Introduction to Html

What is Html?

Def

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML is Not Case Sensitive
- HTML elements tell the browser how to display the content.
- Every HTML document/web page will have only one set of
- HTML document/web page is saved with .htm or .html extension.

Main Tags

<html>...</html> tag

<head>...</head> tag

<body>...</body> tag

Html Document Structure

```
1. <!DOCTYPE html>
2. <html>
3.   <head>
4.     <title>Homepage </title>
5.   </head>
6.   <body>
7.     Hello World!
8.   </body>
9. </html>
10.
```

The <!DOCTYPE> Declaration

- The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.
- It must only appear once, at the top of the page (before any HTML tags).

Tags used with Head Tag

Tags	**Description**
<title>	Defines the title that should be displayed on the browser tab
<meta>	Metadata is in-general, data about data. Provides metadata about the HTML document. Metadata will not be displayed on the page but will be machine-readable. Used to specify page description, author of the document, last modified, etc. Used by browsers (control how to display content or reload the page), search engines (keywords), or other web services. Post HTML5, meta tag also allows web designers to take control over the viewport by setting the meta viewport tag.
<style>	Defines style information for the web page
<link>	Defines a link to other documents like CSS
<script>	Defines script like JavaScript

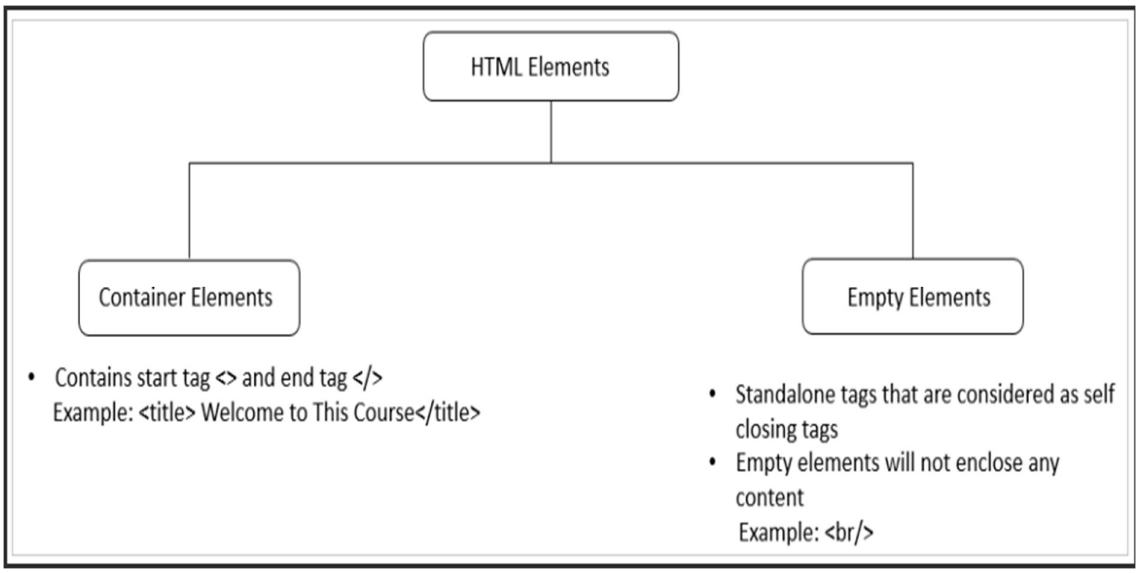
Html Elements

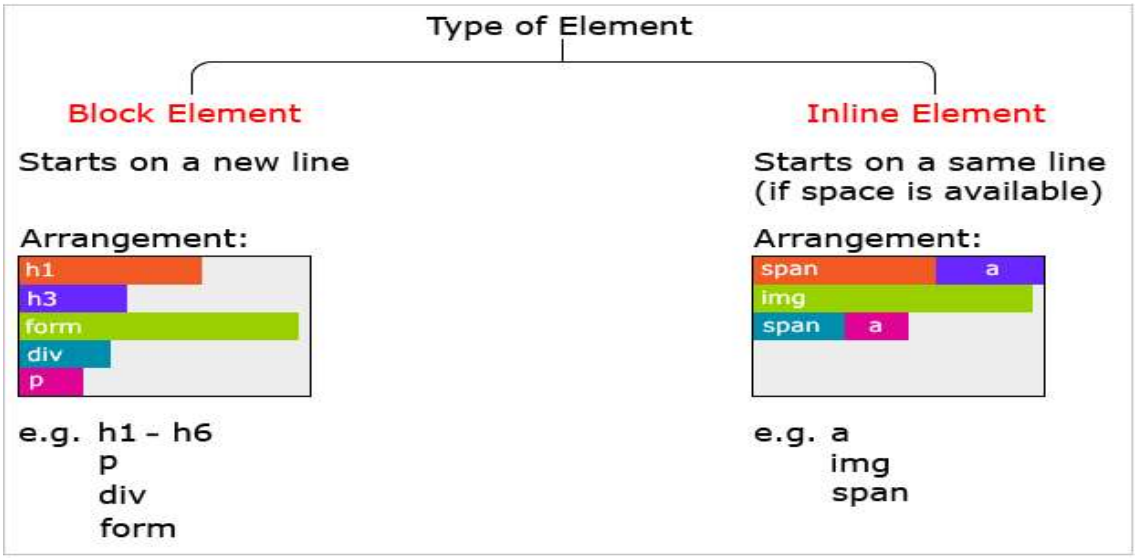
Def

- The HTML element is everything from the start tag to the end tag:
- HTML elements can be *nested* (this means that elements can contain other elements)
- HTML elements with no content are called *empty* elements

Syntax

<tagname>Content goes here...</tagname>





1. ***Headings Element***

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

   <h1> defines the most important heading.

   <h6> defines the least important heading.

2. ***Paragraphs Element***

   HTML paragraphs are defined with the <p> tag

3. ***Links Element***

   HTML links are defined with the <a> tag

4. ***Images Element***

   HTML images are defined with the <img> tag.

   The source file (src), alternative text (alt), width, and height are provided as attributes

5. ***Horizontal Rules***

   The <hr> tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.

6. ***Line Breaks***

   The HTML <br> element defines a line break.

7. ***Character Entities***

   Character entities are used to include such character content on a web page.

