

# HTML Tags Handbook (Up to Tables(p1))

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## 1. Basic Structure Tags

`<!DOCTYPE html>`

- **Description:** Declares the type of document and version of HTML used.
- **Usage:** Must be the very first line in any HTML5 document.
- **Syntax:**

```
<!DOCTYPE html>
```

- **Attributes:** None.

`<html>`

- **Description:** Root element that contains all HTML content.
- **Usage:** Wraps the entire document.
- **Syntax:**

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

- **Attributes:**
- **lang** → Defines the language (e.g., `en`, `fr`).

`<head>`

- **Description:** Contains metadata, links, and settings for the document.
- **Usage:** Placed before the `<body>` tag.
- **Syntax:**

```
<head> ... </head>
```

- **Attributes:** None.

`<meta>`

- **Description:** Provides metadata (data about data) for the document.
- **Usage:** Inside `<head>`.
- **Syntax:**

```
<meta charset="UTF-8">
```

- **Attributes:**

- **charset** → Defines character encoding (e.g., UTF-8).
- **name** → Specifies metadata name (description, keywords, author, viewport).
- **content** → Provides value for name or http-equiv.
- **http-equiv** → Provides an HTTP header (e.g., refresh, X-UA-Compatible).
- **viewport** → Common for responsive design (e.g., width=device-width, initial-scale=1.0).

```
<title>
```

- **Description:** Sets the page title (shown in browser tab).
- **Usage:** Always inside <head>.
- **Syntax:**

```
<title>My Page</title>
```

- **Attributes:** None.

```
<meta>
```

- **Description:** Provides metadata (machine-readable information) about the HTML document. Meta tags live inside the <head> and are used by browsers, search engines, and social platforms to understand the page (encoding, viewport, description, robots, Open Graph, etc.).
- **Usage:** Set character encoding, page description for SEO, viewport for responsive design, social sharing tags (Open Graph), refresh instructions, and HTTP-equivalent headers.
- **Syntax** (common examples):

```
<meta charset="utf-8">
<meta name="description" content="Short summary of this page">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<meta property="og:title" content="Page title for social">
```

- **Attributes:**

- **charset** → Declares character encoding (e.g., utf-8). Standalone form: <meta charset="utf-8">. *Place this early in \*\*\*\*\* <head>.*
- **name** → Common names: description, keywords, author, viewport, theme-color, robots. Usage: <meta name="description" content="...">.
  - **description**: short human-readable summary (string).
  - **keywords**: comma-separated keywords (legacy; search engines mostly ignore).
  - **author**: author name.
  - **viewport**: responsive controls. Typical value: width=device-width, initial-scale=1.0 (explain each — width sets CSS viewport width, initial-scale sets zoom).

- `theme-color`: mobile browser UI color (e.g., `#ffffff`).
- `robots`: `index`, `follow`, or `noindex`, `nofollow`, etc.
- **http-equiv** → Simulates HTTP headers (e.g., `refresh`, `Content-Type`). Examples:
  - `<meta http-equiv="refresh" content="30">` (refresh page every 30 seconds).
  - `<meta http-equiv="refresh" content="5; url=https://example.com">` (redirect after 5s).
  - Use sparingly — many headers are better set by the server.
- **content** → Value associated with `name` or `http-equiv` (string).
- **property** → Used by Open Graph protocol (Facebook, Twitter cards). Examples: `og:title`, `og:description`, `og:image`. Syntax: `<meta property="og:image" content="https://...">`.
- **itemprop** → For microdata (schema.org).
- **Notes & best practices:**
  - Put `<meta charset>` as one of the first tags in `<head>` to ensure correct decoding.
  - The `viewport` meta is essential for mobile-friendly responsive pages.
  - Use `description` for SEO; keep it ~50–160 characters.
  - Prefer server headers for security policies (CSP) rather than meta when possible.

`<body>`

- **Description:** Contains the visible content of the page.
- **Usage:** Wraps all content displayed to users.
- **Syntax:**

```
<body> ... </body>
```

## 2. Text Formatting Tags

`<h1>` to `<h6>`

- **Description:** Define headings.
- **Usage:** For titles and sub-titles.
- **Syntax:**

```
<h1>Main Heading</h1>
```

- **Attributes:** None.

`<p>`

- **Description:** Defines a paragraph.
- **Syntax:**

<p>This is a paragraph.</p>

<b> / <strong>

- **Description:** Bold text. <strong> has semantic importance.
- **Syntax:**

<strong>Important</strong>

<i> / <em>

- **Description:** Italic text. <em> has semantic emphasis.
- **Syntax:**

<em>Emphasized</em>

<u>

- **Description:** Underlines text.
- **Syntax:**

<u>Underlined</u>

<sub> / <sup>

- **Description:** Subscript and superscript.
- **Syntax:**

H<sub>2</sub>O, x<sup>2</sup>

<del>

- **Description:** Strikethrough text.
- **Syntax:**

<del>Old Price</del>

<pre>

- **Description:** Preserves spacing and line breaks.
- **Syntax:**

```
<pre>  Line 1
      Line 2</pre>
```

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### 3. Links and Navigation

`<a>`

- **Description:** Creates hyperlinks.
- **Syntax:**

```
<a href="page.html">Go</a>
```

- **Attributes:**
- **href** → URL, email (mailto: ), or anchor ( #id ).
- **target** → `_self`, `_blank`, `_parent`, `_top`.
- **rel** → `nofollow`, `noopener`, `noreferrer`.
- **download** → Forces file download.

