

HTML

HTML is the standard mark-up language for creating Web pages.

- HTML stands for Hyper Text Mark-up Language
- HTML describes the structure of a Web page

Tags

Tags enclosed angle brackets

Ex: <tagname></tagname>

HTML Elements

The HTML **element** is everything from the start tag to the end tag:

Ex: <p>My first paragraph.</p>

HTML Headings

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

Ex: <h1>Heading 1</h1>

<h2>Heading 2</h2>

<h3>Heading 3</h3>

<h4>Heading 4</h4>

<h5>Heading 5</h5>

<h6>Heading 6</h6>

HTML Paragraphs

A paragraph always starts on a new line, and is usually a block of text.

The HTML `<p>` element defines a paragraph.

Ex: `<p>`This is a paragraph.`</p>`

HTML Block and Inline Elements

A block-level element always starts on a new line

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

Ex: `<p>` and `<div>` tag.

An inline element does not start on a new line.

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

Ex: Span, small tag

HTML Text Formatting

Formatting elements were designed to display special types of text:

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

HTML Attributes

Attributes provide **additional information** about elements

Attributes are always specified in **the start tag**

Ex: `google`

``

HTML Tables

A table in HTML consists of table cells inside rows and columns.

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

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

Ex:

```
<table>
  <tr>
    <th>#</th>
    <th>Name</th>
  </tr>
  <tr>
    <td>1</td>
    <td>Mark</td>
  </tr>
  <tr>
    <td>2</td>
    <td>Jacob</td>
  </tr>
</table>
```

HTML LISTS

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

-- unordered lists

-- ordered lists

unordered lists

An unordered list starts with the `` tag. Each list item starts with the `` tag.

The list items will be marked with bullets by default:

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

<ul style="list-style-type:disc;">
<ul style="list-style-type:circle;">
<ul style="list-style-type:square;">
<ul style="list-style-type:none;">
```

ordered lists

An ordered list starts with the `` tag. Each list item starts with the `` tag.

The list items will be marked with numbers by default

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

<ol type="A">
<ol type="a">
<ol type="I">(uppercase roman number)
<ol type="i"> (lowercase roman number)
<ol start="50">
```

Nested Lists

```
<ul>
  <li>Coffee</li>
  <li>Tea
    <ul>
      <li>Black tea</li>
      <li>Green tea</li>
    </ul>
  </li>
  <li>Milk</li>
</ul>
```

HTML Links

Links used to jump to another file/browser.

```
<a href="url">link text</a>
```

HTML Links - The target Attribute

- `_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 (iframe)
- `_top` - Opens the document in the full body of the window (iframe)

Absolute URLs

```
<p><a href="https://www.google.com/">Google</a></p>
```

Relative URLs

```
<p><a href="login.html">Login</a></p>
```

HTML Links - Use an Image as a Link

```
<a href="default.asp"> </a>
```

Images

```

```

HTML class

In HTML: `<div class='classname'>`

It is represented "." in styles.

Multiple Classes: `<div class=class1 class2">`

Using The class Attribute on Inline Elements

```
<h1>Sample <span class="testClass">Class Text</span> Text</h1>
```

HTML id

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 in an HTML document.

In HTML: `<div id=idname">`

It is represented "#" in styles.

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

HTML Layout



There are four different techniques to create multicolumn layouts. Each technique has its pros and cons:

- CSS framework
- CSS float property
- CSS flexbox
- CSS grid

HTML Forms

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

```
<form>  
form elements  
</form>
```

If you click the "Submit" button, the form-data will be sent to a page called `/action_page.php`.

```
<form action="/action_page.php">  
  <div>  
    <label for="fname">First name:</label>  
    <input type="text" id="fname" name="fname" value="John">  
  </div>
```

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

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

HTML Form Elements

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

- `select`
- `optgroup`
- `button`
- `textarea`
- `fieldset`
- `legend`
- `input`

select

The `<select>` element defines a drop-down list:

```
<select id="cars" name="cars">
<option value="">Choose Option</option>
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```

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

By default, the first item in the drop-down list is selected.

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

```
<option value="fiat" selected>Fiat</option>
```

Use the `multiple` attribute to allow the user to select more than one value:


```
<select id="cars" name="cars" size="4" multiple>
```

HTML Optgroup

```
<select name="cars" id="cars">
  <optgroup label="Swedish Cars">
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
  </optgroup>
  <optgroup label="German Cars">
    <option value="mercedes">Mercedes</option>
    <option value="audi">Audi</option>
  </optgroup>
</select>
```

Button

The <button> element defines a clickable button:

```
<button type="button" >Click Me!</button>
```

Text Area

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

```
<textarea name="message" rows="10" cols="30">
The cat was playing in the garden.
</textarea>
```

The rows attribute specifies the visible number of lines in a text area.

The cols attribute specifies the visible width of a text area.

The <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.

```
<fieldset>
  <legend>Personalia:</legend>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="John"><br>
```

```
<label for="lname">Last name:</label><br>
<input type="text" id="lname" name="lname" value="Doe"><br><br>
<input type="submit" value="Submit">
</fieldset>
```

HTML Input Types

Here are the different input types you can use in HTML:

- `<input type="text" name="firstname" value="john" placeholder="Enter Your First Name">`
 - `<input type="number" >`
 - `<input type="password">`
 - `<input type="button">`
 - `<input type="date">`
 - `<input type="time">`
 - `<input type="datetime-local">`
 - `<input type="month">`
 - `<input type="week">`
 - `<input type="file">`
 - `<input type="color">`
 - `<input type="email">`
 - `<input type="range">`
 - `<input type="reset" value="reset">`
 - `<input type="submit" value="Submit">`
-
- `<input type="radio">`
 - `<input type="checkbox">`

Radio - able to select ONLY ONE of a limited number of choices.

```
<form>
  <input type="radio" id="html" name="fav_language" value="HTML">
  <label for="html">HTML</label><br>
  <input type="radio" id="css" name="fav_language" value="CSS">
  <label for="css">CSS</label><br>
  <input type="radio" id="javascript" name="fav_language" value="JavaScript">
  <label for="javascript">JavaScript</label>
</form>
```

Checkbox - able to select ZERO or MORE options of a limited number of choices.

```
<form>
  <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">
  <label for="vehicle1"> I have a bike</label><br>
  <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">
  <label for="vehicle2"> I have a car</label><br>
  <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">
  <label for="vehicle3"> I have a boat</label>
</form>
```

INPUT TYPES ATTRIBUTES

value - The input **value** attribute specifies an initial value for an input field

readonly - The input **readonly** attribute specifies that an input field is read-only, it cannot be modified.

Ex: `<input type="text" name="firstname" readonly >`

disabled - The input **disabled** attribute specifies that an input field should be disabled.

A disabled input field is unusable and un-clickable.

Ex: `<input type="text" name="firstname" disabled >`

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

Min & Max - The input **min** and **max** attributes specify the minimum and maximum values for an input field.

The **min** and **max** attributes work with the following input types: number, range, date, datetime-local, month, time and week.

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

The **multiple** attribute works with the following input types: email, and file.

placeholder - The input **placeholder** attribute specifies a short hint that describes the expected value of an input field

required - The input **required** attribute specifies that an input field must be filled out before submitting the form.

pattern - The input **pattern** attribute specifies a regular expression that the input field's value is checked against, when the form is submitted.

Ex: `<input type="text" id="phone" name="phone" placeholder="123-45-678" pattern="[0-9]{3}-[0-9]{2}-[0-9]{3}" required>`

autofocus - The input **autofocus** attribute specifies that an input field should automatically get focus when the page loads.

HTML Iframes

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

Ex: `<iframe src="index.html" height="200" width="300"></iframe>`

`<iframe src="https://programiz.pro" height="200" width="300" title="progamize website"></iframe>`

`<iframe height="480" width="500" src="https://www.youtube.com/embed/il_t1WVLNk" ></iframe>`

HTML Symbols & Entities

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

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

HTML VIDEO

The `<video>` tag is used to embed video content in a document, such as a movie clip or other video streams.

```
<video width="320" height="240" controls autoplay muted loop>
  <source
    src="./images/mixkit-dog-catches-a-ball-in-a-river-1494-medium.mp4"
    type="video/mp4"
  />
</video>
```

autoplay	autoplay	Specifies that the video will start playing as soon as it is ready
controls	controls	Specifies that video controls should be displayed (such as a play/pause button etc).
height	<i>pixels</i>	Sets the height of the video player
loop	loop	Specifies that the video will start over again, every time it is finished
muted	muted	Specifies that the audio output of the video should be muted
src	<i>URL</i>	Specifies the URL of the video file
width	<i>pixels</i>	Sets the width of the video player

HTML AUDIO

The `<audio>` tag is used to embed sound content in a document, such as music or other audio streams.

```
<audio controls>

  <source src="./images/mixkit-tech-house-vibes-130.mp3" type="audio/mp3">

</audio>
```

autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button etc)
loop	loop	Specifies that the audio will start over again, every time it is finished
muted	muted	Specifies that the audio output should be muted

MARQUEE

The `<marquee>` tag is a container tag of HTML is implemented for creating scrollable text or images within a web page

EX: `<marquee direction="down">`

This is sample scrolling text.

`</marquee>`

HTML Web Storage

With web storage, web applications can store data locally within the user's browser.

HTML web storage provides two types for storing data:

- `window.localStorage` - stores data with no expiration date
- `window.sessionStorage` - stores data for one session (data is lost when the browser tab is closed)

localStorage

```
localStorage.setItem("name", "john"); // Save data to localStorage  
localStorage.getItem("name"); // Get saved data from localStorage  
localStorage.removeItem("name"); // Remove saved data from localStorage  
localStorage.clear(); // Remove all saved data from localStorage
```

sessionStorage

```
sessionStorage.setItem("name", "john"); // Save data to sessionStorage  
sessionStorage.getItem("name"); // Get saved data from sessionStorage  
sessionStorage.removeItem("name"); // Remove saved data from sessionStorage  
sessionStorage.clear(); // Remove all saved data from sessionStorage
```