```
Syntax: &entity_name;
              OR
        &#entity_number;
```

Character	Description	Entity Name	Entity Number
	Non-breaking space		
<	Less than	&lt;	&#60;
>	Greater than	&gt;	&#62;
&	Ampersand	&amp;	&#38;
©	Copyright	&copy;	&#169;
€	Euro	&euro;	&#8364;
£	Pound	&pound;	&#163;
®	Registered trademark	&reg;	&#174;

Html Attributes

Def

- All HTML elements can have attributes
- Attributes provide additional information about elements
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name="value"

Summary

- All HTML elements can have **attributes**
- The *href* attribute of <a> specifies the URL of the page the link goes to
- The *src* attribute of <img> specifies the path to the image to be displayed
- The *width and height* attributes of <img> provide size information for images
- The *alt* attribute of <img> provides an alternate text for an image
- The *style* attribute is used to add styles to an element, such as color, font, size, and more
- The *lang* attribute of the <html> tag declares the language of the Web page
- The *title* attribute defines some extra information about an element

1. ***href Attribute***

   The <a> tag defines a hyperlink.

   The href attribute specifies the URL of the page the link goes to:

   Visit W3Schools

2. ***src Attribute***

   The <img> tag is used to embed an image in an HTML page.

   The src attribute specifies the path to the image to be displayed:

   <img src="img_girl.jpg">

3. ***width and height Attributes***

   The <img> tag should also contain the width and height attributes, which specify the width and height of the image (in pixels):

   <img src="img_girl.jpg" width="500" height="600">

4. ***alt Attribute***

```
<img src="img_girl.jpg" alt="Girl with a jacket">
```

5. ***style Attribute***

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

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

6. ***lang Attribute***

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

7. ***title Attribute - Tooltip***

The title attribute defines some extra information about an element.

```
<p title="I'm a tooltip">This is a paragraph.</p>
```

Global Attribute

Attribute	Description
contenteditable	Allows the user to edit content. Possible values are true/false.
dir	Specifies text direction. Possible values are ltr/ rtl.
title	Displays the string message as a tooltip.
spellcheck	Specifies whether the spelling of an element's value should be checked or not. Possible values are true/false.
id	Gives a unique id to an element.

