HTML Introduction

HTML is the standard markup language for creating Web pages.

## What is HTML?

* HTML stands for Hyper Text Markup Language
* 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 are represented by tags
* HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
* Browsers do not display the HTML tags, but use them to render the content of the page

## HTML Tags

HTML tags are element names surrounded by angle brackets:

<tagname>content goes here...</tagname>

* HTML tags normally come **in pairs** like <p> and </p>
* The first tag in a pair is the **start tag,** the second tag is the **end tag**
* The end tag is written like the start tag, but with a **forward slash** inserted before the tag name

**Notes:** The start tag is also called the **opening tag**, and the end tag the **closing tag**.

## Web Browsers

The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them.

The browser does not display the HTML tags, but uses them to determine how to display the document:

## HTML Page Structure

Below is a visualization of an HTML page structure:

<html>

<head>

<title>Page title</title>

</head>

<body>

<h1>This is a heading</h1>

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

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

</body>

</html>

**Note:** Only the content inside the <body> section (the white area above) is displayed in a browser.

## The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.

It must only appear once, at the top of the page (before any HTML tags).

The <!DOCTYPE> declaration is not case sensitive.

The <!DOCTYPE> declaration for HTML5 is:

<!DOCTYPE html>

## HTML History

Since the early days of the World Wide Web, there have been many versions of HTML:

|  |  |
| --- | --- |
| **Year** | **Version** |
| 1989 | Tim Berners-Lee invented www |
| 1991 | Tim Berners-Lee invented HTML |
| 1993 | Dave Raggett drafted HTML+ |
| 1995 | HTML Working Group defined HTML 2.0 |
| 1997 | W3C Recommendation: HTML 3.2 |
| 1999 | W3C Recommendation: HTML 4.01 |
| 2000 | W3C Recommendation: XHTML 1.0 |
| 2008 | WHATWG HTML5 First Public Draft |
| 2012 | [WHATWG HTML5 Living Standard](http://whatwg.org/html/) |
| 2014 | [W3C Recommendation: HTML5](http://www.w3.org/TR/html5/) |
| 2016 | W3C Candidate Recommendation: HTML 5.1 |
| 2017 | [W3C Recommendation: HTML5.1 2nd Edition](http://www.w3.org/TR/html51/) |
| 2017 | [W3C Recommendation: HTML5.2](http://www.w3.org/TR/html52/) |

# HTML Editors

## Learn HTML Using Notepad ,Notepad++

Web pages can be created and modified by using professional HTML editors.

However, for learning HTML we recommend a simple text editor like Notepad (PC) or Notepad++.

We believe using a simple text editor is a good way to learn HTML.

Follow the steps below to create your first web page with Notepad or Notepad++.

## Step 1: Open Notepad (PC)

**Windows 8 or later:**

Open the **Start Screen** (the window symbol at the bottom left on your screen). Type **Notepad**.

**Windows 7 or earlier:**

Open **Start** >**Programs >** **Accessories >** **Notepad**

## Step 2: Write Some HTML

Write or copy some HTML into Notepad.



## Step 3: Save the HTML Page

Save the file on your computer. Select **File > Save as** in the Notepad menu.

Name the file **"index.htm"** and set the encoding to **UTF-8** (which is the preferred encoding for HTML files).



You can use either .htm or .html as file extension. There is no difference, it is up to you.

## Step 4: View the HTML Page in Your Browser

Open the saved HTML file in your favorite browser (double click on the file, or right-click - and choose "Open with").

The result will look much like this:



# HTML Elements

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

## HTML Elements

An HTML element usually consists of a **start** tag and an **end** tag, with the content inserted in between:

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

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

<p>My first paragraph.</p>

|  |  |  |
| --- | --- | --- |
| **Start tag** | **Element content** | **End tag** |
| <h1> | My First Heading | </h1> |
| <p> | My first paragraph. | </p> |
| <br> |  |  |

HTML elements with no content are called empty elements. Empty elements do not have an end tag, such as the <br> element (which indicates a line break).

## Nested HTML Elements

HTML elements can be nested (elements can contain elements).

All HTML documents consist of nested HTML elements.

This example contains four HTML elements:

<html>

<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>

</html>

The <body> element defines the **document body**.

It has a **start** tag <body> and an **end** tag </body>.

Inside the <body> element is two other HTML elements: <h1> and <p>.

## Do Not Forget the End Tag

Some HTML elements will display correctly, even if you forget the end tag:

<html>  
<body>  
  
<p>This is a paragraph X  
<p>This is a paragraph X  
  
</body>  
</html>

## Empty HTML Elements

HTML elements with no content are called empty elements.

<br> is an empty element without a closing tag (the <br> tag defines a line break):

### Example

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

Empty elements can be "closed" in the opening tag like this: <br />.

HTML does not require empty elements to be closed. But if you want stricter validation, or if you need to make your document readable by XML parsers, you must close all HTML elements properly.

## 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

An HTML attribute provides additional information about an HTML element.

## HTML Attributes

* All HTML elements can have **attributes**
* Attributes provide **additional information** about an element
* Attributes are always specified in **the start tag**

## Attributes usually come in name/value pairs like: name="value"

## The href Attribute

HTML links are defined with the <a> tag. The link address is specified in the href attribute:

### Example

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

You will learn more about links and the <a> tag later in this tutorial.

## The src Attribute

HTML images are defined with the <img> tag.

The filename of the image source is specified in the src attribute:

### Example

<img src="img\_girl.jpg">

## The width and height Attributes

 HTML images also have width and height attributes, which specifies the width and height of the image:

### Example

<img src="img\_girl.jpg" width="500" height="600">

The width and height are specified in pixels by default; so width="500" means 500 pixels wide.

## The alt Attribute

The alt attribute specifies an alternative text to be used, if an image cannot be displayed.

The value of the alt attribute can be read by screen readers. This way, someone "listening" to the webpage, e.g. a vision impaired person, can "hear" the element.

### Example

<img src="img\_girl.jpg" alt="Girl with a jacket">

The alt attribute is also useful if the image cannot be displayed (e.g. if it does not exist):

## Single or Double Quotes?

Double quotes around attribute values are the most common in HTML, but single quotes can also be used.

In some situations, when the attribute value itself contains double quotes, it is necessary to use single quotes:

<p title='John "ShotGun" Nelson'>

Or vice versa:

<p title="John 'ShotGun' Nelson">

Note :-

* The href attribute provides address information for links
* The width and height attributes provide size information for images
* The alt attribute provides text for screen readers

# HTML Headings

[❮ Previous](https://www.w3schools.com/html/html_attributes.asp)[Next ❯](https://www.w3schools.com/html/html_paragraphs.asp)

HTML headings are titles or subtitles that you want to display on a webpage.