`<nav>`

- **Description:** Defines navigation links.
- **Syntax:**

```
<nav><a href="#">Home</a></nav>
```

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### 4. Lists

`<ul>`

- **Description:** Unordered list.
- **Syntax:**

```
<ul><li>Item</li></ul>
```

- **Attributes:**
- **type** → `disc`, `circle`, `square` (deprecated in HTML5).

`<ol>`

- **Description:** Ordered (numbered) list.

- **Usage:** Use when the order matters — steps, rankings, prioritized lists.
- **Syntax:**

```
<ol><li>Item</li></ol>
```

- **Attributes:**

- **type** → Display style for list markers. Values: `1` (numbers), `A` (uppercase letters), `a` (lowercase letters), `I` (uppercase Roman), `i` (lowercase Roman). Syntax: `<ol type="A">`.
- **start** → Integer that sets the starting value of the list. Syntax: `<ol start="3">` (starts numbering at 3).
- **reversed** → Boolean attribute. When present, the list is numbered in descending order. Syntax: `<ol reversed>` or `<ol reversed start="10">` (numbers go 10, 9, 8...). In HTML, boolean attributes need only to be present; some authors also use `reversed="reversed"`.
- **Deprecated:** `compact`.

- **Examples:**

- Ascending: `<ol start="1">...`
- Descending: `<ol reversed start="5">` results in 5, 4, 3...

```
<li>
```

- **Description:** List item.
- **Syntax:**

```
<li>Item</li>
```

## 5. Multimedia

```
<img>
```

- **Description:** Displays images.
- **Syntax:**

```

```

- **Attributes:**

- **src** → Image path.
- **alt** → Alternative text.
- **width/height** → Dimensions.

```
<audio>
```

- **Description:** Embeds audio.
- **Syntax:**

```
<audio controls autoplay loop muted>
  <source src="song.mp3" type="audio/mpeg">
</audio>
```

- **Attributes:**
- **controls, autoplay, loop, muted, src.**

<video>

- **Description:** Embeds video.
- **Syntax:**

```
<video controls width="400">
  <source src="video.mp4" type="video/mp4">
</video>
```

- **Attributes:**
- **controls, autoplay, loop, muted, poster** (thumbnail).

<iframe>

- **Description:** Embeds another webpage.
- **Syntax:**

```
<iframe src="page.html" width="500" height="400"></iframe>
```

- **Attributes:**
- **src, width, height, frameborder, allowfullscreen.**

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## 6. Tables

<table>

- **Description:** Defines a table.
- **Syntax:**

```
<table> ... </table>
```

- **Attributes:**
- **border** → Thickness of border.
- **cellpadding** → Space inside cells.
- **cellspacing** → Space between cells.
- **rules** → Control borders (`all`, `rows`, `cols`, `none`).

- **width** → Table width.

`<tr>`

- **Description:** Table row.
- **Syntax:**

```
<tr> ... </tr>
```

`<td>`

- **Description:** Table data cell — a regular cell in a table row that holds content (text, images, lists, etc.).
- **Usage:** Place inside a `<tr>` within `<tbody>`, `<thead>`, or `<tfoot>` to present tabular data.
- **Syntax:**

```
<td>Value</td>
```

- **Attributes:**
- **colspan** → Number of table columns this cell should span. Syntax: `<td colspan="2">Merged across two columns</td>`. Value: positive integer ( "1", "2", ...).
- **rowspan** → Number of table rows this cell should span vertically. Syntax: `<td rowspan="3">Tall cell across 3 rows</td>`. Value: positive integer. **Example use:** Use `rowspan` to create header cells or to combine related rows visually — be mindful of table structure because `rowspan` shifts later cell positions.
- **headers** → Space-separated list of `id` values of `<th>` cells that label this `<td>`. Used for accessibility (screen readers). Syntax: `<td headers="h-name h-role">`.
- **scope** is for `<th>`, not `<td>`.
- **abbr** is typically used on `<th>`.
- **Deprecated attributes:** `align`, `valign`, `bgcolor`, `width`, etc. Prefer CSS.
- **Accessibility tip:** When using complex tables with row/column spans, add `id` to header cells ( `<th id="h1">` ) and reference them from `headers` on `<td>` to keep association clear for assistive tech.

`<th>`

- **Description:** Header cell (bold + centered by default).
- **Syntax:**

```
<th>Heading</th>
```

- **Attributes:**
- **rowspan, colspan.**



### <thead>

- **Description:** Groups header rows.
- **Syntax:**

```
<thead><tr><th>Head</th></tr></thead>
```

### <tbody>

- **Description:** Groups body rows.
- **Syntax:**

```
<tbody><tr><td>Data</td></tr></tbody>
```

### <tfoot>

- **Description:** Groups footer rows.
- **Syntax:**

```
<tfoot><tr><td>Total</td></tr></tfoot>
```

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