Class Attribute

Def

- The HTML class attribute specifies one or more class names for an element
- Classes are used by CSS and JavaScript to select and access specific elements
- The class name is case sensitive
- Different HTML elements can point to the same class name

- JavaScript can access elements with a specific class name with the getElementsByClassName() method

Syntax rules

To create a class; write a period (.) character, followed by a class name. Then, define the CSS properties within curly braces {}.

Multiple class

To define multiple classes, separate the class names with a space, e.g. .

Different Elements Can Share Same Class

<h2> and <p> point to the "city" class and will share the same style.

Id Attribute

Def

The HTML id attribute is used to specify a unique id for an HTML element.

You cannot have more than one element with the same id.

Syntax rules

write a hash character (#), followed by an id name. Then, define the CSS properties within curly braces {}.

Summary

- The id attribute is used to specify a unique id for an HTML element
- The value of the id attribute must be unique within the HTML document
- The id attribute is used by CSS and Javascript.
- The value of the id attribute is case sensitive
- The id attribute is also used to create HTML bookmarks
- JavaScript can access an element with a specific id with the getElementById() method

Difference Between Class and ID

A class name can be used by multiple HTML elements, while an id name must only be used by one HTML element within the page.

Bookmarks with ID and Links

First, create a bookmark with the id attribute:

<h2 id="C4">Chapter 4</h2>

Then, add a link to the bookmark, from within the same page:

```
<a href="#C4">Jump to Chapter 4</a>
```

Style Attribute

Def

Setting the style of an HTML element, can be done with the style attribute.

Syntax

```
<tagname style="property:value;">
```

Summary

- Use the style attribute for styling HTML elements
- Use *background-color* for background color
- Use *color* for text colors
- Use *font-family* for text fonts
- Use *font-size* for text sizes
- Use *text-align* for text alignment

Background Color

The CSS background-color property defines the background color for an HTML element.

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

Text Color

The CSS color property defines the text color for an HTML element

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

Fonts

The CSS font-family property defines the font to be used for an HTML element

```
<h1 style="font-family:verdana;">This is a heading</h1>
```

Text Size

The CSS font-size property defines the text size for an HTML element

<h1 style="font-size:300%;">This is a heading</h1>

Text Alignment

The CSS text-align property defines the horizontal text alignment for an HTML element

<h1 style="text-align:center;">Centered Heading</h1>

HTML Formatting Elements

Def

HTML Formatting is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS.

Summary

Formatting elements were designed to display special types of text:

- <b> - Bold text
- - Important text
- <i> - Italic text
- - Emphasized text
- <mark> - Marked text
- <small> - Smaller text
- <del> - Deleted text
- <ins> - Inserted text
- <sub> - Subscript text
- <sup> - Superscript text

<b> and Elements

- The HTML <b> element defines bold text, without any extra importance.
- The HTML element defines text with strong importance

<i> and Elements

- The HTML <i> element defines a part of text in an alternate voice or mood
- The HTML element defines emphasized text

Quotation and Citation Elements

- <blockquote>, <q>,
- <abbr>, <address>,
- <cite>, and <bdo> HTML elements.

Html Links

Def

The HTML <a> tag defines a hyperlink.

Syntax

link text

Summary

- Use the *<a>* element to define a link
- Use the *href* attribute to define the link address
- Use the *target* attribute to define where to open the linked document
- Use the *<img>* element (inside <a>) to use an image as a link
- Use the *mailto:* scheme inside the href attribute to create a link that opens the user's email program

target Attribute

- The target attribute specifies where to open the linked document.
- The target attribute can have one of the following values:

  _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

Absolute URLs vs. Relative URLs

```
<h2>Absolute URLs</h2>
<p><a href="https://www.w3.org/">W3C</a></p>
<p><a href="https://www.google.com/">Google</a></p>

<h2>Relative URLs</h2>
<p><a href="html_images.asp">HTML Images</a></p>
<p><a href="/css/default.asp">CSS Tutorial</a></p>
```

Link to an Email Address

Send email

Use an Image as a Link

**
<img src="smiley.gif" alt="HTML
tutorial" style="width:42px;height:42px;">
**

Button as a Link

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

Link Colors

By default, a link will appear like this (in all browsers):

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

You can change the link state colors, by using CSS such as :

a:link {
a:visited {
a:hover {
a:active {

Link Bookmark

- Use the id attribute *(id="value")* to define bookmarks in a page
- Use the href attribute *(href="#value")* to link to the bookmark

HTML Images

Def

Images can improve the design and the appearance of a web page.

