**Introduction**

* 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.

1. A Simple HTML Document

1. 1. <!DOCTYPE html>

2. 2. <html>

3. 3. <head>

4. 4. <title>Page Title</title>

5. 5. </head>

6. 6. <body>

7. 7.

8. 8. <h1>My First Heading</h1>

9. 9. <p>My first paragraph.</p>

10. 10.

11. 11. </body>

12. 12. </html>

Example Explained

The <!DOCTYPE html> declaration defines that this document is an HTML5 document

The <html> element is the root element of an HTML page

The <head> element contains meta information about the HTML page

The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)

The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

The <h1> element defines a large heading

The <p> element defines a paragraph

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

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

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

<h1>My First Heading</h1>

<p>My first paragraph.</p>

**Start tag Element content End tag**

<h1> My First Heading </h1>

<p> My first paragraph. </p>

<br> none none

Note: Some HTML elements have no content (like the <br> element). These elements are called empty elements. Empty elements do not have an end tag!

1. HTML Documents

All HTML documents must start with a document type declaration: <!DOCTYPE html>.

The HTML document itself begins with <html> and ends with </html>.

The visible part of the HTML document is between <body> and </body>.

1. 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

<h1>This is heading 1</h1>

<h2>This is heading 2</h2>

<h3>This is heading 3</h3>

1. HTML Paragraphs

HTML paragraphs are defined with the <p> tag:

Example

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

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

1. HTML Links

HTML links are defined with the <a> tag:

Example

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

The link's destination is specified in the href attribute.

Attributes are used to provide additional information about HTML elements.

1. HTML Images

HTML images are defined with the <img> tag.

The source file (src), alternative text (alt), width, and height are provided as attributes:

Example

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

How to View HTML Source

Have you ever seen a Web page and wondered "Hey! How did they do that?"

HTML Elements

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

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

Examples of some HTML elements:

<h1>My First Heading</h1>

<p>My first paragraph.</p>

Start tag Element content End tag

<h1> My First Heading </h1>

<p> My first paragraph. </p>

<br> none none

Note: Some HTML elements have no content (like the <br> element). These elements are called empty elements. Empty elements do not have an end tag!

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>):

Example

<!DOCTYPE html>

<html>

<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>

</html>

Example Explained

The <html> element is the root element and it defines the whole HTML document.

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

Then, inside the <html> element there is a <body> element:

<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>

The <body> element defines the document's body.

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

Then, inside the <body> element there are two other elements: <h1> and <p>:

<h1>My First Heading</h1>

<p>My first paragraph.</p>

The <h1> element defines a heading.

It has a start tag <h1> and an end tag </h1>:

<h1>My First Heading</h1>

The <p> element defines a paragraph.

It has a start tag <p> and an end tag </p>:

<p>My first paragraph.</p>

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Never Skip the End Tag

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

Example

<html>

<body>

<p>This is a paragraph

<p>This is a paragraph

</body>

</html>

However, never rely on this! Unexpected results and errors may occur if you forget the end tag!

Empty HTML Elements

HTML elements with no content are called empty elements.

The <br> tag defines a line break, and is an empty element without a closing tag:

Example

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

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.

At W3Schools we always use lowercase tag names.

HTML Tag Reference

W3Schools' tag reference contains additional information about these tags and their attributes.

Tag Description

<html> Defines the root of an HTML document

<body> Defines the document's body

<h1> to <h6> Defines HTML headings

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Attributes

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"

The href Attribute

The <a> tag defines a hyperlink. The href attribute specifies the URL of the page the link goes to:

Example

<a href="https://www.w3schools.com">Visit W3Schools</a>

You will learn more about links in our HTML Links chapter.

The src Attribute

The <img> tag is used to embed an image in an HTML page. The src attribute specifies the path to the image to be displayed:

Example

<img src="img\_girl.jpg">

There are two ways to specify the URL in the src attribute:

1. Absolute URL - Links to an external image that is hosted on another website. Example: src="https://www.w3schools.com/images/img\_girl.jpg".

Notes: External images might be under copyright. If you do not get permission to use it, you may be in violation of copyright laws. In addition, you cannot control external images; it can suddenly be removed or changed.

2. Relative URL - Links to an image that is hosted within the website. Here, the URL does not include the domain name. If the URL begins without a slash, it will be relative to the current page. Example: src="img\_girl.jpg". If the URL begins with a slash, it will be relative to the domain. Example: src="/images/img\_girl.jpg".

Tip: It is almost always best to use relative URLs. They will not break if you change domain.

The width and height Attributes

The <img> tag should also contain the width and height attributes, which specify the width and height of the image (in pixels):

Example

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

The alt Attribute

The required alt attribute for the <img> tag specifies an alternate text for an image, if the image for some reason cannot be displayed. This can be due to a slow connection, or an error in the src attribute, or if the user uses a screen reader.

Example

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

Example

See what happens if we try to display an image that does not exist:

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

You will learn more about images in our HTML Images chapter.

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The style Attribute

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

Example

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

You will learn more about styles in our HTML Styles chapter.

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">

<body>

...

</body>

</html>

You can see all the language codes in our HTML Language Code Reference.

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:

Example

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

We Suggest: Always Use Lowercase Attributes

The HTML standard does not require lowercase attribute names.

The title attribute (and all other attributes) can be written with uppercase or lowercase like title or TITLE.

However, W3C recommends lowercase attributes in HTML, and demands lowercase attributes for stricter document types like XHTML.

At W3Schools we always use lowercase attribute names.

We Suggest: Always Quote Attribute Values

The HTML standard does not require quotes around attribute values.

However, W3C recommends quotes in HTML, and demands quotes for stricter document types like XHTML.

Good:

<a href="https://www.w3schools.com/html/">Visit our HTML tutorial</a>

Bad:

<a href=https://www.w3schools.com/html/>Visit our HTML tutorial</a>

Sometimes you have to use quotes. This example will not display the title attribute correctly, because it contains a space:

Example

<p title=About W3Schools>

At W3Schools we always use quotes around attribute values.

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">

Chapter Summary

All HTML elements can have attributes

The href attribute of <a> specifies the URL of the page the link goes to

The src attribute of <img> specifies the path to the image to be displayed

The width and height attributes of <img> provide size information for images

The alt attribute of <img> provides an alternate text for an image

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

The lang attribute of the <html> tag declares the language of the Web page

The title attribute defines some extra information about an element

HTML Exercises

Test Yourself With Exercises

Exercise:

Add a "tooltip" to the paragraph below with the text "About W3Schools".

<p

="About W3Schools">W3Schools is a web developer's site.</p>

Start the Exercise

HTML Attribute Reference

A complete list of all attributes for each HTML element, is listed in our: HTML Attribute Reference.

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

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

<h1>Heading 1</h1>

<h2>Heading 2</h2>

<h3>Heading 3</h3>

<h4>Heading 4</h4>

<h5>Heading 5</h5>

<h6>Heading 6</h6>

Note: Browsers automatically add some white space (a margin) before and after a heading.