### Example

# Heading 1

## Heading 2

### Heading 3

#### Heading 4

##### **Heading 5**

###### **Heading 6**

[Try it Yourself »](https://www.w3schools.com/html/tryit.asp?filename=tryhtml_headings)

## HTML Headings

HTML headings are defined with the <h1> to <h6> tags.

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

### Example

<html>

<body>

<h1>Heading 1</h1>

<h2>Heading 2</h2>

<h3>Heading 3</h3>

<h4>Heading 4</h4>

<h5>Heading 5</h5>

<h6>Heading 6</h6>

</body>

</html>

## Headings Are Important

Search engines use the headings to index the structure and content of your web pages.

Users often skim a page by its headings. It is important to use headings to show the document structure.

<h1> headings should be used for main headings, followed by <h2> headings, then the less important <h3>, and so on.

**Note:** Use HTML headings for headings only. Don't use headings to make text **BIG** or **bold**.

## Bigger Headings

Each HTML heading has a default size. However, you can specify the size for any heading with the style attribute, using the CSS font-size property:

### Example

<html>

<body>

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

<p>You can change the size of a heading with the style attribute, using the font-size property.</p>

</body>

</html>

## 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:

<html>

<body>

<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>

<h2>This is heading 2</h2>

<p>This is some other text.</p>

</body>

</html>

## The HTML <head> Element

The HTML <head> element is a container for metadata. HTML metadata is data about the HTML document. Metadata is not displayed.

The <head> element is placed between the <html> tag and the <body> tag:

<html>

<head>

<title>My First HTML</title>

<meta charset="UTF-8">

</head>

<body>

<p>The HTML head element contains meta data.</p>

<p>Meta data is data about the HTML document.</p>

</body>

</html>

**Note:** Metadata typically define the document title, character set, styles, scripts, and other meta information.

# HTML Paragraphs

A paragraph always starts on a new line, and is usually a block of text.

## 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.

### Example

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

## HTML Display

You cannot be sure how HTML will be displayed.

Large or small screens, and resized windows will create different results.

With HTML, you cannot change the output by adding extra spaces or extra lines in your HTML code.

The browser will remove any extra spaces and extra lines when the page is displayed:

### Example

<html>

<body>

<p>  
This paragraph  
contains a lot of lines  
in the source code,  
but the browser  
ignores it.  
</p>  
  
<p>  
This paragraph  
contains         a lot of spaces  
in the source         code,  
but the        browser  
ignores it.  
</p>

</body>

</html>

## Don't Forget the End Tag

Most browsers will display HTML correctly even if you forget the end tag:

### example

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

## HTML Line Breaks

The HTML <br> element defines a line break.

Use <br> if you want a line break (a new line) without starting a new paragraph

example

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

The <br> tag is an empty tag, which means that it has no end tag.

## The Poem Problem

This poem will display on a single line

example

<p>  
  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.  
</p>

## The HTML <pre> Element

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:

<html>

<body>

<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>

</body>

</html>

# HTML Styles

The HTML style attribute is used to add styles to an element, such as color, font, size, and more.

### Example

I am Red

I am Blue

I am Big

## The HTML Style Attribute

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;">

The ***property*** is a CSS property. The ***value*** is a CSS value.

You will learn more about CSS later in this tutorial.

## Background Color

The CSS background-color property defines the background color for an HTML element.

This example sets the background color for a page to powderblue:

example

<body style="background-color:powderblue;">  
  
<h1>This is a heading</h1>  
<p>This is a paragraph.</p>  
  
</body>

## Text Color

The CSS color property defines the text color for an HTML element:

Example:

<h1 style="color:blue;">This is a heading</h1>  
<p style="color:red;">This is a paragraph.</p>

## Fonts

The CSS font-family property defines the font to be used for an HTML element:

Example:

<h1 style="font-family:verdana;">This is a heading</h1>  
<p style="font-family:courier;">This is a paragraph.</p>

## Text Size

The CSS font-size property defines the text size for an HTML element:

Example:

<h1 style="font-size:300%;">This is a heading</h1>  
<p style="font-size:160%;">This is a paragraph.</p>

## Text Alignment

The CSS text-align property defines the horizontal text alignment for an HTML element:

Example:

<h1 style="text-align:center;">Centered Heading</h1>  
<p style="text-align:center;">Centered paragraph.</p>

# HTML Text Formatting

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

**This text is bold**

*This text is italic*

This issubscript and superscript

## HTML Formatting Elements

Formatting elements were designed to display special types of text:

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

## HTML <b> and <strong> Elements

The HTML <b> element defines bold text, without any extra importance.

Example

<b>This text is bold</b>

The HTML <strong> element defines strong text, with added semantic "strong" importance.

Example

<strong>This text is strong</strong>

## HTML <i> and <em> Elements

The HTML <i> element defines italic text, without any extra importance.

Example

<i>This text is italic</i>

The HTML <em> element defines emphasized text, with added semantic importance.

Example

<em>This text is emphasized</em>

**Note:** Browsers display <strong> as <b>, and <em> as <i>. However, there is a difference in the meaning of these tags: <b> and <i> defines bold and italic text, but <strong> and <em> means that the text is "important".

## HTML <small> Element

The HTML <small> element defines smaller text:

Example

<h2>HTML <small>Small</small> Formatting</h2>

## HTML <mark> Element

The HTML <mark> element defines marked/highlighted text:

Example

<h2>HTML <mark>Marked</mark> Formatting</h2>

## HTML <del> Element

The HTML <del> element defines deleted/removed text.

Example

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

## HTML <ins> Element

The HTML <ins> element defines inserted/added text.

<p>My favorite <ins>color</ins> is red.</p>

## HTML <sub> Element

The HTML <sub> element defines subscripted text.

Example

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

## HTML <sup> Element

The HTML <sup> element defines superscripted text.

Example

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

## HTML Text Formatting Elements

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<b>](https://www.w3schools.com/tags/tag_b.asp) | Defines bold text |
| [<em>](https://www.w3schools.com/tags/tag_em.asp) | Defines emphasized text |
| [<i>](https://www.w3schools.com/tags/tag_i.asp) | Defines italic text |
| [<small>](https://www.w3schools.com/tags/tag_small.asp) | Defines smaller text |
| [<strong>](https://www.w3schools.com/tags/tag_strong.asp) | Defines important text |
| [<sub>](https://www.w3schools.com/tags/tag_sub.asp) | Defines subscripted text |
| [<sup>](https://www.w3schools.com/tags/tag_sup.asp) | Defines superscripted text |
| [<ins>](https://www.w3schools.com/tags/tag_ins.asp) | Defines inserted text |
| [<del>](https://www.w3schools.com/tags/tag_del.asp) | Defines deleted text |
| [<mark>](https://www.w3schools.com/tags/tag_mark.asp) | Defines marked/highlighted text |

# HTML Quotation and Citation Elements

 <q>, <blockquote>, <abbr>, <address>, <cite>, and <bdo> HTML elements.

Example

Here is a quote from WWF's website:

For nearly 60 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by more than one million members in the United States and close to five million globally.

## HTML <q> for Short Quotations

The HTML <q> element defines a short quotation.

Browsers usually insert quotation marks around the <q> element.

Example

<p>WWF's goal is to: <q>Build a future where people live in harmony with nature.</q></p>

## HTML <blockquote> for Quotations

The HTML <blockquote> element defines a section that is quoted from another source.

Browsers usually indent <blockquote> elements.

Example

<p>Here is a quote from WWF's website:</p>  
<blockquote cite="http://www.worldwildlife.org/who/index.html">  
For 50 years, WWF has been protecting the future of nature.  
The world's leading conservation organization,  
WWF works in 100 countries and is supported by  
1.2 million members in the United States and  
close to 5 million globally.  
</blockquote>

## HTML <abbr> for Abbreviations

The HTML <abbr> element defines an abbreviation or an acronym.

Marking abbreviations can give useful information to browsers, translation systems and search-engines.

Example

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

## HTML <address> for Contact Information

The HTML <address> element defines contact information (author/owner) of a document or an article.

The <address> element is usually displayed in italic. Most browsers will add a line break before and after the element.

Example

<address>  
Written by John Doe.<br>  
Visit us at:<br>  
Example.com<br>  
Box 564, Disneyland<br>  
USA  
</address>

## HTML <cite> for Work Title

The HTML <cite> element defines the title of a work.

Browsers usually display <cite> elements in italic.

Example

<p><cite>The Scream</cite> by Edvard Munch. Painted in 1893.</p>

## HTML <bdo> for Bi-Directional Override

The HTML <bdo> element defines bi-directional override.

The <bdo> element is used to override the current text direction:

Example

<bdo dir="rtl">This text will be written from right to left</bdo>

## HTML Quotation and Citation Elements

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<abbr>](https://www.w3schools.com/tags/tag_abbr.asp) | Defines an abbreviation or acronym |
| [<address>](https://www.w3schools.com/tags/tag_address.asp) | Defines contact information for the author/owner of a document |
| [<bdo>](https://www.w3schools.com/tags/tag_bdo.asp) | Defines the text direction |
| [<blockquote>](https://www.w3schools.com/tags/tag_blockquote.asp) | Defines a section that is quoted from another source |
| [<cite>](https://www.w3schools.com/tags/tag_cite.asp) | Defines the title of a work |
| [<q>](https://www.w3schools.com/tags/tag_q.asp) | Defines a short inline quotation |

# HTML Comments

HTML comments are not displayed in the browser, but they can help document your HTML source code.

## HTML Comment Tags

You can add comments to your HTML source by using the following syntax:

<!-- Write your comments here -->

Notice that there is an exclamation point (!) in the opening tag, but not in the closing tag.

**Note:** Comments are not displayed by the browser, but they can help document your HTML source code.

With comments you can place notifications and reminders in your HTML:

Example:

<!-- This is a comment -->  
  
<p>This is a paragraph.</p>  
  
<!-- Remember to add more information here -->

Comments are also great for debugging HTML, because you can comment out HTML lines of code, one at a time, to search for errors:

Example:

<!-- Do not display this image at the moment  
<img border="0" src="pic\_trulli.jpg" alt="Trulli">  
-->

# HTML Colors

HTML colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values.

## Color Names

In HTML, a color can be specified by using a color name:

Tomato

Orange

DodgerBlue

MediumSeaGreen

Gray

SlateBlue

Violet

LightGray

<html>

<body>

<h1 style="background-color:Tomato;">Tomato</h1>

<h1 style="background-color:Orange;">Orange</h1>

<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>

<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>

<h1 style="background-color:Gray;">Gray</h1>

<h1 style="background-color:SlateBlue;">SlateBlue</h1>

<h1 style="background-color:Violet;">Violet</h1>

<h1 style="background-color:LightGray;">LightGray</h1>

</body>

</html>

HTML supports [140 standard color names](https://www.w3schools.com/colors/colors_names.asp).

## Background Color

You can set the background color for HTML elements:

Hello World

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

### Example

<h1 style="background-color:DodgerBlue;">Hello World</h1>  
<p style="background-color:Tomato;">Lorem ipsum...</p>

## Text Color

You can set the color of text:

### Hello World

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Example:-

<h1 style="color:Tomato;">Hello World</h1>  
<p style="color:DodgerBlue;">Lorem ipsum...</p>  
<p style="color:MediumSeaGreen;">Ut wisi enim...</p>

## Border Color

You can set the color of borders:

## Hello World

## Hello World

## Hello World

Example:-

<h1 style="border:2px solid Tomato;">Hello World</h1>  
<h1 style="border:2px solid DodgerBlue;">Hello World</h1>  
<h1 style="border:2px solid Violet;">Hello World</h1>

## Color Values

In HTML, colors can also be specified using RGB values, HEX values, HSL values, RGBA values, and HSLA values:

Same as color name "Tomato":

**rgb(255, 99, 71)**

**#ff6347**

**hsl(9, 100%, 64%)**

Same as color name "Tomato", but 50% transparent:

**rgba(255, 99, 71, 0.5)**

**hsla(9, 100%, 64%, 0.5)**

Example:-

<h1 style="background-color:rgb(255, 99, 71);">...</h1>  
<h1 style="background-color:#ff6347;">...</h1>  
<h1 style="background-color:hsl(9, 100%, 64%);">...</h1>  
  
<h1 style="background-color:rgba(255, 99, 71, 0.5);">...</h1>  
<h1 style="background-color:hsla(9, 100%, 64%, 0.5);">...</h1>

# HTML RGB and RGBA Colors

An RGB color value represents RED, GREEN, and BLUE light sources.

An RGBA color value is an extension of RGB with an Alpha channel (opacity).

## 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 between 0 and 255.

 This makes 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 others 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).