The <img> tag is empty, it contains attributes only, and does not have a closing tag.

The <img> tag has two required attributes:

- src - Specifies the path to the image
- alt - Specifies an alternate text for the image

Syntax

```
<img src="url" alt="alternatetext">
```

Summary

- Use the HTML *<img>* element to define an image
- Use the HTML *src* attribute to define the URL of the image
- Use the HTML *alt* attribute to define an alternate text for an image
- Use the HTML *width and height* to define the size of the image
- Use the CSS *float* property to let the image float to the left or to the right

Image Map

- The HTML <map> tag defines an image map.
- An image map is an image with clickable areas.
- The areas are defined with one or more <area> tags.

Attributes used in image Map

1. usemap 2.map → name 3.area → shape, coords

Eg:

```
<img src="workplace.jpg" alt="Workplace" usemap="#workmap">
<map name="workmap">
  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
  </map>
```

Summary – Image Map

- Use the HTML <map> element to define an image map

- Use the HTML <area> element to define the clickable areas in the image map
- Use the HTML usemap attribute of the <img> element to point to an image map

Images in another folder

src="/images/html5.gif"

Images on Another Server/Website

src="https://www.w3schools.com/images/w3school_green.jpg"

Image Floating

Use the CSS float property to let the image float to the right or to the left of a text:

```
<p><img src="smiley.gif" alt="Smiley
face" style="float:right;width:42px;height:42px;">
The image will float to the right of the text.</p>
```

Image as link

To use an image as a link, put the <img> tag inside the <a> tag:

Background Image

use the HTML style attribute and the CSS background-image property.

It is either used in specific element or entire page

Syntax:

<p style="background-image: url('img_girl.jpg');">

1. background-repeat: no-repeat;
2. background-size: cover;
3. background-attachment: fixed;
4. background-size: 100% 100%;

Picture Element

The HTML <picture> element gives web developers more flexibility in specifying image resources

<source media="(min-width: 650px)" srcset="img_food.jpg">

It is used for two main reasons such as:

1. Bandwidth
2. Format Support

Fav Icons

A favicon is a small image displayed next to the page title in the browser tab.

Syntax

<link rel="icon" type="image/x-icon" href="/images/favicon.ico">

Common Image Formats

Abbreviation	File Format	File Extension
APNG	Animated Portable Network Graphics	.apng
GIF	Graphics Interchange Format	.gif
ICO	Microsoft Icon	.ico, .cur
JPEG	Joint Photographic Expert Group image	.jpg, .jpeg, .jfif, .pjpeg, .pjp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg

HTML Tables

Def

HTML tables allow web developers to arrange data into rows and columns.

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

Syntax

<table> ….. </table>

Html Table Tags

Tag	Description
<table>	Defines a table
<th>	Defines a header cell in a table
<tr>	Defines a row in a table
<td>	Defines a cell in a table
<caption>	Defines a table caption
<colgroup>	Specifies a group of one or more columns in a table for formatting
<col>	Specifies column properties for each column within a <colgroup> element
<thead>	Groups the header content in a table
<tbody>	Groups the body content in a table
<tfoot>	Groups the footer content in a table

Table Border

Use *Border* Property to specify the Size, Shape and Style.

Use *Border-Collapse* Property to specify the Single collapsed border

Use *Border-radius* property to specify the radius for round border

And *border-style* and *border-color*.

Table Size

Use the *style* attribute with the *width or height* properties to specify the size of a table, row or column as like below:

Colgroup

The <colgroup> element should be used as a container for the column specifications.

If you want to style the two first columns of a table, use the <colgroup> and <col> elements.

```
<colgroup>
  <col span="2" style="background-color: #D6EEEE">
 </colgroup>
```

Colspan & Rowspan

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

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

Table Strips

Table - Vertical Zebra Stripes

```
td:nth-child(even), th:nth-child(even) {
  background-color: #D6EEEE;
}
```

Table - Horizontal Zebra Stripes

```
tr:nth-child(even) {
  background-color: #D6EEEE;
}
```

Combine Vertical and Horizontal Zebra Stripes

```
tr:nth-child(even) {
  background-color: rgba(150, 212, 212, 0.4);
}

th:nth-child(even),td:nth-child(even) {
  background-color: rgba(150, 212, 212, 0.4);
}
```

HTML Lists

Def

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

There are three types of html list such as:

1. Unordered list
2. Ordered list
3. Description list

1. Unordered list

Def

The HTML <ul> tag defines an unordered (bulleted) list.