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

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

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HTML Exercises

Test Yourself With Exercises

Exercise:

Use the correct HTML tag to add a heading with the text "London".

<p>London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.</p>

Start the Exercise

HTML Tag Reference

W3Schools' tag reference contains additional information about these tags and their attributes.

Tag Description

<html> Defines the root of an HTML document

<body> Defines the document's body

<h1> to <h6> Defines HTML headings

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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 display by adding extra spaces or extra lines in your HTML code.

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

Example

<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>

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:

Example

<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>

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

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>

Solution - 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:

Example

<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>

HTML Exercises

Test Yourself With Exercises

Exercise:

Use the correct HTML tag to add a paragraph with the text "Hello World!".

<html>

<body>

</body>

</html>

Start the Exercise

HTML Tag Reference

W3Schools' tag reference contains additional information about HTML elements and their attributes.

Tag Description

<p> Defines a paragraph

<hr> Defines a thematic change in the content

<br> Inserts a single line break

<pre> Defines pre-formatted text

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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.

Example

Set the background color for a page to powderblue:

<body style="background-color:powderblue;">

<h1>This is a heading</h1>

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

</body>

Example

Set background color for two different elements:

<body>

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

<p style="background-color:tomato;">This is a paragraph.</p>

</body>

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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>

Chapter Summary

Use the style attribute for styling HTML elements

Use background-color for background color

Use color for text colors

Use font-family for text fonts

Use font-size for text sizes

Use text-align for text alignment

HTML Exercises

Test Yourself With Exercises

Exercise:

Use the correct HTML attribute, and CSS, to set the color of the paragraph to "blue".

<p

="

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

HTML Text Formatting

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

Example

This text is bold

This text is italic

This is subscript 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> - Smaller 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 text with strong importance. The content inside is typically displayed in bold.

Example

<strong>This text is important!</strong>

HTML <i> and <em> Elements

The HTML <i> element defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.

Tip: The <i> tag is often used to indicate a technical term, a phrase from another language, a thought, a ship name, etc.

Example

<i>This text is italic</i>

The HTML <em> element defines emphasized text. The content inside is typically displayed in italic.

Tip: A screen reader will pronounce the words in <em> with an emphasis, using verbal stress.

Example

<em>This text is emphasized</em>

HTML <small> Element

The HTML <small> element defines smaller text:

Example

<small>This is some smaller text.</small>

HTML <mark> Element

The HTML <mark> element defines text that should be marked or highlighted:

Example

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

HTML <del> Element

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

Example

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

HTML <ins> Element

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

Example

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

HTML <sub> Element

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 H2O:

Example

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

HTML <sup> Element

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]:

Example

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

HTML Exercises

Test Yourself With Exercises

Exercise:

Add extra importance to the word "degradation" in the paragraph below.

<p>

WWF's mission is to stop the

degradation

of our planet's natural environment.

</p>

Start the Exercise

HTML Text Formatting Elements

Tag Description

<b> Defines bold text

<em> Defines emphasized text

<i> Defines a part of text in an alternate voice or mood

<small> Defines smaller text

<strong> Defines important text

<sub> Defines subscripted text

<sup> Defines superscripted text

<ins> Defines inserted text

<del> Defines deleted text

<mark> Defines marked/highlighted text

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Quotation and Citation Elements

In this chapter we will go through the <blockquote>,<q>, <abbr>, <address>, <cite>, and <bdo> HTML elements.

Example

Here is a quote from WWF's website:

For 60 years, WWF has worked to help people and nature thrive. As the world's leading conservation organization, WWF works in nearly 100 countries. At every level, we collaborate with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

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 60 years, WWF has worked to help people and nature thrive. As the world's leading conservation organization, WWF works in nearly 100 countries. At every level, we collaborate with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

</blockquote>

HTML <q> for Short Quotations

The HTML <q> tag defines a short quotation.

Browsers normally insert quotation marks around the quotation.

Example

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

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HTML <abbr> for Abbreviations

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.

Example

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

HTML <address> for Contact Information

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.

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> tag defines the title of a creative work (e.g. a book, a poem, a song, a movie, a painting, a sculpture, etc.).

Note: A person's name is not the title of a work.

The text in the <cite> element usually renders in italic.

Example

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

HTML <bdo> for Bi-Directional Override

BDO stands for Bi-Directional Override.

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

Example

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

HTML Exercises

Test Yourself With Exercises

Exercise:

Use an HTML element to add quotation marks around the letters "cool".

<p>

I am so

cool

.

</p>

Start the Exercise

HTML Quotation and Citation Elements

Tag Description

<abbr> Defines an abbreviation or acronym

<address> Defines contact information for the author/owner of a document

<bdo> Defines the text direction

<blockquote> Defines a section that is quoted from another source

<cite> Defines the title of a work

<q> Defines a short inline quotation

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Comments

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

HTML Comment Tag

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 start tag, but not in the end tag.

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

Add Comments

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

Example

<!-- This is a comment -->

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

<!-- Remember to add more information here -->

Hide Content

Comments can be used to hide content.

This can be helpful if you hide content temporarily:

Example

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

<!-- <p>This is another paragraph </p> -->

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

You can also hide more than one line. Everything between the <!-- and the --> will be hidden from the display.

Example

Hide a section of HTML code:

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

<!--

<p>Look at this cool image:</p>

<img border="0" src="pic\_trulli.jpg" alt="Trulli">

-->

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

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

Hide Inline Content

Comments can be used to hide parts in the middle of the HTML code.

Example

Hide a part of a paragaph:

<p>This <!-- great text --> is a paragraph.</p>

HTML Exercises

Test Yourself With Exercises

Exercise:

Use the HTML comment tag to make a comment out of the "This is a comment" text.

<h1>This is a heading</h1>

This is a comment

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

HTML Colors

HTML colors are specified with predefined color names, or with RGB, HEX, HSL, RGBA, or 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 supports 140 standard color names.

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>

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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.

The following three <div> elements have their background color set with RGB, HEX, and HSL values:

rgb(255, 99, 71)

#ff6347

hsl(9, 100%, 64%)

The following two <div> elements have their background color set with RGBA and HSLA values, which add an Alpha channel to the color (here we have 50% transparency):

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>

Learn more about Color Values

You will learn more about RGB, HEX and HSL in the next chapters.

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 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).

Experiment by mixing the RGB values below:

rgb(255, 99, 71)

RED

255

GREEN

99

BLUE

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)

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Shades of Gray

Shades of gray are often defined using equal values for all three parameters:

Example

rgb(60, 60, 60)

rgb(100, 100, 100)

rgb(140, 140, 140)

rgb(180, 180, 180)

rgb(200, 200, 200)

rgb(240, 240, 240)

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)

RED

255

GREEN

99

BLUE

71

ALPHA

0.5

Example

rgba(255, 99, 71, 0)

rgba(255, 99, 71, 0.2)

rgba(255, 99, 71, 0.4)

rgba(255, 99, 71, 0.6)

rgba(255, 99, 71, 0.8)

rgba(255, 99, 71, 1)

HTML HEX Colors

A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color.

