

## HTML

HTML was created by Berners-Lee in late 1991 but "HTML 2.0" was the first standard HTML specification which was published in 1995. HTML 4.01 was a major version of HTML and it was published in late 1999. Though HTML 4.01 version is widely used but currently we are having HTML-5 version which is an extension to HTML 4.01, and this version was published in 2012.

HTML stands for **H**ypertext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages.

□ **Hypertext** refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.

□ As its name suggests, HTML is a **Markup Language** which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

In its simplest form, following is an example of an HTML document:

```
<!DOCTYPE html>
<html>
<head>
<title>This is document title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>Document content goes here.....</p>
</body>
</html>
```

HTML is a markup language and makes use of various tags to format the content. These tags are enclosed within angle braces <Tag Name>. Except few tags, most of the tags have their corresponding closing tags. For example, <html> has its closing tag </html> and <body> tag has its closing tag </body> tag etc.

Tag	Description
<!DOCTYPE...>	This tag defines the document type and HTML version.
<html>	This tag encloses the complete HTML document and mainly comprises of document header which is represented by <head>...</head> and document body which is represented by <body>...</body> tags.
<head>	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<title>	The <title> tag is used inside the <head> tag to mention the document title.
<body>	This tag represents the document's body which keeps other HTML tags like <h1>, <div>, <p> etc.
<h1>	This tag represents the heading.
<p>	This tag represents a paragraph.

A typical HTML document will have the following structure:

```
Document declaration tag
<html>
<head>
Document header related tags
</head>
<body>
Document body related tags
</body>
</html>
```

## The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration tag is used by the web browser to understand the version of the HTML used in the document. Current version of HTML is 5 and it makes use of the following declaration:

```
<!DOCTYPE html>
```

## Heading Tags

Any document starts with a heading. You can use different sizes for your headings. HTML also has six levels of headings, which use the elements **<h1>**, **<h2>**, **<h3>**, **<h4>**, **<h5>**, and **<h6>**. While displaying any heading, browser adds one line before and one line after that heading.

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Heading Example</title>
</head>
<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
</body>
</html>
```

## Paragraph Tag

The **<p>** tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening **<p>** and a closing **</p>** tag as shown below in the example:

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Paragraph Example</title>
</head>
<body>
<p>Here is a first paragraph of text.</p>
<p>Here is a second paragraph of text.</p>
<p>Here is a third paragraph of text.</p>
</body>
</html>
```

## Line Break Tag

Whenever you use the **<br />** element, anything following it starts from the next line. This tag is an example of an **empty** element, where there is no need of opening and closing tags, as there is nothing to go in between them.

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Line Break Example</title>
</head>
<body>
<p>Hello<br />
You delivered your assignment on time.<br />
Thanks<br />
Mahnaz</p>
</body>
</html>
```

## Centering Content

**<center>** tag is used to put any content in the center of the page or any table cell.

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Centring Content Example</title>
</head>
<body>
<p>This text is not in the center.</p>
<center>
<p>This text is in the center.</p>
</center>
</body>
</html>
```

## Horizontal Lines

Horizontal lines are used to visually break-up sections of a document. The **<hr />** tag creates a line from the current position in the document to the right margin and breaks the line accordingly. **<hr />** tag is an example of the **empty** element, where you do not need opening and closing tags, as there is nothing to go in between them. For example, to give a line between two paragraphs:

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Horizontal Line Example</title>
</head>
<body>
<p>This is paragraph one and should be on top</p>
<hr />
<p>This is paragraph two and should be at bottom</p>
</body>
</html>
```

## Nonbreaking Spaces

**&nbsp;** is used instead of a normal space. Using **&nbsp;** multiple spaces can be inserted within the text.

An HTML element is defined by a starting tag. If the element contains other content, it ends with a closing tag, where the element name is preceded by a forward slash.

`<p>....</p>` is an HTML element, `<h1>...</h1>` is another HTML element. There are some HTML elements which don't need to be closed, such as `<img.../>`, `<hr />` and `<br />` elements. These are known as void elements.

## Nested HTML Elements

It is very much allowed to keep one HTML element inside another HTML element:

```
<!DOCTYPE html>
<html>
<head>
<title>Nested Elements Example</title>
</head>
<body>
<h1>This is <i>italic</i> heading</h1>
<p>This is <u>underlined</u> paragraph</p>
</body>
</html>
```

Most of the HTML tags can also have attributes, which are extra bits of information.

An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag. All attributes are made up of two parts: a **name** and a **value**:

□ The **name** is the property you want to set. For example, the paragraph **<p>** element in the example carries an attribute whose name is **align**, which you can use to indicate the alignment of paragraph on the page.

□ The **value** is what you want the value of the property to be set and always put within quotations. The below example shows three possible values of align attribute: **left**, **center** and **right**.

Attribute names and attribute values are case-insensitive.

### Example

```
<!DOCTYPE html>
<html>
<head>
<title>Align Attribute Example</title>
</head>
<body>
<p align="left">This is left aligned</p>
<p align="center">This is center aligned</p>
<p align="right">This is right aligned</p>
</body>
</html>
```

## Core Attributes

The four core attributes that can be used on the majority of HTML elements (although not all) are:

- ☐ Id
- ☐ Title
- ☐ Class
- ☐ Style

### The Id Attribute

The **id** attribute of an HTML tag can be used to uniquely identify any element within an HTML page. There are two primary reasons that you might want to use an id attribute on an element –

- If an element carries an id attribute as a unique identifier, it is possible to identify just that element and its content.
- If you have two elements of the same name within a Web page (or style sheet), you can use the id attribute to distinguish between elements that have the same name.

### The title Attribute

The **title** attribute gives a suggested title for the element. The syntax for the **title** attribute is similar as explained for **id** attribute –

The behavior of this attribute will depend upon the element that carries it, although it is often displayed as a tooltip when cursor comes over the element or while the element is loading.

### The class Attribute

The **class** attribute is used to associate an element with a style sheet, and specifies the class of element. You will learn more about the use of the class attribute when you will learn Cascading Style Sheet (CSS).

### The style Attribute

The style attribute allows you to specify Cascading Style Sheet (CSS) rules within the element.

### Bold Text

Anything that appears within **<b>...</b>** element, is displayed in bold

### Italic Text

Anything that appears within **<i>...</i>** element is displayed in italicized

### Underlined Text

Anything that appears within **<u>...</u>** element, is displayed with underline

### Strike Text

Anything that appears within **<strike>...</strike>** element is displayed with strikethrough, which is a thin line through the text

### Superscript Text

The content of a **<sup>...</sup>** element is written in superscript; the font size used is the same size as the characters surrounding it but is displayed half a character's height above the other characters.

## Subscript Text

The content of a **<sub>...</sub>** element is written in subscript; the font size used is the same as the characters surrounding it, but is displayed half a character's height beneath the other characters.

## Grouping Content

The **<div>** and **<span>** elements allow you to group together several elements to create sections or subsections of a page.

```
<!DOCTYPE html>
<html>

  <head>
    <title>Div Tag Example</title>
  </head>

  <body>
    <div id = "menu" align = "middle" >
      <a href = "/index.htm">HOME</a> |
      <a href = "/about/contact_us.htm">CONTACT</a> |
      <a href = "/about/index.htm">ABOUT</a>
    </div>

    <div id = "content" align = "left" bgcolor = "white">
      <h5>Content Articles</h5>
      <p>Actual content goes here.....</p>
    </div>
  </body>
</html>
```

The **<span>** element, on the other hand, can be used to group inline elements only. So, if you have a part of a sentence or paragraph which you want to group together, **<span>** can be used.

```
<!DOCTYPE html>
<html>

  <head>
    <title>Span Tag Example</title>
  </head>

  <body>
    <p>This is the example of <span style = "color:green">span tag</span>
      and the <span style = "color:red">div tag</span> alongwith CSS</p>
  </body>
</html>
```

HTML comments are placed in between **<!-- ... -->** tags. So, any content placed with-in **<!-- ... -->** tags will be treated as comment and will be completely ignored by the browser.