Each list item starts with the <li> tag.

Summary

Use the HTML <ul> element to define an unordered list

Use the CSS list-style-type property to define the list item marker

Use the HTML <li> element to define a list item

Lists can be nested

List items can contain other HTML elements

Use the CSS property float:left to display a list horizontally

Eg

```
<ul>
 <li>Coffee</li>
 <li>Tea</li>
 <li>Milk</li>
</ul>
```

List style type

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

2. Ordered list

Def

The HTML <ol> tag defines an ordered list. An ordered list can be numerical or alphabetical.

Summary

Use the HTML <ol> element to define an ordered list

Use the HTML type attribute to define the numbering type

Use the HTML <li> element to define a list item

Lists can be nested

List items can contain other HTML elements

Eg

```
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

List style type

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Control list counting

By default, an ordered list will start counting from 1. If you want to start counting from a specified number, you can use the start attribute:

```
<ol start="50">
```

3. Description list

Def

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

The <dl> tag defines the description list, the <dt> tag defines the term (name), and the <dd> tag describes each term:

Summary

Use the HTML <dl> element to define a description list

Use the HTML <dt> element to define the description term

Use the HTML <dd> element to describe the term.

Eg

```
<dl>
 <dt>Coffee</dt>
 <dd>- black hot drink</dd>
 <dt>Milk</dt>
 <dd>- white cold drink</dd>
</dl>
```

Block Element vs Inline Element

Block Element

Def

A block-level element always starts on a new line,

automatically add a margin before and after the element.

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

Two commonly used block elements are: <p> and .

The Element

The element is often used as a container for other HTML elements.

The element has no required attributes,
but style, class and id are common.

Block level elements

Here are the block-level elements in HTML:

<address>	<article>	<aside>	<blockquote>	<canvas>	<dd>		<dl>
<dt>	<fieldset>	<figcaption>	<figure>	<footer>	<form>	<h1>-<h6>	<header>
<hr>		<main>	<nav>	<noscript>		<p>	<pre>
<section>	<table>	<tfoot>		<video>			

Inline Elements

Def

An inline element does not start on a new line.

An inline element only takes up as much width as necessary.

This is a element inside a paragraph.

The Element

The element is an inline container used to mark up a part of a text, or a part of a document.

The element has no required attributes,
but style, class and id are common.

Inline Tags

Here are the inline elements in HTML:

<a>	<abbr>	<acronym>	<b>	<bdo>	<big>	 	<button>
<cite>	<code>	<dfn>		<i>	<img>	<input>	<kbd>
<label>	<map>	<object>	<output>	<q>	<samp>	<script>	<select>
<small>			<sub>	<sup>	<textarea>	<time>	<tt>
<var>							

Summary

A block-level element always starts on a new line and takes up the full width available

An inline element does not start on a new line and it only takes up as much width as necessary

HTML Forms

Def

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

Syntax

<form>
…. form elements ….
</form>

Form Attirubutes

1. ***Action Attribute***
2. ***Target Attribute***
3. ***Method Attribute***
4. ***Autocomplete Attribute***
5. ***Novalidate Attribute***

Attribute	Description
accept-charset	Specifies the character encodings used for form submission
action	Specifies where to send the form-data when a form is submitted
autocomplete	Specifies whether a form should have autocomplete on or off
enctype	Specifies how the form-data should be encoded when submitting it to the server (only for method="post")
method	Specifies the HTTP method to use when sending form-data
name	Specifies the name of the form
novalidate	Specifies that the form should not be validated when submitted
rel	Specifies the relationship between a linked resource and the current document
target	Specifies where to display the response that is received after submitting the form

1. ***Action Attribute***

   The action attribute defines the action to be performed when the form is submitted.

   Usually, the form data is sent to a file on the server when the user clicks on the submit button.

   <form action="/action_page.php">

2. ***Target Attribute***

   The target attribute specifies where to display the response that is received after submitting the form.

   <form action="/action_page.php" target="_blank">

Value	Description
_blank	The response is displayed in a new window or tab
_self	The response is displayed in the current window
_parent	The response is displayed in the parent frame
_top	The response is displayed in the full body of the window
framename	The response is displayed in a named iframe