HEX Color Values

In HTML, a color can be specified using a hexadecimal value in the form:

#rrggbb

Where rr (red), gg (green) and bb (blue) are hexadecimal values between 00 and ff (same as decimal 0-255).

For example, #ff0000 is displayed as red, because red is set to its highest value (ff), and the other two (green and blue) are set to 00.

Another example, #00ff00 is displayed as green, because green is set to its highest value (ff), and the other two (red and blue) are set to 00.

To display black, set all color parameters to 00, like this: #000000.

To display white, set all color parameters to ff, like this: #ffffff.

Experiment by mixing the HEX values below:

#ff6347

RED

ff

GREEN

63

BLUE

47

Example

#ff0000

#0000ff

#3cb371

#ee82ee

#ffa500

#6a5acd

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Shades of Gray

Shades of gray are often defined using equal values for all three parameters:

Example

#404040

#686868

#a0a0a0

#bebebe

#dcdcdc

#f8f8f8

HTML HSL and HSLA Colors

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 value. 0% is black, and 100% is white.

Experiment by mixing the HSL values below:

hsl(0, 100%, 50%)

HUE

0

SATURATION

100%

LIGHTNESS

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%)

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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), and 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%)

Shades of Gray

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

Example

hsl(0, 0%, 20%)

hsl(0, 0%, 30%)

hsl(0, 0%, 40%)

hsl(0, 0%, 60%)

hsl(0, 0%, 70%)

hsl(0, 0%, 90%)

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

0

SATURATION

100%

LIGHTNESS

50%

ALPHA

0.5

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

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)!

Using CSS

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. However, in this tutorial we will use inline and internal styles, 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.

The following example sets the text color of the <h1> element to blue, and the text color of the <p> element to red:

Example

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

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

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.

The following example sets the text color of ALL the <h1> elements (on that page) to blue, and the text color of ALL the <p> elements to red. In addition, the page will be displayed with a "powderblue" background color:

Example

<!DOCTYPE html>

<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.

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

The 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 what the "styles.css" file looks like:

"styles.css":

body {

background-color: powderblue;

}

h1 {

color: blue;

}

p {

color: red;

}

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

CSS Colors, Fonts and Sizes

Here, we will demonstrate some commonly used CSS properties. You will learn more about them later.

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

Use of CSS color, font-family and font-size properties:

<!DOCTYPE html>

<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.

Tip: You can define a border for nearly all HTML elements.

Example

Use of CSS border property:

p {

border: 2px solid powderblue;

}

CSS Padding

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

Example

Use of CSS border and padding properties:

p {

border: 2px solid powderblue;

padding: 30px;

}

CSS Margin

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

Example

Use of CSS border and margin properties:

p {

border: 2px solid powderblue;

margin: 50px;

}

Link to External CSS

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

Example

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

<link rel="stylesheet" href="https://www.w3schools.com/html/styles.css">

Example

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

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

Example

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

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

You can read more about file paths in the chapter HTML File Paths.

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

Tip: You can learn much more about CSS in our CSS Tutorial.

HTML Exercises

Test Yourself With Exercises

Exercise:

Use CSS to set the background color of the document (body) to yellow.

<!DOCTYPE html>

<html>

<head>

<style>

:yellow;

</style>

</head>

<body>

<h1>My Home Page</h1>

</body>

</html>

Start the Exercise

HTML Style Tags

Tag Description

<style> Defines style information for an HTML document

<link> Defines a link between a document and an external resource

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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. A link can be an image or any other HTML element!

HTML Links - Syntax

The HTML <a> tag defines a hyperlink. It has the following syntax:

<a href="url">link text</a>

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.

Example

This example shows how to create a link to W3Schools.com:

<a href="https://www.w3schools.com/">Visit W3Schools.com!</a>

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

Tip: Links can of course be styled with CSS, to get another look!

HTML Links - The target Attribute

By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.

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

Example

Use target="\_blank" to open the linked document in a new browser window or tab:

<a href="https://www.w3schools.com/" target="\_blank">Visit W3Schools!</a>

Absolute URLs vs. Relative URLs

Both examples above are using an absolute URL (a full web address) in the href attribute.

A local link (a link to a page within the same website) is specified with a relative URL (without the "https://www" part):

Example

<h2>Absolute URLs</h2>

<p><a href="https://www.w3.org/">W3C</a></p>

<p><a href="https://www.google.com/">Google</a></p>

<h2>Relative URLs</h2>

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

<p><a href="/css/default.asp">CSS Tutorial</a></p>

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HTML Links - Use an Image as a Link

To use an image as a link, just 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;">

</a>

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):

Example

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

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.

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.w3schools.com/html/" title="Go to W3Schools HTML section">Visit our HTML Tutorial</a>

More on Absolute URLs and Relative URLs

Example

Use a full URL to link to a web page:

<a href="https://www.w3schools.com/html/default.asp">HTML tutorial</a>

Example

Link to a page located in the html folder on the current web site:

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

Example

Link to a page located in the same folder as the current page:

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

You can read more about file paths in the chapter HTML File Paths.

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

Use the mailto: scheme inside the href attribute to create a link that opens the user's email program

HTML Link Tags

Tag Description

<a> Defines a hyperlink

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Links - Different Colors

An HTML link is displayed in a different color depending on whether it has been visited, is unvisited, or is 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 link state colors, by using CSS:

Example

Here, an unvisited link will be green with no underline. A visited link will be pink with no underline. An active link will be yellow and underlined. In addition, when mousing over a link (a:hover) it will become red and underlined:

<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>

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Link Buttons

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

This is a link

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>

To learn more about CSS, go to our CSS Tutorial.

HTML Link Tags

Tag Description

<a> Defines a hyperlink

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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, use the id attribute to create a bookmark:

<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>

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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 Exercises

Test Yourself With Exercises

Exercise:

Use the correct HTML to make the text below into a link to "default.html".

>Visit our HTML tutorial.

Start the Exercise

HTML Link Tags

Tag Description

<a> Defines a hyperlink

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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

The HTML <img> tag is used to embed an image in a web page.

Images are not technically inserted into a web page; images are linked to web pages. The <img> tag creates a holding space for the referenced image.

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

The <img> tag has two required attributes:

src - Specifies the path to the image

alt - Specifies an alternate text for the image

Syntax

<img src="url" alt="alternatetext">

The src Attribute

The required src attribute specifies the path (URL) to the image.

Note: When a web page loads, it is the browser, at that moment, that gets the image from a web server and inserts it into the page. Therefore, make sure that the image actually stays in the same spot in relation to the web page, otherwise your visitors will get a broken link icon. The broken link icon and the alt text are shown if the browser cannot find the image.

Example

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

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The alt Attribute

The required 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">

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

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 web page might flicker while the image loads.

Width and Height, or Style?

The width, height, and style attributes are all 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 you have your images in a sub-folder, you must 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/Website

Some web sites point to an image on another server.

