HTML Notes

05 February 2024 04:45 PM

HTML is the standard markup language for Web pages.
With HTML you can create your own Website.

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

What is an HTML Element?

An HTML element is defined by a start tag, some content, and an end tag:

<tagname>Content goes here... </tagname>

The HTML **element** is everything from the start tag to the end tag:

<h1>My First Heading</h1>

My first paragraph.

Like h1, p, br

Some HTML elements do not have content like
 element, These elements are called empty elements. They do not have a ending tag

Web Browser

The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.
A browser does not display the HTML tags, but uses them to determine how to display the document:

The content inside the <body> section will be displayed in a browser. The content inside the <title> element will be shown in the browser's title bar or in the page's tab.

HTML Headings

<h1> defines the most important heading. <h6> defines the least important heading:

```
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
```

HTML Paragraph

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

HTML Links

Defined with the <a> tag

```
<a href="https://www.w3schools.com">This is a link</a>
```

HTML Images

HTML images are defined with the <img> tag.
The source file (src), alternative text (alt), width, and height are

provided as attributes:

```
<img
src="w3schools.jpg"alt="W3Schools.com"width="104"height="142
">
```

Nested HTML Elements

HTML elements can be nested (this means that elements can contain other elements).
All HTML documents consist of nested HTML elements.
The following example contains four HTML elements (<html>, <body>, <h1> and <p>):

```
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

HTML is Not Case Sensitive

HTML tags are not case sensitive: <P> means the same as <p>. The HTML standard does not require lowercase tags, but W3C **recommends** lowercase in HTML, and **demands** lowercase for stricter document types like XHTML.

HTML Attributes

It Provides additional information about the HTML elements.

- All HTML elements can have **attributes**
- Attributes provide **additional information** about elements
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name="value"**

Href attribute in <a> tag
Src attribute in <img> tag
Width and height attribute, alt attribute, style attribute

```
<p style="color:red;">This is a red paragraph.</p>
```

The lang Attribute

You should always include the lang attribute inside the <html> tag, to declare the language of the Web page. This is meant to assist search engines and browsers.
The following example specifies English as the language:

```
<!DOCTYPE html>
<html lang="en">
<body>
...
</body>
</html>
```

Country codes can also be added to the language code in the lang attribute. So, the first two characters define the language of the HTML page, and the last two characters define the country.
The following example specifies English as the language and United States as the country:

```
<!DOCTYPE html>
<html lang="en-US">
```

The title Attribute

The title attribute defines some extra information about an element.

The **value of the title attribute will be displayed as a tooltip when you mouse over the element:**

```
<p title="I'm a tooltip">This is a paragraph.</p>
```

Always use quotes while giving values of attributes.
It can be single quotes or double quotes
If your value contains double quotes then use single quotes.

```
<p title="John 'ShotGun' Nelson">
```

HTML Headings

Heading 1
Heading 2
Heading 3
Heading 4
Heading 5
Heading 6

you can specify the size for any heading with the style attribute, using the CSS font-size property:

```
<h1 style="font-size:60px;">Heading 1</h1>
```

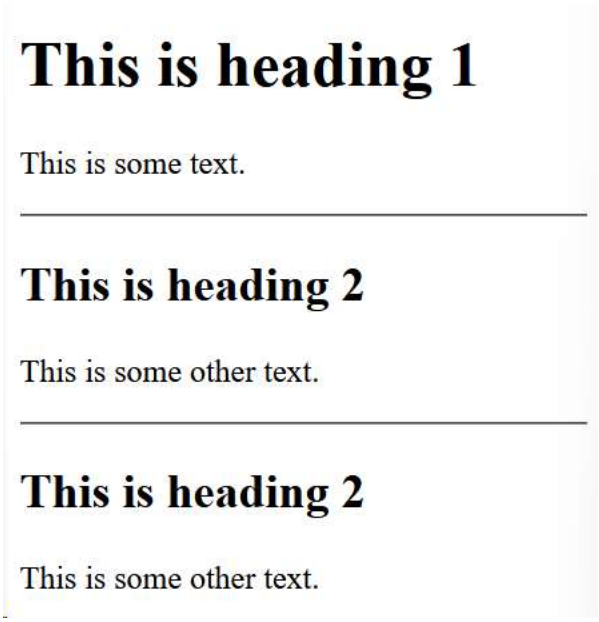
HTML Paragraphs

The HTML <p> element defines a paragraph.
A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

HTML Horizontal Rules

The <hr> tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.
The <hr> element is used to separate content (or define a change) in an HTML page:

