

Linking & Navigation Tags in HTML

These tags are used to create links, connect resources, and navigate between different sections or pages of a website.

1. <a> (Anchor Tag)

The <a> tag is used to create a **hyperlink**. It can link to another webpage, section on the same page, email, or file.

Syntax:

```
<a href="https://example.com" target="_blank">Visit Example</a>
```

Used Attributes:

- **href** → Specifies the link destination (URL or file).
- **target** → Defines where to open the link.
 - **_self** (default, same tab)
 - **_blank** (new tab)
- **download** → Used for downloading a file instead of opening it.

2. <nav> (Navigation Tag)

The <nav> tag defines a **navigation section** that contains links for moving within a website.

Syntax:

```
<nav>  
  <a href="index.html">Home</a>  
  <a href="about.html">About</a>  
  <a href="contact.html">Contact</a>  
</nav>
```

3. <link> (Link Tag)

The <link> tag is used to connect external resources like **CSS files, icons, or fonts**. It is placed inside the <head> section.

Syntax:

```
<link rel="stylesheet" href="style.css">  
<link rel="icon" href="favicon.ico" type="image/x-icon">
```

Used Attributes:

- **rel** → Defines relationship (e.g., stylesheet, icon).
- **href** → Specifies the file path (CSS, favicon, etc.).
- **type** → Specifies file type (e.g., text/css, image/x-icon).

4. <iframe> (Inline Frame)

The <iframe> tag is used to **embed another webpage** within the current page.

Syntax:

```
<iframe src="https://example.com" width="600" height="400"></iframe>
```

Used Attributes:

- **src** → URL of the embedded page.
- **width & height** → Set size of the frame.

Media Tags in HTML

Media tags are used to display and control **images, audio, and video** on a web page.

1. (Image Tag)

Used to insert images in a webpage.

Syntax:

```

```

Most Used Attributes:

- **src** → Path/URL of the image.
- **alt** → Alternative text (shown if image is not loaded).
- **width** → Sets image width.
- **height** → Sets image height.

2. <audio> (Audio Tag)

Used to play sound/audio files.

Syntax:

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

Most Used Attributes:

- **src** → Direct audio file path (if no <source> is used).
- **controls** → Adds play/pause, volume controls.
- **autoplay** → Plays audio automatically when page loads.
- **loop** → Repeats audio automatically.
- **muted** → Starts audio muted.

3. <video> (Video Tag)

Used to embed video files in a webpage.

Syntax:

```
<video width="600" height="400" controls autoplay loop muted>  
  <source src="movie.mp4" type="video/mp4">  
  Your browser does not support the video tag.  
</video>
```

Most Used Attributes:

- **src** → Direct video path (if no `<source>` is used).
- **width & height** → Set video dimensions.
- **controls** → Adds play, pause, volume, fullscreen options.
- **autoplay** → Starts video automatically.
- **loop** → Repeats the video automatically.
- **muted** → Starts video muted.
- **poster** → Sets an image to display before video starts.

4. `<source>` (Source Tag)

Defines multiple file formats for `<audio>` and `<video>`.
This ensures cross-browser compatibility.

Syntax:

```
<video controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
</video>
```

Most Used Attributes:

- **src** → Path of media file.
- **type** → MIME type of the file (video/mp4, audio/mpeg, etc.).

5. `<track>` (Track Tag)

Used inside `<video>` for **subtitles, captions, or descriptions**.

Syntax:

```
<video controls>
  <source src="movie.mp4" type="video/mp4">
  <track src="subtitles.vtt" kind="subtitles" srclang="en" label="English">
</video>
```

Most Used Attributes:

- **src** → File containing subtitles (usually .vtt).
- **kind** → Type of text track:
 - subtitles, captions, descriptions, chapters, metadata.
- **srclang** → Language of the track (e.g., en, fr).
- **label** → Title shown in the video player for subtitles.

6. `<embed>` (Embed Tag)

The `<embed>` tag is used to **embed external content** (like audio, video, PDF, Flash, or another application) directly into a webpage.

Syntax:

```
<embed src="movie.mp4" width="600" height="400">
```

Most Used Attributes:

- **src** → Path/URL of the file to embed.
- **type** → MIME type of the file (e.g., video/mp4, application/pdf).
- **width** → Sets width of the embedded content.
- **height** → Sets height of the embedded content.