To point to an image on another server, you must specify an absolute (full) URL in the src attribute:

Example

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

Notes on external images: External images might be under copyright. If you do not get permission to use it, you may be in violation of copyright laws. In addition, you cannot control external images; they can suddenly be removed or changed.

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;">

</a>

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>

Tip: To learn more about CSS Float, read our CSS Float Tutorial.

Common Image Formats

Here are the most common image file types, which are supported in all browsers (Chrome, Edge, Firefox, Safari, Opera):

Abbreviation File Format File Extension

APNG Animated Portable Network Graphics .apng

GIF Graphics Interchange Format .gif

ICO Microsoft Icon .ico, .cur

JPEG Joint Photographic Expert Group image .jpg, .jpeg, .jfif, .pjpeg, .pjp

PNG Portable Network Graphics .png

SVG Scalable Vector Graphics .svg

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 or the CSS width and height properties to define the size of the image

Use the CSS float property to let the image float to the left or to the right

Note: Loading large images takes time, and can slow down your web page. Use images carefully.

HTML Exercises

Test Yourself With Exercises

Exercise:

Use the HTML image attributes to set the size of the image to 250 pixels wide and 400 pixels tall.

<img src="scream.png"

="250"

="400">

Start the Exercise

HTML Image Tags

Tag Description

<img> Defines an image

<map> Defines an image map

<area> Defines a clickable area inside an image map

<picture> Defines a container for multiple image resources

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Image Maps

With HTML image maps, you can create clickable areas on an image.

Image Maps

The HTML <map> tag defines an image map. An image map is an image with clickable areas. The areas are defined with one or more <area> tags.

Try to click on the computer, phone, or the cup of coffee in the image below:

Workplace

Example

Here is the HTML source code for the image map above:

<img src="workplace.jpg" alt="Workplace" usemap="#workmap">

<map name="workmap">

<area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">

<area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">

<area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">

</map>

How Does it Work?

The idea behind an image map is that you should be able to perform different actions depending on where in the image you click.

To create an image map you need an image, and some HTML code that describes the clickable areas.

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The Image

The image is inserted using the <img> tag. The only difference from other images is that you must add a usemap attribute:

<img src="workplace.jpg" alt="Workplace" usemap="#workmap">

The usemap value starts with a hash tag # followed by the name of the image map, and is used to create a relationship between the image and the image map.

Tip: You can use any image as an image map!

Create Image Map

Then, add a <map> element.

The <map> element is used to create an image map, and is linked to the image by using the required name attribute:

<map name="workmap">

The name attribute must have the same value as the <img>'s usemap attribute .

The Areas

Then, add the clickable areas.

A clickable area is defined using an <area> element.

Shape

You must define the shape of the clickable area, and you can choose one of these values:

rect - defines a rectangular region

circle - defines a circular region

poly - defines a polygonal region

default - defines the entire region

You must also define some coordinates to be able to place the clickable area onto the image.

Shape="rect"

The coordinates for shape="rect" come in pairs, one for the x-axis and one for the y-axis.

So, the coordinates 34,44 is located 34 pixels from the left margin and 44 pixels from the top:

Workplace

The coordinates 270,350 is located 270 pixels from the left margin and 350 pixels from the top:

Workplace

Now we have enough data to create a clickable rectangular area:

Example

<area shape="rect" coords="34, 44, 270, 350" href="computer.htm">

This is the area that becomes clickable and will send the user to the page "computer.htm":

Workplace

Shape="circle"

To add a circle area, first locate the coordinates of the center of the circle:

337,300

Workplace

Then specify the radius of the circle:

44 pixels

Workplace

Now you have enough data to create a clickable circular area:

Example

<area shape="circle" coords="337, 300, 44" href="coffee.htm">

This is the area that becomes clickable and will send the user to the page "coffee.htm":

Workplace

Shape="poly"

The shape="poly" contains several coordinate points, which creates a shape formed with straight lines (a polygon).

This can be used to create any shape.

Like maybe a croissant shape!

How can we make the croissant in the image below become a clickable link?

French Food

We have to find the x and y coordinates for all edges of the croissant:

French Food

The coordinates come in pairs, one for the x-axis and one for the y-axis:

Example

<area shape="poly" coords="140,121,181,116,204,160,204,222,191,270,140,329,85,355,58,352,37,322,40,259,103,161,128,147" href="croissant.htm">

This is the area that becomes clickable and will send the user to the page "croissant.htm":

French Food

Image Map and JavaScript

A clickable area can also trigger a JavaScript function.

Add a click event to the <area> element to execute a JavaScript function:

Example

Here, we use the onclick attribute to execute a JavaScript function when the area is clicked:

<map name="workmap">

<area shape="circle" coords="337,300,44" href="coffee.htm" onclick="myFunction()">

</map>

<script>

function myFunction() {

alert("You clicked the coffee cup!");

}

</script>

Chapter Summary

Use the HTML <map> element to define an image map

Use the HTML <area> element to define the clickable areas in the image map

Use the HTML usemap attribute of the <img> element to point to an image map

HTML Image Tags

Tag Description

<img> Defines an image

<map> Defines an image map

<area> Defines a clickable area inside an image map

<picture> Defines a container for multiple image resources

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Background Images

A background image can be specified for 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:

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

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

Example

Specify the background image in the <style> element:

<style>

p {

background-image: url('img\_girl.jpg');

}

</style>

Background Image on a Page

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

Example

Add a background image for the entire 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, set the background-repeat property to no-repeat.

Example

<style>

body {

background-image: url('example\_img\_girl.jpg');

background-repeat: no-repeat;

}

</style>

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Background Cover

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):

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 to stretch to fit the entire 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>

Learn More CSS

From the examples above you have learned that background images can be styled by using the CSS background properties.

To learn more about CSS background properties, study our CSS Background Tutorial.

HTML <picture> Element

The HTML <picture> element allows you to display different pictures for different devices or screen sizes.

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.

Example

Show different images for different screen sizes:

<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>

Note: 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.

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When to use the Picture Element

There are two main purposes for the <picture> element:

1. Bandwidth

If you have a small screen or device, it is not necessary to load a large image file. The browser will use the first <source> element with matching attribute values, and ignore any of the following elements.

2. Format Support

Some browsers or devices may not support all image formats. By using the <picture> element, you can add images of all formats, and the browser will use the first format it recognizes, and ignore any of the following elements.

Example

The browser will use the first image format it recognizes:

<picture>

<source srcset="img\_avatar.png">

<source srcset="img\_girl.jpg">

<img src="img\_beatles.gif" alt="Beatles" style="width:auto;">

</picture>

Note: The browser will use the first <source> element with matching attribute values, and ignore any following <source> elements.

HTML Image Tags

Tag Description

<img> Defines an image

<map> Defines an image map

<area> Defines a clickable area inside an image map

<picture> Defines a container for multiple image resources

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Favicon

A favicon is a small image displayed next to the page title in the browser tab.

How To Add a Favicon in HTML

You can use any image you like as your favicon. You can also create your own favicon on sites like https://www.favicon.cc.

Tip: A favicon is a small image, so it should be a simple image with high contrast.