Experiment by mixing the RGB values below:

**rgb(255, 99, 71)**

RED GREEN BLUE

255 99 71

Example:-

**rgb(255, 0, 0)**

**rgb(0, 0, 255)**

**rgb(60, 179, 113)**

**rgb(238, 130, 238)**

**rgb(255, 165, 0)**

**rgb(106, 90, 205)**

Shades of gray are often defined using equal values for all the 3 light sources:

Example:-

**rgb(0, 0, 0)**

**rgb(60, 60, 60)**

**rgb(120, 120, 120)**

**rgb(180, 180, 180)**

**rgb(240, 240, 240)**

**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):

Experiment by mixing the RGBA values below:

**rgba(255, 99, 71, 0.5)**

Example:-

**gba(255, 99, 71, 0)**

**rgba(255, 99, 71, 0.2)**

**rgba(2rgba(255, 99, 71, 0.6)**

**rgba(255, 99, 71, 0.8)**

**rgba(255, 99, 71, 1)**

# HTML HSL and HSLA Colors

[❮ Previous](https://www.w3schools.com/html/html_colors_hex.asp)[Next ❯](https://www.w3schools.com/html/html_css.asp)

HSL stands for hue, saturation, and lightness.

HSLA color values are an extension of HSL with an Alpha channel (opacity).

## HSL Color Values

In HTML, a color can be specified using hue, saturation, and lightness (HSL) in the form:

**hsl(hue, saturation, lightness)**

Hue is a degree on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue.

Saturation is a percentage value, 0% means a shade of gray, and 100% is the full color.

Lightness is also a percentage, 0% is black, 50% is neither light or dark, 100% is white

Experiment by mixing the HSL values below:

**hsl(90, 100%, 50%)**

HUE SATURATION LIGHTNESS

90 100% 50%

Example:-

**hsl(0, 100%, 50%)**

**hsl(240, 100%, 50%)**

**hsl(147, 50%, 47%)**

**hsl(300, 76%, 72%)**

**hsl(39, 100%, 50%)**

**hsl(248, 53%, 58%)**

**Saturation**

Saturation can be described as the intensity of a color.

100% is pure color, no shades of gray

50% is 50% gray, but you can still see the color.

0% is completely gray, you can no longer see the color.

### Example

**hsl(0, 100%, 50%)**

**hsl(0, 80%, 50%)**

**hsl(0, 60%, 50%)**

**hsl(0, 40%, 50%)**

**hsl(0, 20%, 50%)**

**hsl(0, 0%, 50%)**

Example:-

### Lightness

The lightness of a color can be described as how much light you want to give the color, where 0% means no light (black), 50% means 50% light (neither dark nor light) 100% means full lightness (white).

### Example

**hsl(0, 100%, 0%)**

**hsl(0, 100%, 25%)**

**hsl(0, 100%, 50%)**

**hsl(0, 100%, 75%)**

**hsl(0, 100%, 90%)**

**hsl(0, 100%, 100%)**

Example:-

Shades of gray are often defined by setting the hue and saturation to 0, and adjust the lightness from 0% to 100% to get darker/lighter shades:

### Example

**hsl(0, 0%, 0%)**

**hsl(0, 0%, 24%)**

**hsl(0, 0%, 47%)**

**hsl(0, 0%, 71%)**

**hsl(0, 0%, 94%)**

**hsl(0, 0%, 100%)**

**HSLA Color Values**

HSLA color values are an extension of HSL color values with an alpha channel - which specifies the opacity for a color.

An HSLA color value is specified with:

**hsla(hue, saturation, lightness, alpha)**

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (not transparent at all):

Experiment by mixing the HSLA values below:

**hsla(0, 100%, 50%, 0.5)**

HUE SATURATION LIGHTNESS Alpha

0 100% 50% 0.5

0 100%

example

**hsla(9, 100%, 64%, 0)**

**hsla(9, 100%, 64%, 0.2)**

**hsla(9, 100%, 64%, 0.4)**

**hsla(9, 100%, 64%, 0.6)**

**hsla(9, 100%, 64%, 0.8)**

**hsla(9, 100%, 64%, 1)**

# 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.

# CSS = Styles and Colors

Manipulate Text

Colors,  Boxes

## Styling HTML with CSS

CSS describes how HTML elements are to be displayed on screen, paper, or in other media.

CSS can be added to HTML elements in 3 ways:

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

The most common way to add CSS, is to keep the styles in separate CSS files. However, here we will use inline and internal styling, because this is easier to demonstrate, and easier for you to try it yourself.

## Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the style attribute of an HTML element.

This example sets the text color of the <h1> element to blue:

### Example

<h1 style="color:blue;">This is a Blue Heading</h1>

## Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the <head> section of an HTML page, within a <style> element:

### Example

<html>  
<head>  
<style>  
body {background-color: powderblue;}  
h1   {color: blue;}  
p    {color: red;}  
</style>  
</head>  
<body>  
<h1>This is a heading</h1>  
<p>This is a paragraph.</p>  
  
</body>  
</html

## External CSS

An external style sheet is used to define the style for many HTML pages.

**With an external style sheet, you can change the look of an entire web site, by changing one file!**

To use an external style sheet, add a link to it in the <head> section of the HTML page:

### Example

<!DOCTYPE html>  
<html>  
<head>  
  <link rel="stylesheet" href="styles.css">  
</head>  
<body>  
  
<h1>This is a heading</h1>  
<p>This is a paragraph.</p>  
  
</body>  
</html>

An external style sheet can be written in any text editor. The file must not contain any HTML code, and must be saved with a .css extension.

Here is how the "styles.css" looks:

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

## CSS Fonts

The CSS color property defines the text color to be used.

The CSS font-family property defines the font to be used.

The CSS font-size property defines the text size to be used.

### Example

<html>  
<head>  
<style>  
h1 {  
  color: blue;  
  font-family: verdana;  
  font-size: 300%;  
}  
p  {  
  color: red;  
  font-family: courier;  
  font-size: 160%;  
}  
</style>  
</head>  
<body>  
  
<h1>This is a heading</h1>  
<p>This is a paragraph.</p>  
  
</body>  
</html>

## CSS Border

The CSS border property defines a border around an HTML element:

### Example

p {  
  border: 1px solid powderblue;  
}  
<html>

<head>

<style>

p {

border: 1px solid powderblue;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

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

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

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

</body>

</html>

## CSS Padding

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

### Example

p {  
  border: 1px solid powderblue;  
  padding: 30px;  
}

## CSS Margin

The CSS margin property defines a margin (space) outside the border:

### Example

p {  
  border: 1px solid powderblue;  
  margin: 50px;

## The id Attribute

To define a specific style for one special element, add an id attribute to the element:

<p id="p01">I am different</p>

then define a style for the element with the specific id:

### Example

#p01 {  
  color: blue;  
}

**Note:** The id of an element should be unique within a page, so the id selector is used to select one unique element!

## The class Attribute

To define a style for special types of elements, add a class attribute to the element:

<p class="error">I am different</p>

then define a style for the elements with the specific class:

### Example

p.error {  
  color: red;  
}

## External References

External style sheets can be referenced with a full URL or with a path relative to the current web page.

This example uses a full URL to link to a style sheet:

### Example

<link rel="stylesheet" href="https://www.facebook.com/html/styles.css">

This example links to a style sheet located in the html folder on the current web site:

### Example

<link rel="stylesheet" href="/html/styles.css">

This example links to a style sheet located in the same folder as the current page:

### Example

<link rel="stylesheet" href="styles.css">

You can read more about file paths in the chapter [HTML File Paths](https://www.w3schools.com/html/html_filepaths.asp).

## Chapter Summary

* Use the HTML style attribute for inline styling
* Use the HTML <style> element to define internal CSS
* Use the HTML <link> element to refer to an external CSS file
* Use the HTML <head> element to store <style> and <link> elements
* Use the CSS color property for text colors
* Use the CSS font-family property for text fonts
* Use the CSS font-size property for text sizes
* Use the CSS border property for borders
* Use the CSS padding property for space inside the border
* Use the CSS margin property for space outside the border

# HTML Links

Links are found in nearly all web pages. Links allow users to click their way from page to page.

## HTML Links - Hyperlinks

HTML links are hyperlinks.

You can click on a link and jump to another document.

When you move the mouse over a link, the mouse arrow will turn into a little hand.

**Note:** A link does not have to be text. It can be an image or any other HTML element.

## HTML Links - Syntax

Hyperlinks are defined with the HTML <a> tag:

<a href="*url*">*link text*</a>

### Example

<a href="https://www.darbar.com/html/">Visit our HTML tutorial</a>

The href attribute specifies the destination address (https://www.w3schools.com/html/) of the link.

The **link text** is the visible part (Visit our HTML tutorial).

Clicking on the link text will send you to the specified address.

**Note:** Without a forward slash at the end of subfolder addresses, you might generate two requests to the server. Many servers will automatically add a forward slash to the end of the address, and then create a new request.

## Local Links

The example above used an absolute URL (a full web address).

A local link (link to the same web site) is specified with a relative URL (without https://www....).

### Example

<a href="html\_images.asp">HTML Images</a>

## HTML Links - The target Attribute

The target attribute specifies where to open the linked document.

The target attribute can have one of the following values:

* \_blank - Opens the linked document in a new window or tab
* \_self - Opens the linked document in the same window/tab as it was clicked (this is default)
* \_parent - Opens the linked document in the parent frame
* \_top - Opens the linked document in the full body of the window
* framename - Opens the linked document in a named frame

This example will open the linked document in a new browser window/tab:

### Example

<a href="https://www.darbar.com/" target="\_blank">Visit Darbar.com!</a>

**Tip:** If your webpage is locked in a frame, you can use target="\_top" to break out of the frame:

### Example

<a href="https://www.darbar.com/html/" target="\_top">HTML tutorial!</a>

## HTML Links - Image as a Link

It is common to use images as links:

### Example

<a href="default.asp">  
  <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0;">  
</a>

**Note:** border:0; is added to prevent IE9 (and earlier) from displaying a border around the image (when the image is a link).

## Button as a Link

To use an HTML button as a link, you have to add some JavaScript code.

JavaScript allows you to specify what happens at certain events, such as a click of a button:

### Example

<button onclick="document.location = 'default.asp'">HTML Tutorial</button>

**Tip:** Learn more about JavaScript in our [JavaScript Tutorial](https://www.w3schools.com/js/default.asp).

## Link Titles

The title attribute specifies extra information about an element. The information is most often shown as a tooltip text when the mouse moves over the element.

### Example

<a href="https://www.darbar.com/html/" title="Go to Darbar.com HTML section">Visit our HTML Tutorial</a>

## External Paths

External pages can be referenced with a full URL or with a path relative to the current web page.

This example uses a full URL to link to a web page:

### Example

<a href="https://www.darbar.com/html/default.asp">HTML tutorial</a>

This example links to a page located in the html folder on the current web site:

### Example

<a href="/html/default.asp">HTML tutorial</a>

This example links to a page located in the same folder as the current page:

### Example

<a href="default.asp">HTML tutorial</a>

## Chapter Summary

* Use the <a> element to define a link
* Use the href attribute to define the link address
* Use the target attribute to define where to open the linked document
* Use the <img> element (inside <a>) to use an image as a link

# HTML Links - Different Colors

HTML links will be displayed in different colors depending on whether they have been visited, are unvisited, or are active.

## HTML Link Colors

By default, a link will appear like this (in all browsers):

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

You can change the default colors, by using CSS:

### Example

<style>  
a:link {  
  color: green;  
  background-color: transparent;  
  text-decoration: none;  
}  
  
a:visited {  
  color: pink;  
  background-color: transparent;  
  text-decoration: none;  
}  
  
a:hover {  
  color: red;  
  background-color: transparent;  
  text-decoration: underline;  
}  
  
a:active {  
  color: yellow;  
  background-color: transparent;  
  text-decoration: underline;  
}  
</style>

## Link Buttons

A link can also be styled as a button, by using CSS:

[This is a link](javascript:void(0))

### Example

<style>  
a:link, a:visited {  
  background-color: #f44336;  
  color: white;  
  padding: 15px 25px;  
  text-align: center;  
  text-decoration: none;  
  display: inline-block;  
}  
  
a:hover, a:active {  
  background-color: red;  
}  
</style>

# HTML Links - Create Bookmarks

HTML links can be used to create bookmarks, so that readers can jump to specific parts of a web page.

## Create a Bookmark in HTML

Bookmarks can be useful if a web page is very long.

To create a bookmark - first create the bookmark, then add a link to it.

When the link is clicked, the page will scroll down or up to the location with the bookmark.

## Example

First, create a bookmark with the id attribute:

<h2 id="C4">Chapter 4</h2>

Then, add a link to the bookmark ("Jump to Chapter 4"), from within the same page:

### Example

<a href="#C4">Jump to Chapter 4</a>

You can also add a link to a bookmark on another page:

<a href="html\_demo.html#C4">Jump to Chapter 4</a>

<html>

<body>

<p><a href="#C4">Jump to Chapter 4</a></p>

<p><a href="#C10">Jump to Chapter 10</a></p>

<h2>Chapter 1</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 2</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 3</h2>

<p>This chapter explains ba bla bla</p>

<h2 id="C4">Chapter 4</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 5</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 6</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 7</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 8</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 9</h2>

<p>This chapter explains ba bla bla</p>

<h2 id="C10">Chapter 10</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 11</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 12</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 13</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 14</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 15</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 16</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 17</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 18</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 19</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 20</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 21</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 22</h2>

<p>This chapter explains ba bla bla</p>

<h2>Chapter 23</h2>

<p>This chapter explains ba bla bla</p>

</body>

</html>

## Chapter Summary

* Use the id attribute (id="value") to define bookmarks in a page
* Use the href attribute (href="#value") to link to the bookmark

# HTML Images

Images can improve the design and the appearance of a web page.

### Example

<img src="pic\_trulli.jpg" alt="Italian Trulli">

### Example

<img src="img\_girl.jpg" alt="Girl in a jacket">

### Example

<img src="img\_chania.jpg" alt="Flowers in Chania">

## HTML Images Syntax

In HTML, images are defined with the <img> tag.

The <img> tag is empty, it contains attributes only, and does not have a closing tag.

The src attribute specifies the URL (web address) of the image:

<img src="*url*">

## The alt Attribute

The alt attribute provides an alternate text for an image, if the user for some reason cannot view it (because of slow connection, an error in the src attribute, or if the user uses a screen reader).

The value of the alt attribute should describe the image:

### Example

<img src="img\_chania.jpg" alt="Flowers in Chania">

If a browser cannot find an image, it will display the value of the alt attribute:

### Example

<img src="wrongname.gif" alt="Flowers in Chania">

**Note:** The alt attribute is required. A web page will not validate correctly without it.

## Image Size - Width and Height

You can use the style attribute to specify the width and height of an image.

### Example

<img src="img\_girl.jpg" alt="Girl in a jacket" style="width:500px;height:600px;">

Alternatively, you can use the width and height attributes:

### Example

<img src="img\_girl.jpg" alt="Girl in a jacket" width="500" height="600">

The width and height attributes always define the width and height of the image in pixels.

**Note:** Always specify the width and height of an image. If width and height are not specified, the page might flicker while the image loads.

## Width and Height, or Style?

The width, height, and style attributes are valid in HTML.

However, we suggest using the style attribute. It prevents styles sheets from changing the size of images:

### Example

<!DOCTYPE html>  
<html>  
<head>  
<style>  
img {  
  width: 100%;  
}  
</style>  
</head>  
<body>  
  
<img src="html5.gif" alt="HTML5 Icon" width="128" height="128">  
<img src="html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">  
  
</body>  
</html>

## Images in Another Folder

If not specified, the browser expects to find the image in the same folder as the web page.

However, it is common to store images in a sub-folder. You must then include the folder name in the src attribute:

### Example

<img src="/images/html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">

## Images on Another Server

Some web sites store their images on image servers.

Actually, you can access images from any web address in the world:

### Example

<img src="https://www.w3schools.com/images/w3schools\_green.jpg" alt="W3Schools.com">

## Animated Images

HTML allows animated GIFs:

### Example

<img src="programming.gif" alt="Computer Man" style="width:48px;height:48px;">

## Image as a Link

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

### Example

<a href="default.asp">  
  <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0;">  
</a>

**Note:** border:0; is added to prevent IE9 (and earlier) from displaying a border around the image (when the image is a link).

## Image Floating

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

### Example

<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>

## HTML Screen Readers

A screen reader is a software program that reads the HTML code, converts the text, and allows the user to "listen" to the content. Screen readers are useful for people who are visually impaired or learning disabled.

## Chapter Summary

* Use the HTML <img> element to define an image
* Use the HTML src attribute to define the URL of the image
* Use the HTML alt attribute to define an alternate text for an image, if it cannot be displayed
* Use the HTML width and height attributes to define the size of the image
* Use the CSS width and height properties to define the size of the image (alternatively)
* Use the CSS float property to let the image float

Loading images takes time. Large images can slow down your page. Use images carefully.

## HTML Image Tags

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<img>](https://www.w3schools.com/tags/tag_img.asp) | Defines an image |
| [<map>](https://www.w3schools.com/tags/tag_map.asp) | Defines an image-map |
| [<area>](https://www.w3schools.com/tags/tag_area.asp) | Defines a clickable area inside an image-map |
| [<picture>](https://www.w3schools.com/tags/tag_picture.asp) | Defines a container for multiple image resources |

# HTML Background Images

A background image can be specified on almost any HTML element.

## Background Image on a HTML element

To add a background image on an HTML element, use the HTML style attribute and the CSS background-image property:

### Example

Add a background image on a HTML element:

<div style="background-image: url('img\_girl.jpg');">

You can also specify the background image in the <style> element:

### Example

Specify the background image in the style element:

<style>  
div {  
  background-image: url('img\_girl.jpg');  
}  
</style>

## Background Image on a Page

If you want the entire page to have a background image, then you must specify the background image on the <body> element:

### Example

Add a background image on a HTML page:

<style>  
body {  
  background-image: url('img\_girl.jpg');  
}  
</style>

## Background Repeat

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:

### Example

<style>  
body {  
  background-image: url('example\_img\_girl.jpg');  
}  
</style>

To avoid the background image from repeating itself, use the background-repeat property.

### Example

<style>  
body {  
  background-image: url('example\_img\_girl.jpg');  
  background-repeat: no-repeat;  
}  
</style>

## Background Cover

If you want the background image 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:

As you can see, the image will cover the entire element, with no stretching, the image will keep its original proportions.

### Example

<style>  
body {  
  background-image: url('img\_girl.jpg');  
  background-repeat: no-repeat;  
  background-attachment: fixed;  
  background-size: cover;  
}  
</style>

## Background Stretch

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

Try resizing the browser window, and you will see that the image will stretch, but always cover the entire element.

### Example

<style>  
body {  
  background-image: url('img\_girl.jpg');  
  background-repeat: no-repeat;  
  background-attachment: fixed;  
  background-size: 100% 100%;  
}  
</style>

# HTML Tables

HTML tables allow web authors to arrange data into rows and columns.

