independent, self-contained content(such as forum post, blog post and news story etc).

<aside>: Specifies content aside from the page content.

<details>: Specifies additional details that a user can view or hide.

Attribute => open - Specifies the details should be visible / open to the user by default.

<figure>: Specifies self-contained content like illustrations, diagrams, photos, code listings etc.

<figcaption>: Specifies a caption for a <figure> element.

<footer>: * Specifies a footer for a document or section.

* It typically contains -

Authorship

Copyright Information

Contact Information

Sitemap

Back To Top Links

Related Documents

<header>: * Specifies a header for a document or section.

* It is like a container for introductory content or a set of navigational links.

* It typically contains -

One or more heading elements(<h1> to <h6>)

Logo / Icon

Authorship Information

<main>: Specifies the main content of a document.

<mark>: Specifies a marked / highlighted text.

<nav>: Specifies a set of navigation links.
<section>: Specifies a section in a document.
<summary>: Specifies a visible heading for a <details> element.
<time>: Specifies a date / time / datetime.
For more: https://www.w3schools.com/tags/tag_time.asp

* Additional & Essential Notes:

- [1] <article> and <aside> elements do not render as anything special in a browser.
- [2] There can be multiple <header> elements in a web page.
- [3] A <header> element cannot be placed within a <footer>, <address> or another <header> elements.
- [4] Multiple <main> elements must not be there in a web page.
- [5] The <main> element must not be the descendant of an <article>, <aside>, <footer>, <header> or <nav> elements.
- [6] <nav> element is intended only for major blocks of navigational links, not for all links.
- [7] <summary> element should be the first child of the <details> element.
- [8] <article> elements can be used within <section> elements.
- [9] <section> elements can be used within <article> elements.
- [10] <article> elements can be used within <article> elements.
- [11] <section> elements can be used within <section> elements.

* Tips:

- [1] <aside> element is often placed as a sidebar in a document.
- [2] <summary> element is used in conjunction with <details> element to specify a visible heading for the details.
- [3] Contact information inside a <footer> element should go inside an <address> element.

* Some Benefits of Semantic Elements:

- [1] Accessibility
- [2] Searchability
- [3] Styling
- [4] Collaboration
- [5] Overall User Experience

* For more about HTML Semantic tags, visit:

https://www.w3schools.com/html/html5_semantic_elements.asp

* For demo, refer to "index25.html" file.

-> References:

HTML Element Reference:: <https://www.w3schools.com/TAGS/default.asp>

IANA Media Types:: <https://www.iana.org/assignments/media-types/media-types.xhtml>

-> Author Info:

* Author: Abadhesh Mishra

* Email: abadheshmishra01@gmail.com

* GitHub: <https://github.com/abadhesh01>

* GitLab: <https://gitlab.com/abadhesh01>

Checking completed by author on 23rd August 2023 at 2106 HRS.
Happy Learning :)