A favicon image is displayed to the left of the page title in the browser tab, like this:

Example of favicon

To add a favicon to your website, either save your favicon image to the root directory of your webserver, or create a folder in the root directory called images, and save your favicon image in this folder. A common name for a favicon image is "favicon.ico".

Next, add a <link> element to your "index.html" file, after the <title> element, like this:

Example

<!DOCTYPE html>

<html>

<head>

<title>My Page Title</title>

<link rel="icon" type="image/x-icon" href="/images/favicon.ico">

</head>

<body>

<h1>This is a Heading</h1>

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

</body>

</html>

Now, save the "index.html" file and reload it in your browser. Your browser tab should now display your favicon image to the left of the page title.

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Favicon File Format Support

The following table shows the file format support for a favicon image:

Browser ICO PNG GIF JPEG SVG

Edge Yes Yes Yes Yes Yes

Chrome Yes Yes Yes Yes Yes

Firefox Yes Yes Yes Yes Yes

Opera Yes Yes Yes Yes Yes

Safari Yes Yes Yes Yes Yes

Chapter Summary

Use the HTML <link> element to insert a favicon

HTML Link Tag

Tag Description

<link> Defines the relationship between a document and an external resource

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Page Title

Every web page should have a page title to describe the meaning of the page.

The <title> element adds a title to your page:

Example

<!DOCTYPE html>

<html>

<head>

<title>HTML Tutorial</title>

</head>

<body>

The content of the document......

</body>

</html>

The title is shown in the browser's title bar:

The title should describe the content and the meaning of the page.

The page title is very important for search engine optimization (SEO). The text is used by search engine algorithms to decide the order when listing pages in search results.

The <title> element:

defines a title in the browser toolbar

provides a title for the page when it is added to favorites

displays a title for the page in search engine-results

So, try to make the title as accurate and meaningful as possible!

HTML Title Tag

Tag Description

<title> Defines the title of the document

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Tables

HTML tables allow web developers 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

Define an HTML Table

A table in HTML consists of table cells inside rows and columns.

Example

A simple HTML table:

<table>

<tr>

<th>Company</th>

<th>Contact</th>

<th>Country</th>

</tr>

<tr>

<td>Alfreds Futterkiste</td>

<td>Maria Anders</td>

<td>Germany</td>

</tr>

<tr>

<td>Centro comercial Moctezuma</td>

<td>Francisco Chang</td>

<td>Mexico</td>

</tr>

</table>

Table Cells

Each table cell is defined by a <td> and a </td> tag.

td stands for table data.

Everything between <td> and </td> are the content of the table cell.

Example

<table>

<tr>

<td>Emil</td>

<td>Tobias</td>

<td>Linus</td>

</tr>

</table>

Note: A table cell can contain all sorts of HTML elements: text, images, lists, links, other tables, etc.

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Table Rows

Each table row starts with a <tr> and ends with a </tr> tag.

tr stands for table row.

Example

<table>

<tr>

<td>Emil</td>

<td>Tobias</td>

<td>Linus</td>

</tr>

<tr>

<td>16</td>

<td>14</td>

<td>10</td>

</tr>

</table>

You can have as many rows as you like in a table; just make sure that the number of cells are the same in each row.

Note: There are times when a row can have less or more cells than another. You will learn about that in a later chapter.

Table Headers

Sometimes you want your cells to be table header cells. In those cases use the <th> tag instead of the <td> tag:

th stands for table header.

Example

Let the first row be table header cells:

<table>

<tr>

<th>Person 1</th>

<th>Person 2</th>

<th>Person 3</th>

</tr>

<tr>

<td>Emil</td>

<td>Tobias</td>

<td>Linus</td>

</tr>

<tr>

<td>16</td>

<td>14</td>

<td>10</td>

</tr>

</table>

By default, the text in <th> elements are bold and centered, but you can change that with CSS.

HTML Exercises

Test Yourself With Exercises

Exercise:

Add a table row with two table headers.

The two table headers should have the value "Name" and "Age".

<table>

<tr>

<td>Jill Smith</td>

<td>50</td>

</tr>

</table>

Start the Exercise

HTML Table Tags

Tag Description

<table> Defines a table

<th> Defines a header cell in a table

<tr> Defines a row in a table

<td> Defines a cell in a table

<caption> Defines a table caption

<colgroup> Specifies a group of one or more columns in a table for formatting

<col> Specifies column properties for each column within a <colgroup> element

<thead> Groups the header content in a table

<tbody> Groups the body content in a table

<tfoot> Groups the footer content in a table

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Table Borders

HTML tables can have borders of different styles and shapes.

How To Add a Border

When you add a border to a table, you also add borders around each table cell:

To add a border, use the CSS border property on table, th, and td elements:

Example

table, th, td {

border: 1px solid black;

}

Collapsed Table Borders

To avoid having double borders like in the example above, set the CSS border-collapse property to collapse.

This will make the borders collapse into a single border:

Example

table, th, td {

border: 1px solid black;

border-collapse: collapse;

}

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Style Table Borders

If you set a background color of each cell, and give the border a white color (the same as the document background), you get the impression of an invisible border:

Example

table, th, td {

border: 1px solid white;

border-collapse: collapse;

}

th, td {

background-color: #96D4D4;

}

Round Table Borders

With the border-radius property, the borders get rounded corners:

Example

table, th, td {

border: 1px solid black;

border-radius: 10px;

}

Skip the border around the table by leaving out table from the css selector:

Example

th, td {

border: 1px solid black;

border-radius: 10px;

}

Dotted Table Borders

With the border-style property, you can set the appearance of the border.

The following values are allowed:

dotted

dashed

solid

double

groove

ridge

inset

outset

none

hidden

Example

th, td {

border-style: dotted;

}

Border Color

With the border-color property, you can set the color of the border.

Example

th, td {

border-color: #96D4D4;

}

HTML Table Sizes

HTML tables can have different sizes for each column, row or the entire table.

Use the style attribute with the width or height properties to specify the size of a table, row or column.

HTML Table Width

To set the width of a table, add the style attribute to the <table> element:

Example

Set the width of the table to 100%:

<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: Using a percentage as the size unit for a width means how wide will this element be compared to its parent element, which in this case is the <body> element.

HTML Table Column Width

To set the size of a specific column, add the style attribute on a <th> or <td> element:

Example

Set the width of the first column to 70%:

<table style="width:100%">

<tr>

<th style="width:70%">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>

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HTML Table Row Height

To set the height of a specific row, add the style attribute on a table row element:

Example

Set the height of the second row to 200 pixels:

<table style="width:100%">

<tr>

<th>Firstname</th>

<th>Lastname</th>

<th>Age</th>

</tr>

<tr style="height:200px">

<td>Jill</td>

<td>Smith</td>

<td>50</td>

</tr>

<tr>

<td>Eve</td>

<td>Jackson</td>

<td>94</td>

</tr>

</table>

HTML Exercises

Test Yourself With Exercises

Exercise:

Use CSS styles to make the table 300 pixels wide.