3. ***Autocomplete Attribute***

   When autocomplete is on, the browser automatically complete values based on values that the user has entered before.

   <form action="/action_page.php" autocomplete="on">

4. ***Novalidate Attribute***

   The novalidate attribute is a boolean attribute, and it specifies that the form-data (input) should not be validated when submitted.

   <form action="/action_page.php" novalidate>

5. Method Attribute

The form-data can be sent as URL variables (with method="get") or as HTTP post transaction (with method="post").

<form action="/action_page.php" method="get">

Notes on Get

Appends the form data to the URL, in name/value pairs

NEVER use GET to send sensitive data! (the submitted form data is visible in the URL!)

The length of a URL is limited (2048 characters)

Useful for form submissions where a user wants to bookmark the result

GET is good for non-secure data, like query strings in Google

Notes on Post

Appends the form data inside the body of the HTTP request (the submitted form data is not shown in the URL)

POST has no size limitations, and be used to send large amounts of data.

Form submissions with POST cannot be bookmarked

HTML Form Elements

The HTML <form> element can contain one or more of the following form elements:

- `<input>`
- `<label>`
- `<select>`
- `<textarea>`
- `<button>`
- `<fieldset>`
- `<legend>`
- `<datalist>`
- `<output>`
- `<option>`
- `<optgroup>`

1. ***Input Element***

   One of the most used form elements is the <input> element.

   The <input> element can be displayed in several ways, depending on the type attribute.

   ```
   <input type="text" id="fname" name="fname">
   ```

2. ***Label Element***

   The <label> element defines a label for several form elements.

   The <label> element is useful for screen-reader users

   ```
   <label for="fname">First name:</label>
   ```

3. ***Select Element***

   The <select> element defines a drop-down list.

   The <option> element defines an option that can be selected.

   Use the size attribute to specify the number of visible values.

   Use the multiple attribute to select more than one value.

   To define a pre-selected option, add the selected attribute to the option.

   ```
   <select id="cars" name="cars">
     <option value="volvo">Volvo</option>
     <option value="saab">Saab</option>
   </select>
   ```

4. ***Textarea Element***

   The <textarea> element defines a multi-line input field (a text area):

   ```
   <textarea name="message" rows="10" cols="30">
   ```
   Or

   <textarea name="message" style="width:200px; height:600px;">

5. ***Button Element***

   The <button> element defines a clickable button:

   ```
   <button type="button" onclick="alert('Hello World!')">Click Me!</button>
   ```

6. ***Fieldset and legend Elements***

   The <fieldset> element is used to group related data in a form.

   The <legend> element defines a caption for the <fieldset> element.

7. ***Datalist Element***

   The <datalist> element specifies a list of pre-defined options for an <input> element.

   This is same as Drop-down list

8. ***Output Element***

   The <output> element represents the result of a calculation (like one performed by a script).

   <output name="x" for="a b"></output>

Tag	Description
<form>	Defines an HTML form for user input
<input>	Defines an input control
<textarea>	Defines a multiline input control (text area)
<label>	Defines a label for an <input> element
<fieldset>	Groups related elements in a form
<legend>	Defines a caption for a <fieldset> element
<select>	Defines a drop-down list
<optgroup>	Defines a group of related options in a drop-down list
<option>	Defines an option in a drop-down list
<button>	Defines a clickable button
<datalist>	Specifies a list of pre-defined options for input controls
<output>	Defines the result of a calculation

Input Types

- `<input type="button">`
- `<input type="checkbox">`
- `<input type="color">`
- `<input type="date">`
- `<input type="datetime-local">`
- `<input type="email">`
- `<input type="file">`
- `<input type="hidden">`

- `<input type="image">`
- `<input type="month">`
- `<input type="number">`
- `<input type="password">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="reset">`
- `<input type="search">`
- `<input type="submit">`
- `<input type="tel">`
- `<input type="text">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

1. Input Type Text

```
<input type="text" id="lname" name="lname">
```

2. Input Type Password

```
<input type="password" id="pwd" name="pwd">
```

3. Input Type Radio

```
<input type="radio" id="javascript" name="fav_language"
value="JavaScript">
<label for="javascript">JavaScript</label>
```

4. Input Type Checkbox

```
<input type="checkbox" id="vehicle1" name="vehicle1"
value="Bike">
<label for="vehicle1"> I have a bike</label>
```

5. Input Type Button