```
<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>
<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>
```



HTML Line Breaks

The HTML
 element defines a line break.
Use
 if you want a line break (a new line) without starting a new paragraph:

```
<p>This is<br>a paragraph<br>with line breaks.</p>
```

To Show Any Content in fixed width font we use <pre> tag

The HTML <pre> element defines preformatted text.
The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

```
<pre>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</pre>
```

The pre tag preserves both spaces and line breaks:

```
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
```

HTML Styles

Setting the style of an HTML element, can be done with the style attribute.
The HTML style attribute has the following syntax:

```
<tagname style="property:value;">
<body style="background-color:powderblue;">
<h1 style="color:blue;">This is a heading</h1>
<h1 style="font-family:verdana;">This is a heading</h1>
<h1 style="font-size:300%;">This is a heading</h1>
```

```
<h1 style="text-align:center;">Centered Heading</h1>
```

HTML Text Formatting

HTML contains several elements for defining text with a special meaning.

Formatting elements were designed to display special types of text:

- <b> - Bold text
- - Important text
- <i> - Italic text
- - Emphasized text
- <mark> - Marked text
- <small> - Smaller text
- <del> - Deleted text
- <ins> - Inserted text
- <sub> - Subscript text
- <sup> - Superscript text

```
<b>This text is bold</b>
<strong>This text is important!</strong>
<i>This text is italic</i>
<small>This is some smaller text.</small>
```

Mark means highlighted

```
<p>Do not forget to buy <mark>milk</mark>today.</p>
```

The HTML <del> element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text:

```
<p>My favorite color is <del>blue</del>red.</p>
```

The HTML <ins> element defines a text that has been inserted into a document. Browsers will usually underline inserted text:

```
<p>My favorite color is <del>blue</del><ins>red</ins>.</p>
```

The HTML <sub> element defines subscript text. Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font. Subscript text can be used for chemical formulas, like H_2O:

```
<p>This is <sub>subscripted</sub>text.</p>
```

The HTML <sup> element defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font. Superscript text can be used for footnotes, like WWW[1]:

```
<p>This is <sup>superscripted</sup>text.</p>
```

HTML Quotation and Citation Elements

The HTML **<blockquote> element** defines a section that is quoted from another source.
Browsers usually indent <blockquote> elements.

The HTML **<q> tag** defines a short quotation.
Browsers normally insert quotation marks around the quotation.

The HTML **<abbr> tag** defines an abbreviation or an acronym, like "HTML", "CSS", "Mr.", "Dr.", "ASAP", "ATM".
Marking abbreviations can give useful information to browsers, translation systems and search-engines.
Tip: Use the global title attribute to show the description for the abbreviation/acronym when you mouse over the element.

The HTML **<address> tag** defines the contact information for the

author/owner of a document or an article.
The contact information can be an email address, URL, physical address, phone number, social media handle, etc.
The text in the <address> element usually renders in *italic,* and browsers will always add a line break before and after the <address> element.

HTML Comments

<!-- Write your comments here -->

RGB Color Values

In HTML, a color can be specified as an RGB value, using this formula:
rgb(*red, green, blue*)
Each parameter (red, green, and blue) defines the intensity of the color with a value between 0 and 255.
This means that there are **256 x 256 x 256 = 16777216 possible colors!**
For example, rgb(255, 0, 0) is displayed as red, because red is set to its highest value (255), and the other two (green and blue) are set to 0.
Another example, rgb(0, 255, 0) is displayed as green, because green is set to its highest value (255), and the other two (red and blue) are set to 0.
To display black, set all color parameters to 0, like this: rgb(0, 0, 0).
To display white, set all color parameters to 255, like this: rgb(255, 255, 255).

RGBA Color Values

RGBA color values are an extension of RGB color values with an Alpha channel - which specifies the opacity for a color.

An RGBA color value is specified with:
rgba(*red, green, blue, alpha*)
The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (not transparent at all):

HTML Styles - CSS

CSS stands for Cascading Style Sheets.
CSS saves a lot of work. It can control the layout of multiple web pages all at once.

What is CSS?

Cascading Style Sheets (CSS) is used to format the layout of a webpage.
With CSS, you can control the color, font, the size of text, the spacing between elements, how elements are positioned and laid out, what background images or background colors are to be used, different displays for different devices and screen sizes, and much more!
Tip: The word **cascading** means that a style applied to a parent element will also apply to all children elements within the parent. So, if you set the color of the body text to "blue", all headings, paragraphs, and other text elements within the body will also get the same color (unless you specify something else)!

CSS can be added to HTML documents in 3 ways:

- **Inline** - by using the style attribute inside HTML elements
- **Internal** - by using a <style> element in the <head> section
- **External** - by using a <link> element to link to an external CSS file

The most common way to add CSS, is to keep the styles in external CSS files.

Inline CSS