<table

>

<tr>

<th>First Name</th>

<th>Last Name</th>

<th>Points</th>

</tr>

<tr>

<td>Jill</td>

<td>Smith</td>

<td>50</td>

</tr>

</table>

Start the Exercise

HTML Table Headers

HTML tables can have headers for each column or row, or for many columns/rows.

EMIL TOBIAS LINUS

8:00

9:00

10:00

11:00

12:00

13:00

MON TUE WED THU FRI

8:00

9:00

10:00

11:00

12:00

DECEMBER

HTML Table Headers

Table headers are defined with th elements. Each th element represents a table cell.

Example

<table>

<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>

Vertical Table Headers

To use the first column as table headers, define the first cell in each row as a <th> element:

Example

<table>

<tr>

<th>Firstname</th>

<td>Jill</td>

<td>Eve</td>

</tr>

<tr>

<th>Lastname</th>

<td>Smith</td>

<td>Jackson</td>

</tr>

<tr>

<th>Age</th>

<td>94</td>

<td>50</td>

</tr>

</table>

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Align Table Headers

By default, table headers are bold and centered:

Firstname Lastname Age

Jill Smith 50

Eve Jackson 94

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

Example

th {

text-align: left;

}

Header for Multiple Columns

You can have a header that spans over two or more columns.

Name Age

Jill Smith 50

Eve Jackson 94

To do this, use the colspan attribute on the <th> element:

Example

<table>

<tr>

<th colspan="2">Name</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>

You will learn more about colspan and rowspan in the Table colspan & rowspan chapter.

Table Caption

You can add a caption that serves as a heading for the entire table.

Monthly savings

Month Savings

January $100

February $50

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 should be inserted immediately after the <table> tag.

HTML Exercises

Test Yourself With Exercises

Exercise:

Add a table caption that says "Names".

<table>

<tr>

<th>First Name</th>

<th>Last Name</th>

<th>Points</th>

</tr>

<tr>

<td>Jill</td>

<td>Smith</td>

<td>50</td>

</tr>

</table>

HTML Table Padding & Spacing

HTML tables can adjust the padding inside the cells, and also the space between the cells.

With Padding

hello hello hello

hello hello hello

hello hello hello

With Spacing

hello hello hello

hello hello hello

hello hello hello

HTML Table - Cell Padding

Cell padding is the space between the cell edges and the cell content.

By default the padding is set to 0.

To add padding on table cells, use the CSS padding property:

Example

th, td {

padding: 15px;

}

To add padding only above the content, use the padding-top property.

And the others sides with the padding-bottom, padding-left, and padding-right properties:

Example

th, td {

padding-top: 10px;

padding-bottom: 20px;

padding-left: 30px;

padding-right: 40px;

}

HTML Table - Cell Spacing

Cell spacing is the space between each cell.

By default the space is set to 2 pixels.

To change the space between table cells, use the CSS border-spacing property on the table element:

Example

table {

border-spacing: 30px;

}

HTML Table Colspan & Rowspan

HTML tables can have cells that span over multiple rows and/or columns.

NAME

APRIL

2022

FIESTA

HTML Table - Colspan

To make a cell span over multiple columns, use the colspan attribute:

Example

<table>

<tr>

<th colspan="2">Name</th>

<th>Age</th>

</tr>

<tr>

<td>Jill</td>

<td>Smith</td>

<td>43</td>

</tr>

<tr>

<td>Eve</td>

<td>Jackson</td>

<td>57</td>

</tr>

</table>

Note: The value of the colspan attribute represents the number of columns to span.

HTML Table - Rowspan

To make a cell span over multiple rows, use the rowspan attribute:

Example

<table>

<tr>

<th>Name</th>

<td>Jill</td>

</tr>

<tr>

<th rowspan="2">Phone</th>

<td>555-1234</td>

</tr>

<tr>

<td>555-8745</td>

</tr>

</table>

Note: The value of the rowspan attribute represents the number of rows to span.

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HTML Exercises

Test Yourself With Exercises

Exercise:

Use the correct HTML attribute to make the first TH element span two columns.

<table>

<tr>

<th

>Name</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>

Start the Exercise

HTML Table Styling

Use CSS to make your tables look better.

HTML Table - Zebra Stripes

If you add a background color on every other table row, you will get a nice zebra stripes effect.

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

17 18 19 20

To style every other table row element, use the :nth-child(even) selector like this:

Example

tr:nth-child(even) {

background-color: #D6EEEE;

}

Note: If you use (odd) instead of (even), the styling will occur on row 1,3,5 etc. instead of 2,4,6 etc.

HTML Table - Vertical Zebra Stripes

To make vertical zebra stripes, style every other column, instead of every other row.

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16

17 18 19 20

Set the :nth-child(even) for table data elements like this:

Example

td:nth-child(even), th:nth-child(even) {

background-color: #D6EEEE;

}

Note: Put the :nth-child() selector on both th and td elements if you want to have the styling on both headers and regular table cells.

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Combine Vertical and Horizontal Zebra Stripes

You can combine the styling from the two examples above and you will have stripes on every other row and every other column.

If you use a transparent color you will get an overlapping effect.

Use an rgba() color to specify the transparency of the color:

Example

tr:nth-child(even) {

background-color: rgba(150, 212, 212, 0.4);

}

th:nth-child(even),td:nth-child(even) {

background-color: rgba(150, 212, 212, 0.4);

}

Horizontal Dividers

First Name Last Name Savings

Peter Griffin $100

Lois Griffin $150

Joe Swanson $300

If you specify borders only at the bottom of each table row, you will have a table with horizontal dividers.

Add the border-bottom property to all tr elements to get horizontal dividers:

Example

tr {

border-bottom: 1px solid #ddd;

}

Hoverable Table

Use the :hover selector on tr to highlight table rows on mouse over:

First Name Last Name Savings

Peter Griffin $100

Lois Griffin $150

Joe Swanson $300

Example

tr:hover {background-color: #D6EEEE;}

HTML Table Colgroup

The <colgroup> element is used to style specific columns of a table.

HTML Table Colgroup

If you want to style the two first columns of a table, use the <colgroup> and <col> elements.

MON TUE WED THU FRI SAT SUN

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

22 23 24 25 26 27 28

The <colgroup> element should be used as a container for the column specifications.

Each group is specified with a <col> element.

The span attribute specifies how many columns that get the style.

The style attribute specifies the style to give the columns.

Note: There is a very limited selection of legal CSS properties for colgroups.

Example

<table>

<colgroup>

<col span="2" style="background-color: #D6EEEE">

</colgroup>

<tr>

<th>MON</th>

<th>TUE</th>

<th>WED</th>

<th>THU</th>

...

Note: The <colgroup> tag must be a child of a <table> element and should be placed before any other table elements, like <thead>, <tr>, <td> etc., but after the <caption> element, if present.

Legal CSS Properties

There is only a very limited selection of CSS properties that are allowed to be used in the colgroup:

width property

visibility property

background properties

border properties

All other CSS properties will have no effect on your tables.