```
<input type="button" onclick="alert('Hello
World!')" value="Click Me!">
```

6. Input Type Submit

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

7. Input Type Reset

```
<input type="reset" value="Reset">
```

8. Input Type Email

```
<input type="email" id="email" name="email">
```

9. Input Type Range

```
<input type="range" id="vol" name="vol" min="0" max="50">
```

10. Input Type File

```
<input type="file" id="myfile" name="myfile">
```

11. Input Type Number

```
<input type="number" id="quantity" name="quantity" min="1" max="5">
```

12. Input Type Tel

```
<input type="tel" id="phone" name="phone" pattern= "[0-9]{3}-[0-9]{2}-[0-9]{3}">
```

13. Input Type Url

```
<input type="url" id="homepage" name="homepage">
```

14. Input Type Hidden

```
<input type="hidden" id="custId" name="custId" value="3487">
```

15. Input Type Image

```
<input type="image" src="img_submit.gif" alt="Submit" width="48" height="48">
```

16. Input Type Color

```
<input type="color" id="favcolor" name="favcolor">
```

17. Input Type Datetime-local

```
<input type="datetime-local"  id="birthdaytime" name="birthdaytime">
```

18. Input Type Date

```
<input type="date" id="datemin" name="datemin" min="2000-01-02">
```

19. Input Type Time

```
<input type="time" id="appt" name="appt">
```

20. Input Type Month

```
<input type="month" id="bdaymonth" name="bdaymonth
">
```

21. Input Type Week