### Example

|  |  |  |
| --- | --- | --- |
| **Company** | **Contact** | **Country** |
| Alfreds Futterkiste | Maria Anders | Germany |
| Centro comercial Moctezuma | Francisco Chang | Mexico |
| Ernst Handel | Roland Mendel | Austria |
| Island Trading | Helen Bennett | UK |
| Laughing Bacchus Winecellars | Yoshi Tannamuri | Canada |
| Magazzini Alimentari Riuniti | Giovanni Rovelli | Italy |

## Defining an HTML Table

An HTML table is defined with the <table> tag.

Each table row is defined with the <tr> tag. A table header is defined with the <th> tag. By default, table headings are bold and centered. A table data/cell is defined with the <td> tag.

### Example

<table style="width:100%">  
  <tr>  
    <th>Firstname</th>  
    <th>Lastname</th>  
    <th>Age</th>  
  </tr>  
  <tr>  
    <td>Jill</td>  
    <td>Smith</td>  
    <td>50</td>  
  </tr>  
  <tr>  
    <td>Eve</td>  
    <td>Jackson</td>  
    <td>94</td>  
  </tr>  
</table>

**Note:** The <td> elements are the data containers of the table.  
They can contain all sorts of HTML elements; text, images, lists, other tables, etc.

## HTML Table - Adding a Border

If you do not specify a border for the table, it will be displayed without borders.

A border is set using the CSS border property:

### Example

table, th, td {  
  border: 1px solid black;  
}

Remember to define borders for both the table and the table cells.

## HTML Table - Collapsed Borders

If you want the borders to collapse into one border, add the CSS border-collapse property:

### Example

table, th, td {  
  border: 1px solid black;  
  border-collapse: collapse;  
}

## HTML Table - Adding Cell Padding

Cell padding specifies the space between the cell content and its borders.

If you do not specify a padding, the table cells will be displayed without padding.

To set the padding, use the CSS padding property:

### Example

th, td {  
  padding: 15px;  
}

## HTML Table - Left-align Headings

By default, table headings are bold and centered.

To left-align the table headings, use the CSS text-align property:

### Example

th {  
  text-align: left;  
}

## HTML Table - Adding Border Spacing

Border spacing specifies the space between the cells.

To set the border spacing for a table, use the CSS border-spacing property:

### Example

table {  
  border-spacing: 5px;  
}

**Note:** If the table has collapsed borders, border-spacing has no effect.

## HTML Table - Cells that Span Many Columns

To make a cell span more than one column, use the colspan attribute:

### Example

<table style="width:100%">  
  <tr>  
    <th>Name</th>  
    <th colspan="2">Telephone</th>  
  </tr>  
  <tr>  
    <td>Bill Gates</td>  
    <td>55577854</td>  
    <td>55577855</td>  
  </tr>  
</table>

## HTML Table - Cells that Span Many Rows

To make a cell span more than one row, use the rowspan attribute:

### Example

<table style="width:100%">  
  <tr>  
    <th>Name:</th>  
    <td>Bill Gates</td>  
  </tr>  
  <tr>  
    <th rowspan="2">Telephone:</th>  
    <td>55577854</td>  
  </tr>  
  <tr>  
    <td>55577855</td>  
  </tr>  
</table>

## HTML Table - Adding a Caption

To add a caption to a table, use the <caption> tag:

### Example

<table style="width:100%">  
  <caption>Monthly savings</caption>  
  <tr>  
    <th>Month</th>  
    <th>Savings</th>  
  </tr>  
  <tr>  
    <td>January</td>  
    <td>$100</td>  
  </tr>  
  <tr>  
    <td>February</td>  
    <td>$50</td>  
  </tr>  
</table>

**Note:** The <caption> tag must be inserted immediately after the <table> tag.

## A Special Style for One Table

To define a special style for a special table, add an id attribute to the table:

### Example

<table id="t01">  
  <tr>  
    <th>Firstname</th>  
    <th>Lastname</th>  
    <th>Age</th>  
  </tr>  
  <tr>  
    <td>Eve</td>  
    <td>Jackson</td>  
    <td>94</td>  
  </tr>  
</table>

### Now you can define a special style for this table:

table#t01 {  
  width: 100%;  
  background-color: #f1f1c1;  
}

### And add more styles:

table#t01 tr:nth-child(even) {  
  background-color: #eee;  
}  
table#t01 tr:nth-child(odd) {  
  background-color: #fff;  
}  
table#t01 th {  
  color: white;  
  background-color: black;  
}

## Chapter Summary

* Use the HTML <table> element to define a table
* Use the HTML <tr> element to define a table row
* Use the HTML <td> element to define a table data
* Use the HTML <th> element to define a table heading
* Use the HTML <caption> element to define a table caption
* Use the CSS border property to define a border
* Use the CSS border-collapse property to collapse cell borders
* Use the CSS padding property to add padding to cells
* Use the CSS text-align property to align cell text
* Use the CSS border-spacing property to set the spacing between cells
* Use the colspan attribute to make a cell span many columns
* Use the rowspan attribute to make a cell span many rows
* Use the id attribute to uniquely define one table

# HTML Lists

HTML lists allow web authors to group a set of related items in lists.

### Example

An unordered HTML list:

* Item
* Item
* Item
* Item

An ordered HTML list:

1. First item
2. Second item
3. Third item
4. Fourth item

## Unordered HTML List

An unordered list starts with the [<ul>](https://www.w3schools.com/tags/tag_ul.asp) tag. Each list item starts with the [<li>](https://www.w3schools.com/tags/tag_li.asp) tag.

The list items will be marked with bullets (small black circles) by default:

### Example

<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

## Ordered HTML List

An ordered list starts with the [<ol>](https://www.w3schools.com/tags/tag_ol.asp) tag. Each list item starts with the [<li>](https://www.w3schools.com/tags/tag_li.asp) tag.

The list items will be marked with numbers by default:

### Example

<ol>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

## HTML Description Lists

HTML also supports description lists.

A description list is a list of terms, with a description of each term.

The [<dl>](https://www.w3schools.com/tags/tag_dl.asp) tag defines the description list, the [<dt>](https://www.w3schools.com/tags/tag_dt.asp) tag defines the term (name), and the [<dd>](https://www.w3schools.com/tags/tag_dd.asp) tag describes each term:

### Example

<dl>  
  <dt>Coffee</dt>  
  <dd>- black hot drink</dd>  
  <dt>Milk</dt>  
  <dd>- white cold drink</dd>  
</dl>

# HTML Unordered Lists

The HTML [<ul>](https://www.w3schools.com/tags/tag_ol.asp) tag defines an unordered (bulleted) list.