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Multiple Col Elements

If you want to style more columns with different styles, use more <col> elements inside the <colgroup>:

Example

<table>

<colgroup>

<col span="2" style="background-color: #D6EEEE">

<col span="3" style="background-color: pink">

</colgroup>

<tr>

<th>MON</th>

<th>TUE</th>

<th>WED</th>

<th>THU</th>

...

Empty Colgroups

If you want to style columns in the middle of a table, insert a "empty" <col> element (with no styles) for the columns before:

Example

<table>

<colgroup>

<col span="3">

<col span="2" style="background-color: pink">

</colgroup>

<tr>

<th>MON</th>

<th>TUE</th>

<th>WED</th>

<th>THU</th>

...

Hide Columns

You can hide columns with the visibility: collapse property:

Example

<table>

<colgroup>

<col span="2">

<col span="3" style="visibility: collapse">

</colgroup>

<tr>

<th>MON</th>

<th>TUE</th>

<th>WED</th>

<th>THU</th>

...

HTML Lists

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

Example

An unordered HTML list:

Item

Item

Item

Item

An ordered HTML list:

First item

Second item

Third item

Fourth item

Unordered HTML List

An unordered list starts with the <ul> tag. Each list item starts with the <li> 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> tag. Each list item starts with the <li> tag.

The list items will be marked with numbers by default:

Example

<ol>

<li>Coffee</li>

<li>Tea</li>

<li>Milk</li>

</ol>

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HTML Description Lists

HTML also supports description lists.

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

The <dl> tag defines the description list, the <dt> tag defines the term (name), and the <dd> tag describes each term:

Example

<dl>

<dt>Coffee</dt>

<dd>- black hot drink</dd>

<dt>Milk</dt>

<dd>- white cold drink</dd>

</dl>

HTML List Tags

Tag Description

<ul> Defines an unordered list

<ol> Defines an ordered list

<li> Defines a list item

<dl> Defines a description list

<dt> Defines a term in a description list

<dd> Describes the term in a description list

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Unordered Lists

The HTML <ul> tag defines an unordered (bulleted) list.

Unordered HTML List

An unordered list starts with the <ul> tag. Each list item starts with the <li> 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. It can have one of the following values:

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>

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Nested HTML Lists

Lists can be nested (list inside list):

Example

<ul>

<li>Coffee</li>

<li>Tea

<ul>

<li>Black tea</li>

<li>Green tea</li>

</ul>

</li>

<li>Milk</li>

</ul>

Note: A list item (<li>) can contain a new list, and other HTML elements, like images and links, etc.

Horizontal List with CSS

HTML lists can be styled in many different ways with CSS.

One popular way is to style a list horizontally, to create a navigation menu:

Example

<!DOCTYPE html>

<html>

<head>

<style>

ul {

list-style-type: none;

margin: 0;

padding: 0;

overflow: hidden;

background-color: #333333;

}

li {

float: left;

}

li a {

display: block;

color: white;

text-align: center;

padding: 16px;

text-decoration: none;

}

li a:hover {

background-color: #111111;

}

</style>

</head>

<body>

<ul>

<li><a href="#home">Home</a></li>

<li><a href="#news">News</a></li>

<li><a href="#contact">Contact</a></li>

<li><a href="#about">About</a></li>

</ul>

</body>

</html>

Tip: You can learn much more about CSS in our CSS Tutorial.

Chapter Summary

Use the HTML <ul> element to define an unordered list

Use the CSS list-style-type property to define the list item marker

Use the HTML <li> element to define a list item

Lists can be nested

List items can contain other HTML elements

Use the CSS property float:left to display a list horizontally

HTML List Tags

Tag Description

<ul> Defines an unordered list

<ol> Defines an ordered list

<li> Defines a list item

<dl> Defines a description list

<dt> Defines a term in a description list

<dd> Describes the term in a description list

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Ordered Lists

The HTML <ol> tag defines an ordered list. An ordered list can be numerical or alphabetical.

Ordered HTML List

An ordered list starts with the <ol> tag. Each list item starts with the <li> 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> 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>

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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

Lists can be nested (list inside list):

Example

<ol>

<li>Coffee</li>

<li>Tea

<ol>

<li>Black tea</li>

<li>Green tea</li>

</ol>

</li>

<li>Milk</li>

</ol>

Note: A list item (<li>) can contain a 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

List items can contain other HTML elements

HTML List Tags

Tag Description

<ul> Defines an unordered list

<ol> Defines an ordered list

<li> Defines a list item

<dl> Defines a description list

<dt> Defines a term in a description list

<dd> Describes the term in a description list

For a complete list of all available HTML tags, visit our HTML Tag Reference.

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> tag defines the description list, the <dt> tag defines the term (name), and the <dd> 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 Exercises

Test Yourself With Exercises

Exercise:

Add a list item with the text "Coffee" inside the <ul> element.

<ul>

Coffee

</ul>

Start the Exercise

HTML List Tags

Tag Description

<ul> Defines an unordered list

<ol> Defines an ordered list

<li> Defines a list item

<dl> Defines a description list

<dt> Defines a term in a description list

<dd> Describes the term in a description list

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML Block and Inline Elements

Every HTML element has a default display value, depending on what type of element it is.

There are two display values: block and inline.

Block-level Elements

A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element.

A block-level element always takes up the full width available (stretches out to the left and right as far as it can).

Two commonly used block elements are: <p> and <div>.

The <p> element defines a paragraph in an HTML document.

The <div> element defines a division or a section in an HTML document.

The <p> element is a block-level element.

The <div> element is a block-level element.

Example

<p>Hello World</p>

<div>Hello World</div>

Here are the block-level elements in HTML:

<address><article><aside><blockquote><canvas><dd><div><dl><dt><fieldset><figcaption><figure><footer><form><h1>-<h6><header><hr><li><main><nav><noscript><ol><p><pre><section><table><tfoot><ul><video>

Inline Elements

An inline element does not start on a new line.

An inline element only takes up as much width as necessary.

This is a <span> element inside a paragraph.

Example

<span>Hello World</span>

Here are the inline elements in HTML:

<a><abbr><acronym><b><bdo><big><br><button><cite><code><dfn><em><i><img><input><kbd><label><map><object><output><q><samp><script><select><small><span><strong><sub><sup><textarea><time><tt><var>

Note: An inline element cannot contain a block-level element!

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The <div> Element

The <div> element is often used as a container for other HTML elements.

The <div> element has no required attributes, but style, class and id are common.

When used together with CSS, the <div> element can be used to style blocks of content:

Example

<div style="background-color:black;color:white;padding:20px;">

<h2>London</h2>

<p>London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.</p>

</div>

The <span> Element

The <span> element is an inline container used to mark up a part of a text, or a part of a document.

The <span> element has no required attributes, but style, class and id are common.