Note: `<embed>` is not as flexible as `<video>` or `<audio>`. It is often used for **PDF files** and some special cases.

7. `<object>` (Object Tag)

The `<object>` tag is a **container for external resources** like PDFs, multimedia, or applications. It is more powerful than `<embed>`.

Syntax:

```
<object data="file.pdf" type="application/pdf" width="600" height="400">
  Your browser does not support embedded PDF.
</object>
```

Most Used Attributes:

- **data** → Path of the file to be embedded.
- **type** → MIME type (like application/pdf, video/mp4).
- **width & height** → Size of embedded content.
- **name** → Gives a name to the object (used in scripting).

8. `<param>` (Parameter Tag)

The `<param>` tag is used **inside** `<object>` to pass parameters to plugins or embedded applications.

Syntax:

```
<object data="movie.mp4" type="video/mp4" width="600" height="400">
  <param name="autoplay" value="true">
  <param name="loop" value="true">
</object>
```

Most Used Attributes:

- **name** → Name of the parameter.
- **value** → Value of the parameter.

Semantic Tags in HTML

Semantic tags clearly describe the meaning of the content inside them. Unlike `<div>` or `` (non-semantic), these tags tell both the browser and developers about the **role of the content**.

1. `<header>`

Represents the **top section** of a page or a section (logo, navigation, heading, etc.).

Syntax:

```
<header>
  <h1>My Website</h1>
  <nav>
    <a href="#">Home</a>
    <a href="#">About</a>
  </nav>
</header>
```

2. <footer>

Represents the **bottom section** of a page or section (copyright, contact info, links).

Syntax:

```
<footer>
  <p>&copy; 2025 My Website</p>
</footer>
```

3. <main>

Defines the **main content area** of the page. Only one <main> per page is allowed.

Syntax:

```
<main>
  <article>
    <h2>Article Title</h2>
    <p>This is main content.</p>
  </article>
</main>
```

4. <article>

Represents **independent content** like a blog post, news article, or forum post.

Syntax:

```
<article>
  <h2>Blog Post</h2>
  <p>This is a standalone article.</p>
</article>
```

5. <section>

Defines a **thematic grouping of content** (chapters, sections of a page).

Syntax:

```
<section>
  <h2>Services</h2>
  <p>We provide web development and design.</p>
</section>
```

6. <aside>

Represents **side content** (sidebar, ads, related info).

Syntax:

```
<aside>
```

```

    <h3>Related Links</h3>
    <ul>
      <li><a href="#">HTML Basics</a></li>
    </ul>
  </aside>

```

7. <nav>

Defines a **navigation section** with links.

Syntax:

```

<nav>
  <a href="index.html">Home</a>
  <a href="about.html">About</a>
</nav>

```

8. <figure> and <figcaption>

Used to group media content (images, diagrams) with a caption.

Syntax:

```

<figure>
  
  <figcaption>Beautiful Nature</figcaption>
</figure>

```

10. <details>

Creates a **collapsible section** that can be expanded or collapsed by the user.

Syntax:

```

<details open>
  <summary>Read More</summary>
  <p>This is hidden content that shows when expanded.</p>
</details>

```

11. <summary>

Provides a **heading/label** for the <details> element. Clicking the summary toggles the details.

Syntax:

```

<details>
  <summary>Course Topics</summary>
  <ul>
    <li>HTML</li>
    <li>CSS</li>
    <li>JavaScript</li>
  </ul>
</details>

```

12. <time>

Represents a **time, date, or both** in machine-readable format. Useful for calendars, events, blog posts.

Syntax:

```
<p>Event starts at <time datetime="2025-08-22T10:00">10:00 AM</time>.</p>
```

Most Used Attributes:

- **datetime** → Machine-readable date/time.

13. <address>

Represents **contact information** for a person or organization.

Syntax:

```
<address>  
  Contact us: <a href="mailto:info@example.com">info@example.com</a>  
</address>
```

14. <abbr>

Defines an **abbreviation or acronym** with a full form as a tooltip.

Syntax:

```
<p>The <abbr title="World Health Organization">WHO</abbr> was founded in  
1948.</p>
```