## Unordered HTML List

An unordered list starts with the [<ul>](https://www.w3schools.com/tags/tag_ul.asp) tag. Each list item starts with the [<li>](https://www.w3schools.com/tags/tag_li.asp) tag.

The list items will be marked with bullets (small black circles) by default:

### Example

<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

## Unordered HTML List - Choose List Item Marker

The CSS list-style-type property is used to define the style of the list item marker:

|  |  |
| --- | --- |
| **Value** | **Description** |
| disc | Sets the list item marker to a bullet (default) |
| circle | Sets the list item marker to a circle |
| square | Sets the list item marker to a square |
| none | The list items will not be marked |

### Example - Disc

<ul style="list-style-type:disc;">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

### Example - Circle

<ul style="list-style-type:circle;">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

### Example - Square

<ul style="list-style-type:square;">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

### Example - None

<ul style="list-style-type:none;">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

## Nested HTML Lists

List can be nested (lists inside lists):

### Example

<ul>  
  <li>Coffee</li>  
  <li>Tea  
    <ul>  
      <li>Black tea</li>  
      <li>Green tea</li>  
    </ul>  
  </li>  
  <li>Milk</li>  
</ul>

# HTML Ordered Lists

The HTML [<ol>](https://www.w3schools.com/tags/tag_ol.asp) tag defines an ordered list. An ordered list can be numerical or alphabetical.

## Ordered HTML List

An ordered list starts with the [<ol>](https://www.w3schools.com/tags/tag_ol.asp) tag. Each list item starts with the [<li>](https://www.w3schools.com/tags/tag_li.asp) tag.

The list items will be marked with numbers by default:

### Example

<ol>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

## Ordered HTML List - The Type Attribute

The type attribute of the [<ol>](https://www.w3schools.com/tags/tag_ol.asp) tag, defines the type of the list item marker:

|  |  |
| --- | --- |
| **Type** | **Description** |
| type="1" | The list items will be numbered with numbers (default) |
| type="A" | The list items will be numbered with uppercase letters |
| type="a" | The list items will be numbered with lowercase letters |
| type="I" | The list items will be numbered with uppercase roman numbers |
| type="i" | The list items will be numbered with lowercase roman numbers |

### Numbers:

<ol type="1">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

### Uppercase Letters:

<ol type="A">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

### Lowercase Letters:

<ol type="a">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

### Uppercase Roman Numbers:

<ol type="I">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

### Lowercase Roman Numbers:

<ol type="i">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

## Control List Counting

By default, an ordered list will start counting from 1. If you want to start counting from a specified number, you can use the start attribute:

### Example

<ol start="50">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

## Nested HTML Lists

List can be nested (lists inside lists):

### Example

<ol>  
  <li>Coffee</li>  
  <li>Tea  
    <ol>  
      <li>Black tea</li>  
      <li>Green tea</li>  
    </ol>  
  </li>  
  <li>Milk</li>  
</ol>

**Note:** List items can contain new list, and other HTML elements, like images and links, etc.

## Chapter Summary

* Use the HTML <ol> element to define an ordered list
* Use the HTML type attribute to define the numbering type
* Use the HTML <li> element to define a list item
* Lists can be nested inside lists
* List items can contain other HTML elements

# HTML Other Lists

HTML also supports description lists.

## HTML Description Lists

A description list is a list of terms, with a description of each term.

The [<dl>](https://www.w3schools.com/tags/tag_dl.asp) tag defines the description list, the [<dt>](https://www.w3schools.com/tags/tag_dt.asp) tag defines the term (name), and the [<dd>](https://www.w3schools.com/tags/tag_dd.asp) tag describes each term:

### Example

<dl>  
  <dt>Coffee</dt>  
  <dd>- black hot drink</dd>  
  <dt>Milk</dt>  
  <dd>- white cold drink</dd>  
</dl>

## Chapter Summary

* Use the HTML <dl> element to define a description list
* Use the HTML <dt> element to define the description term
* Use the HTML <dd> element to describe the term in a description list

# HTML Iframes

An HTML iframe is used to display a web page within a web page.

## Iframe Syntax

An HTML iframe is defined with the <iframe> tag:

<iframe src="URL"></iframe>

The src attribute specifies the URL (web address) of the inline frame page.

## Iframe - Set Height and Width

Use the height and width attributes to specify the size of the iframe.

The height and width are specified in pixels by default:

### Example

<iframe src="demo\_iframe.htm" height="200" width="300"></iframe>

Or you can use CSS to set the height and width of the iframe:

### Example

<iframe src="demo\_iframe.htm" style="height:200px;width:300px;"></iframe>

## Iframe - Remove the Border

By default, an iframe has a border around it.

To remove the border, add the style attribute and use the CSS border property:

### Example

<iframe src="demo\_iframe.htm" style="border:none;"></iframe>

With CSS, you can also change the size, style and color of the iframe's border:

### Example

<iframe src="demo\_iframe.htm" style="border:2px solid red;"></iframe>

## Iframe - Target for a Link

An iframe can be used as the target frame for a link.

The target attribute of the link must refer to the name attribute of the iframe:

### Example

<iframe src="demo\_iframe.htm" name="iframe\_a"></iframe>  
  
<p><a href="https://www.w3schools.com" target="iframe\_a">W3Schools.com</a></p>

## Attributes

The following attributes can be used to adjust the appearance of the <marquee> element.

| **Attribute** | **Value** | **Description** |
| --- | --- | --- |
| behavior | scroll slide alternate | Defines the scrolling type. |
| bgcolor | rgb(x,x,x) #xxxxxx colorname | Is used to give a background color. |
| direction | up down left right | Sets the direction for the scrolling content. |
| height | pixels % | Defines the marquee's height. |
| hspace | pixels | Defines horizontal space around the marquee. |
| loop | number | Defines how many times the content will scroll. If we don't define this, the content will scroll forever. |
| scrollamount | number | Defines the scrolling amount at each interval in pixels. Default value is 6. |
| scrolldelay | seconds | Defines how long delay will be between each jump. The default value is 85 and smaller amounts than 60 will be ignored. |
| truespeed | seconds | Is used to delay the scroll lesser than 60. |
| vspace | pixels | Defines vertical space around the marquee. |
| width | pixels % | Defines the marquee's width. |

The <marquee> tag also supports the the [Global attributes](https://www.w3docs.com/learn-html/global-attributes.html) and the [Event Attributes](https://www.w3docs.com/learn-html/global-event-attributes.html).