```
<input type="week" id="week" name="week">
```

22. Input Type Search

```
<input type="search" id="gsearch" name="gsearch">
```

Input Attributes

This chapter describes the different attributes for the HTML <input> element:

1. value Attribute
2. readonly Attribute
3. disabled Attribute
4. size Attribute
5. maxlength Attribute
6. min and max Attributes
7. multiple Attribute
8. pattern Attribute
9. placeholder Attribute
10. required Attribute
11. step Attribute
12. autofocus Attribute
13. height and width Attribute
14. list Attribute
15. autocomplete Attribute

1. value Attribute

The input value attribute specifies an initial value for an input field.

2. readonly Attribute

The input readonly attribute specifies that an input field is read-only.

A read-only input field cannot be modified.

3. disabled Attribute

A disabled input field is unusable and un-clickable.

The value will not be sent when submitting the form.

4. size Attribute

The input size attribute specifies the visible width, in characters, of an input field.

Works with: text, search, tel, url, email, and password.

5. maxlength Attribute

The input maxlength attribute specifies the maximum number of characters allowed in an input field.

6. min and max Attributes

The input min and max attributes specify the minimum and maximum values for an input field.

works with: number, range, date, datetime-local, month, time and week.

7. multiple Attribute

The input multiple attribute specifies that the user is allowed to enter more than one value in an input field.

Works with: email, and file.

8. pattern Attribute

The input pattern attribute specifies a regular expression

Works with: text, date, search, url, tel, email, and password.

9. placeholder Attribute

The short hint is displayed in the input field before the user enters a value.

Works with: text, search, url, tel, email, and password.

10. required Attribute

The input required attribute specifies that an input field must be filled.

Works with: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

11. step Attribute

The input step attribute specifies the intervals for an input field.

Works with: number, range, date, datetime-local, month, time and week.

12. autofocus Attribute

automatically get focus when the page loads.

13. height and width Attributes

specify the height and width of an <input type="image"> element.

14. list Attribute

The input list attribute refers to a <datalist> element that contains pre-defined options for an <input> element.

15. autocomplete Attribute

Allows the browser to predict the value.

Works with: text, search, url, tel, email, password, datepickers, range, and color.

Input form Attributes*

This chapter describes the different form* attributes for the HTML <input> element.

This attribute overrides the target attribute of the <form> element.

Mostly these are used with: submit and image.

Some of the attributes are :

1. form Attribute
2. formaction Attribute
3. formenctype Attribute
4. formmethod Attribute
5. formtarget Attribute
6. formnovalidate Attribute

HTML Media

What is Multimedia?

Multimedia on the web is sound, music, videos, movies, and animations.

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

Common video formats

Format	File	Description
MPEG	.mpg .mpeg	MPEG. Developed by the Moving Pictures Expert Group. The first popular video format on the web. Not supported anymore in HTML.
AVI	.avi	AVI (Audio Video Interleave). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
WMV	.wmv	WMV (Windows Media Video). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
QuickTime	.mov	QuickTime. Developed by Apple. Commonly used in video cameras and TV hardware. Plays well on Apple computers, but not in web browsers.
RealVideo	.rm .ram	RealVideo. Developed by Real Media to allow video streaming with low bandwidths. Does not play in web browsers.
Flash	.swf .flv	Flash. Developed by Macromedia. Often requires an extra component (plug-in) to play in web browsers.
Ogg	.ogg	Theora Ogg. Developed by the Xiph.Org Foundation. Supported by HTML.
WebM	.webm	WebM. Developed by Mozilla, Opera, Adobe, and Google. Supported by HTML.
MPEG-4 or MP4	.mp4	MP4. Developed by the Moving Pictures Expert Group. Commonly used in video cameras and TV hardware. Supported by all browsers and recommended by YouTube.

Common audio formats

Format	File	Description
MIDI	.mid .midi	MIDI (Musical Instrument Digital Interface). Main format for all electronic music devices like synthesizers and PC sound cards. MIDI files do not contain sound, but digital notes that can be played by electronics. Plays well on all computers and music hardware, but not in web browsers.
RealAudio	.rm .ram	RealAudio. Developed by Real Media to allow streaming of audio with low bandwidths. Does not play in web browsers.
WMA	.wma	WMA (Windows Media Audio). Developed by Microsoft. Plays well on Windows computers, but not in web browsers.
AAC	.aac	AAC (Advanced Audio Coding). Developed by Apple as the default format for iTunes. Plays well on Apple computers, but not in web browsers.
WAV	.wav	WAV. Developed by IBM and Microsoft. Plays well on Windows, Macintosh, and Linux operating systems. Supported by HTML.
Ogg	.ogg	Ogg. Developed by the Xiph.Org Foundation. Supported by HTML.
MP3	.mp3	MP3 files are actually the sound part of MPEG files. MP3 is the most popular format for music players. Combines good compression (small files) with high quality. Supported by all browsers.
MP4	.mp4	MP4 is a video format, but can also be used for audio. Supported by all browsers.

How it Works

The *controls* attribute adds video controls, like play, pause, and volume.

It is a good idea to always include *width and height* attributes.

The *<source>* element allows you to specify alternative video files which the browser may choose from.

The *text* will only be displayed in browsers that do not support the <video> element.

To start a video automatically, use the *autoplay* attribute:

Add *muted* after autoplay to start playing automatically (but muted).

HTML Audio/ Video - Methods, Properties, and Events

The HTML DOM defines methods, properties, and events for the <audio> element.

This allows you to load, play, and pause audios, as well as set duration and volume.

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

HTML Plug-ins

Plug-ins are computer programs that extend the standard functionality of the browser.

Plug-ins were designed to be used for many different purposes:

- To run Java applets
- To run Microsoft ActiveX controls
- To display Flash movies
- To display maps
- To scan for viruses
- To verify a bank id

Most browsers no longer support Java Applets and Plug-ins.

Object element

The <object> element defines an embedded object within an HTML document.

It was designed to embed plug-ins (like Java applets, PDF readers, and Flash Players) in web pages, but can also be used to include HTML in HTML.

```
<object width="100%" height="500px" data="snippet.html"
></object>
```

Embed element

Web browsers have supported the <embed> element for a long time. However, it has not been a part of the HTML specification before HTML5.

```
<embed width="100%" height="500px" src="snippet.html">
```

HTML Video

Def

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

Example

```
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
Your browser does not support the video tag.
</video>
```

Tags used

Tag	Description
<video>	Defines a video or movie
<source>	Defines multiple media resources for media elements, such as <video> and <audio>
<track>	Defines text tracks in media players

HTML Audio

Def

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

Example

```
<audio controls autoplay>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

HTML Iframes Element

Def

An inline frame is used to embed another document within the current HTML document.

An HTML iframe is used to display a web page within a web page.

Syntax

```
<iframe src="url" title="description"></iframe>
```

Summary

- The HTML *<iframe>* tag specifies an inline frame
- The *src* attribute defines the URL of the page to embed
- Always include a *title* attribute (for screen readers)
- The *height and width* attributes specify the size of the iframe
- Use *border:none*; to remove the border around the iframe
- The *target* attribute of the link must refer to the name attribute of the iframe: