

# HTML Elements and Attributes

## 1. Root and Document Metadata

- **<!DOCTYPE html>**
  - Declares the document type and version.
- **<html>**
  - Attributes: lang
  - Contains the entire HTML document.
- **<head>**
  - Contains meta-information about the document.
- **<meta>**
  - Attributes: charset, name, content, http-equiv
  - Provides metadata about the document (e.g., character encoding, author).
- **<title>**
  - Sets the title of the document (shown in the browser tab).
- **<base>**
  - Attributes: href, target
  - Specifies a base URL for relative URLs.

## 2. Text Content

- **<h1> to <h6>**
  - Headings, with <h1> being the largest.
- **<p>**
  - Defines a paragraph.
- **<br>**
  - Inserts a line break.
- **<hr>**
  - Creates a horizontal rule (line).
- **<pre>**
  - Defines preformatted text.
- **<blockquote>**

- Defines a block of text that is a quotation.
- **<ol>**
  - Ordered list.
  - Attributes: type, start, reversed
- **<ul>**
  - Unordered list.
- **<li>**
  - List item.
- **<dl>**
  - Description list.
  - Attributes: type
- **<dt>**
  - Description term.
- **<dd>**
  - Description definition.
- **<address>**
  - Defines contact information.
- **<cite>**
  - Cites a reference.
- **<code>**
  - Displays a single line of code.
- **<em>**
  - Emphasizes text (italicized).
- **<strong>**
  - Indicates strong importance (bold).
- **<s>**
  - Represents text that is no longer accurate (strikethrough).
- **<small>**
  - Defines smaller text.
- **<sub>**
  - Subscript text.

- **<sup>**
  - Superscript text.

### 3. Links and Anchors

- **<a>**
  - Attributes: href, target, rel, title, download
  - Defines a hyperlink.
- **<link>**
  - Attributes: href, rel, type, media
  - Defines the relationship between a document and an external resource (e.g., CSS).

### 4. Images and Multimedia

- **<img>**
  - Attributes: src, alt, width, height, title, loading
  - Embeds an image.
- **<figure>**
  - Groups media content.
- **<figcaption>**
  - Provides a caption for a <figure>.
- **<audio>**
  - Attributes: controls, autoplay, loop, muted, preload
  - Embeds audio content.
- **<video>**
  - Attributes: controls, autoplay, loop, muted, poster, preload
  - Embeds video content.
- **<source>**
  - Attributes: src, type
  - Specifies multiple media resources for <audio> and <video>.

### 5. Forms and Input

- **<form>**
  - Attributes: action, method, enctype, target
  - Defines an HTML form for user input.
- **<input>**

- Attributes: type, name, value, placeholder, required, disabled, readonly, maxlength, size
- Defines an input control.
- **<textarea>**
  - Attributes: name, rows, cols, placeholder, required, readonly, disabled
  - Defines a multiline text input control.
- **<button>**
  - Attributes: type, name, value, disabled
  - Defines a clickable button.
- **<select>**
  - Attributes: name, size, multiple, disabled
  - Defines a drop-down list.
- **<option>**
  - Attributes: value, selected, disabled
  - Defines an option in a <select> drop-down list.
- **<label>**
  - Attributes: for
  - Defines a label for an <input> element.
- **<fieldset>**
  - Groups related elements in a form.
- **<legend>**
  - Defines a caption for a <fieldset>.
- **<datalist>**
  - Defines a list of predefined options for <input> elements.
- **<output>**
  - Represents the result of a calculation or user action.

## 6. Tables

- **<table>**
  - Attributes: border, cellpadding, cellspacing
  - Defines a table.
- **<thead>**

- Groups the header content in a table.
- **<tbody>**
  - Groups the body content in a table.
- **<tfoot>**
  - Groups the footer content in a table.
- **<tr>**
  - Defines a row in a table.
- **<th>**
  - Attributes: scope, colspan, rowspan
  - Defines a header cell in a table.
- **<td>**
  - Attributes: colspan, rowspan
  - Defines a data cell in a table.

## 7. Scripting and Styling

- **<script>**
  - Attributes: src, type, async, defer
  - Defines client-side JavaScript.
- **<noscript>**
  - Provides alternative content for users with scripts disabled.
- **<style>**
  - Attributes: type, media
  - Contains CSS styles.

## 8. Containers and Sections

- **<div>**
  - Generic container for block-level content.
- **<span>**
  - Generic container for inline content.
- **<section>**
  - Represents a thematic grouping of content.
- **<article>**
  - Represents a self-contained composition.

- **<aside>**
  - Represents content indirectly related to the surrounding content.
- **<header>**
  - Represents introductory content or a group of navigational links.
- **<footer>**
  - Represents footer content for its nearest ancestor sectioning content or sectioning root element.
- **<nav>**
  - Defines a navigation section.
- **<main>**
  - Represents the dominant content of the <body>.
- **<summary>**
  - Provides a summary or heading for a <details> element.
- **<details>**
  - Represents a disclosure widget from which the user can obtain additional information or controls.

## 9. Embedded Content

- **<iframe>**
  - Attributes: src, width, height, name, sandbox, allow, loading
  - Embeds another document within the current HTML document.
- **<embed>**
  - Attributes: src, type, width, height
  - Embeds external content (e.g., PDF, Flash).
- **<object>**
  - Attributes: data, type, width, height
  - Embeds external resources.

## 10. Interactive Elements

- **<details>**
  - Attributes: open
  - Represents a disclosure widget from which the user can obtain additional information or controls.
- **<summary>**

- Provides a summary or heading for the <details> element.

### HTML Attributes

- **class:** Specifies one or more class names for an element.
- **id:** Specifies a unique id for an element.
- **style:** Applies CSS styles to an element.
- **title:** Provides additional information about an element (tooltip).
- **lang:** Specifies the language of an element's content.
- **dir:** Specifies the text direction (e.g., ltr, rtl).
- **role:** Defines the role of an element for accessibility.
- **aria-\*:** Various attributes for accessibility (e.g., aria-label, aria-hidden)