```
<h1 style="color:blue;">A Blue Heading</h1>

<p style="color:red;">A red paragraph.</p>
```

Internal CSS

```
<head>
<style>
body {background-color:powderblue;}
h1   {color:blue;}
p    {color:red;}
</style>
</head>
```

External CSS

"styles.css":

```
 body {
  background-color:powderblue;
}
h1 {
  color:blue;
}
p {
  color:red;
}
```

The **CSS padding** property defines a padding (space) between the text and the border.

CSS margin property defines a margin (space) outside the border.

HTML Links

link text

The most important attribute of the <a> element is the href attribute, which indicates the link's destination.
The *link text* is the part that will be visible to the reader.
Clicking on the link text, will send the reader to the specified URL address.

By default, links will appear as follows in all browsers:

- An unvisited link is **underlined and blue**
- A visited link is **underlined and purple**
- An active link is **underlined and red**

Target Attribute in HTML Links

The target attribute specifies where to open the linked document.
The target attribute can have one of the following values:

- **_self** - Default. Opens the document in the same window/tab as it was clicked
- **_blank** - Opens the document in a new window or tab
- **_parent** - Opens the document in the parent frame
- **_top** - Opens the document in the full body of the window

Link to an Email Address

Use mailto: inside the href attribute to create a link that opens the user's email program (to let them send a new email):

```
<a href="mailto:someone@example.com">Send email</a>
```

To use an image as a link, just put the <img> tag inside the <a> tag:

```
<a href="default.asp">
<img src="smiley.gif"alt="HTML
tutorial"style="width:42px;height:42px;">
</a>
```

How to Create Bookmark in HTML, Say we have a Element and we want to navigate to that element from same page

1. Give id to that element where we want to navigate
2. Now on the button of bookmark, give href= "#id"

```
<h2 id="C4">Chapter 4</h2>
<a href="#C4">Jump to Chapter 4</a>
```

While Giving src in the images, avoid giving Absolute URLs of a website or anyting because they might change later causing incosistency or can come under copyright infringement.
Try giving Relative URLs like /images/html.gif

Image Floating

Use the CSS float property to let the image float to the right or to the left of a text:

```
<p><img src="smiley.gif"alt="Smiley
face"style="float:right;width:42px;height:42px;">
The image will float to the right of the text.</p>

<p><img src="smiley.gif"alt="Smiley
face"style="float:left;width:42px;height:42px;">
The image will float to the left of the text.</p>
```

Floating Images

Float the image to the right:

A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.

Float the image to the left:

A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.

Background Image on a HTML element

```
<p style="background-image: url('img_girl.jpg');">
```

If the background image is smaller than the element, the image will repeat itself, horizontally and vertically, until it reaches the end of the element:
To avoid the background image from repeating itself, set the background-repeat property to no-repeat.

```
body {
  background-image:url('example_img_girl.jpg');
  background-repeat:no-repeat;
}
```

If you want the background image to cover the entire element, you can set the background-size property to cover.
Also, to make sure the entire element is always covered, set the background-attachment property to fixed:
This way, the background image will cover the entire element, with no stretching (the image will keep its original proportions):

```
body {
  background-image:url('img_girl.jpg');
  background-repeat:no-repeat;
  background-attachment:fixed;
  background-size:cover;
}
```

If you want the background image to stretch to fit the entire element, you can set the background-size property to 100% 100%:

```
body {
  background-image:url('img_girl.jpg');
  background-repeat:no-repeat;
  background-attachment:fixed;
  background-size:100% 100%;
}
```

The HTML <picture> Element

The HTML <picture> element gives web developers more flexibility in specifying image resources.

The <picture> element contains one or more <source> elements, each referring to different images through the srcset attribute. This way the browser can choose the image that best fits the current view and/or device.
Each <source> element has a media attribute that defines when the image is the most suitable.

```
<picture>
  <source media="(min-width: 650px)"srcset="img_food.jpg">
  <source media="(min-width: 465px)"srcset="img_car.jpg">
  <img src="img_girl.jpg">
</picture>
```

Always specify an <img> element as the last child element of the <picture> element. The <img> element is used by browsers that do not support the <picture> element, or if none of the <source> tags match.

HTML Favicon