

# HTML Introduction

HTML, or Hyper Text Markup Language, is the standard markup language for creating web pages and web applications.

It is used to define the structure and content of a web page, and is interpreted by a web browser to render the page into a visible or audible form.

The HTML uses a markup language which is called Tags.

Tags are enclosed within '<TagName>'

There are 6 types of tags, please check the below.

1. Structural tags: Describes the structure of the web page.

Ex : <!DOCTYPE html>, <html>, <head>, and <body>

2. Formatting tags: Helps to format the content or helps to add the links to the content.

Ex : <h1>, <p>, and <a>

3. List tags: Used to show content in an order.

Ex : <ul> and <li>

4. Image tags: Image tags are used to add images to the web page.

Ex : <img>

5. Form tags: Form tags are used to build forms to the page.

Ex : <form>, <input>, and <button>

6. Meta tags: Used provide information about an HTML document to search engines, browsers, and other web services.

Ex : <meta>

## The basic structure of HTML :

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Shows the title of the web page</title>
</head>
<body>
  Shows the content of the web page
</body>
</html>
```

## Types of Tags in HTML :

Single tags:

*This tags will not have any closing tags they themselves are closing and opening tags*

Ex :

<!DOCTYPE html> : Describe the document type

<meta> : Meta tags in HTML provide additional information about a web page to search engines and browsers.

Empty tags:

*HTML empty tags are self-closing tags that do not need a closing tag because they do not have any content.*

Ex :

<br>: Insert a line break

<hr>: Insert a horizontal rule

<img>: Insert an image

<input>: Insert an input field

<link>: Insert a link to a CSS file or other resource

Paired tags :

*Tags that have a start tag and an end tag.*

Ex :

<p>, div

Semantic tags :

*Tags that describe the meaning of the content they contain.*

Ex :

<header>, <article>, <footer>, <table>

Non-semantic tags :

*Tags that do not describe the meaning of the content they contain.*

Ex :

<div>, <span>, <br>

**Elements :**

HTML elements are the building blocks of web pages, defined by start and end tags, and can contain content and attributes.

There are 3 types of elements in HTML.

1. Inline
2. Block
3. Inline-Block

## **Types of Elements :**

### **1. Inline Elements :**

Inline takes up only as much space as its content and does not start on a new line. Can be used to create links, images, and other small elements.

**Ex :**

- `<a>`: Anchor link
- `<span>`: Span element
- `<img>`: Image element
- `<input>`: Input field
- `<button>`: Button

### **2. Block- level Elements :**

Block-level Starts on a new line and takes up the full width of its container. Can be used to create paragraphs, headings, and other structural elements of a web page.

**Ex :**

- `<div>`: Division element
- `<p>`: Paragraph element
- `<h1>` to `<h6>`: Heading elements
- `<ul>` and `<ol>`: List elements
- `<table>`: Table element

### **3. Inline- Block Elements :**

Inline-block Takes up only as much space as its content and starts on a new line. Can be used to create buttons, images, and other elements that need to be displayed as boxes.

**Ex :**

- `<button>`: Button

<img>: Image element

<input>: Input field

### Attributes :

Every tag will have its own attributes. Using these attributes we can customize and recognize the tags.

Ex :

Class : used to identify an tag.

Id : It works similarly to class.

Height: can customize height of the tag.

Width : can customize the width of the tag.

There are two types of attributes :

1. Global Attributes
2. Pre defined Attributes

### Global Attributes :

These attributes can be used by any tag. There are not limited to certain tags. You can use it in the head section to the body section.

- **accesskey** - *Specifies a keyboard shortcut for the element.*
- **class** - *Specifies one or more class names for the element. Classes can be used to style the element with CSS.*
- **contenteditable** - *Specifies whether the element's content can be edited by the user.*
- **dir** - *Specifies the direction of the element's text. Can be either ltr (left-to-right) or rtl (right-to-left).*
- **draggable** - *Specifies whether the element can be dragged by the user.*

- **dropzone** - *Specifies whether the element can be used as a drop zone for draggable elements.*
- **hidden** - *Specifies whether the element is hidden from the user.*
- **id** - *Specifies a unique ID for the element. IDs can be used to style the element with CSS or to reference it with JavaScript.*
- **lang** - *Specifies the language of the element's content.*
- **spellcheck** - *Specifies whether the element's content should be spellchecked by the browser.*
- **style** - *Specifies inline CSS styles for the element.*
- **tabindex** - *Specifies the element's place in the tab order.*
- **title** - *Specifies a tooltip that should be displayed when the user hovers over the element.*

## **Text Tags :**

In HTML we use the text tags to edit the content in our web page. There are different types of text tags that we use to edit the content on our page.

**1. Headings:** *used to set headings at different levels in different sizes.*

- a. We have the heading tags in a range of h1 to h6.
- b. The higher we go the smaller text we get.

**2. Paragraph:** *used to write the content as a paragraph*

**3. Lists:** *used to describe the content in a list*

- a. Lists are two types :
  - i. Ordered List
  - ii. Unordered List
- b. Every list used the <li> tag in order to specify the points.

**4. Definition List:** *Used to make the content a definition.*

- a. In Definition, we have the different tags which are used to specify the content as heading and explanation.

Ex :

dl : used to declare the declaration list

dt : used to declare the definition term

dfn : used to declare the side heading for the definition

dd : used to declare the definition data

## **5. Table:** *Used to create tables in our web page.*

- a. To create tables we use these tags.

Ex :

<table>: Defines a table.

<tr>: Defines a table row.

<th>: Defines a table header cell.

<td>: Defines a table data cell.

<caption>: Defines a table caption.

<thead>: Defines a table header section.

<tfoot>: Defines a table footer section.

<tbody>: Defines a table body section.

<colgroup>: Defines a group of columns in a table.

<col>: Defines a column in a table.

## **6. Graphic Tags :** *Used to add pictures to the web page.*

- a. We have two graphic tags that we can use on our webpage.
  - i. Image

*ii. Figure*

**a. Image :** *An image tag is used to add a picture to the webpage.*

a. To insert an image we use the image tag - `<img src ='' ''>`

**b. Figure :** *A figure tag is used to add a picture along with the description.*

a. We use the combination of the image tag and figure tag in order to add the description for the image.

b. We have to place the image tag in `<figure>` tag and add the description tag `<figcaption>`.

**7. Link tags :** *Links in HTML are used to connect the two pages or resources to a webpage.*

a. We can select or click on a link. When we click on it will take us to a new page.

b. We select different options whether we need to open the link in the same page or a different page, using an attribute called target.

c. To link the content in a page we need to use the anchor tag `<a>`.

d. We use the href attribute in order to add the address or path.

**8. Multimedia Tags :** *Used to add multimedia data to our web page.*

a. We have the following tags in order to add the multi-media data.

*i. Audio – add the audio to the web page.*

*ii. Video – add the video to the web page.*

b. We need to use the control tag to provide the playback options for both video and audio tags.