When used together with CSS, the <span> element can be used to style parts of the text:

Example

<p>My mother has <span style="color:blue;font-weight:bold;">blue</span> eyes and my father has <span style="color:darkolivegreen;font-weight:bold;">dark green</span> eyes.</p>

Chapter Summary

There are two display values: block and inline

A block-level element always starts on a new line and takes up the full width available

An inline element does not start on a new line and it only takes up as much width as necessary

The <div> element is a block-level and is often used as a container for other HTML elements

The <span> element is an inline container used to mark up a part of a text, or a part of a document

HTML Tags

Tag Description

<div> Defines a section in a document (block-level)

<span> Defines a section in a document (inline)

For a complete list of all available HTML tags, visit our HTML Tag Reference.

HTML class Attribute

The HTML class attribute is used to specify a class for an HTML element.

Multiple HTML elements can share the same class.

Using The class Attribute

The class attribute is often used to point to a class name in a style sheet. It can also be used by a JavaScript to access and manipulate elements with the specific class name.

In the following example we have three <div> elements with a class attribute with the value of "city". All of the three <div> elements will be styled equally according to the .city style definition in the head section:

Example

<!DOCTYPE html>

<html>

<head>

<style>

.city {

background-color: tomato;

color: white;

border: 2px solid black;

margin: 20px;

padding: 20px;

}

</style>

</head>

<body>

<div class="city">

<h2>London</h2>

<p>London is the capital of England.</p>

</div>

<div class="city">

<h2>Paris</h2>

<p>Paris is the capital of France.</p>

</div>

<div class="city">

<h2>Tokyo</h2>

<p>Tokyo is the capital of Japan.</p>

</div>

</body>

</html>

In the following example we have two <span> elements with a class attribute with the value of "note". Both <span> elements will be styled equally according to the .note style definition in the head section:

Example

<!DOCTYPE html>

<html>

<head>

<style>

.note {

font-size: 120%;

color: red;

}

</style>

</head>

<body>

<h1>My <span class="note">Important</span> Heading</h1>

<p>This is some <span class="note">important</span> text.</p>

</body>

</html>

Tip: The class attribute can be used on any HTML element.

Note: The class name is case sensitive!

Tip: You can learn much more about CSS in our CSS Tutorial.

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The Syntax For Class

To create a class; write a period (.) character, followed by a class name. Then, define the CSS properties within curly braces {}:

Example

Create a class named "city":

<!DOCTYPE html>

<html>

<head>

<style>

.city {

background-color: tomato;

color: white;

padding: 10px;

}

</style>

</head>

<body>

<h2 class="city">London</h2>

<p>London is the capital of England.</p>

<h2 class="city">Paris</h2>

<p>Paris is the capital of France.</p>

<h2 class="city">Tokyo</h2>

<p>Tokyo is the capital of Japan.</p>

</body>

</html>

Multiple Classes

HTML elements can belong to more than one class.

To define multiple classes, separate the class names with a space, e.g. <div class="city main">. The element will be styled according to all the classes specified.

In the following example, the first <h2> element belongs to both the city class and also to the main class, and will get the CSS styles from both of the classes:

Example

<h2 class="city main">London</h2>

<h2 class="city">Paris</h2>

<h2 class="city">Tokyo</h2>

Different Elements Can Share Same Class

Different HTML elements can point to the same class name.

In the following example, both <h2> and <p> point to the "city" class and will share the same style:

Example

<h2 class="city">Paris</h2>

<p class="city">Paris is the capital of France</p>

Use of The class Attribute in JavaScript

The class name can also be used by JavaScript to perform certain tasks for specific elements.

JavaScript can access elements with a specific class name with the getElementsByClassName() method:

Example

Click on a button to hide all elements with the class name "city":

<script>

function myFunction() {

var x = document.getElementsByClassName("city");

for (var i = 0; i < x.length; i++) {

x[i].style.display = "none";

}

}

</script>

Don't worry if you don't understand the code in the example above.

You will learn more about JavaScript in our HTML JavaScript chapter, or you can study our JavaScript Tutorial.

Chapter Summary

The HTML class attribute specifies one or more class names for an element

Classes are used by CSS and JavaScript to select and access specific elements

The class attribute can be used on any HTML element

The class name is case sensitive

Different HTML elements can point to the same class name

JavaScript can access elements with a specific class name with the getElementsByClassName() method

HTML Exercises

Test Yourself With Exercises

Exercise:

Create a class selector named "special".

Add a color property with the value "blue" inside the "special" class.

<!DOCTYPE html>

<html>

<head>

<style>

;

</style>

</head>

<body>

<p class="special">My paragraph</p>

</body>

</html>

Start the Exercise

HTML id Attribute

The HTML id attribute is used to specify a unique id for an HTML element.

You cannot have more than one element with the same id in an HTML document.

Using The id Attribute

The id attribute specifies a unique id for an HTML element. The value of the id attribute must be unique within the HTML document.

The id attribute is used to point to a specific style declaration in a style sheet. It is also used by JavaScript to access and manipulate the element with the specific id.

The syntax for id is: write a hash character (#), followed by an id name. Then, define the CSS properties within curly braces {}.

In the following example we have an <h1> element that points to the id name "myHeader". This <h1> element will be styled according to the #myHeader style definition in the head section:

Example

<!DOCTYPE html>

<html>

<head>

<style>

#myHeader {

background-color: lightblue;

color: black;

padding: 40px;

text-align: center;

}

</style>

</head>

<body>

<h1 id="myHeader">My Header</h1>

</body>

</html>

Note: The id name is case sensitive!

Note: The id name must contain at least one character, cannot start with a number, and must not contain whitespaces (spaces, tabs, etc.).

Difference Between Class and ID

A class name can be used by multiple HTML elements, while an id name must only be used by one HTML element within the page:

Example

<style>

/\* Style the element with the id "myHeader" \*/

#myHeader {

background-color: lightblue;

color: black;

padding: 40px;

text-align: center;

}

/\* Style all elements with the class name "city" \*/

.city {

background-color: tomato;

color: white;

padding: 10px;

}

</style>

<!-- An element with a unique id -->

<h1 id="myHeader">My Cities</h1>

<!-- Multiple elements with same class -->

<h2 class="city">London</h2>

<p>London is the capital of England.</p>

<h2 class="city">Paris</h2>

<p>Paris is the capital of France.</p>

<h2 class="city">Tokyo</h2>

<p>Tokyo is the capital of Japan.</p>

Tip: You can learn much more about CSS in our CSS Tutorial.

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HTML Bookmarks with ID and Links

HTML bookmarks are used to allow readers to jump to specific parts of a webpage.

Bookmarks can be useful if your page is very long.

To use a bookmark, you must first create it, and then add a link to it.

Then, when the link is clicked, the page will scroll 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>

Or, add a link to the bookmark ("Jump to Chapter 4"), from another page:

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

Using The id Attribute in JavaScript

The id attribute can also be used by JavaScript to perform some tasks for that specific element.

JavaScript can access an element with a specific id with the getElementById() method:

Example

Use the id attribute to manipulate text with JavaScript:

<script>

function displayResult() {

document.getElementById("myHeader").innerHTML = "Have a nice day!";

}

</script>

Tip: Study JavaScript in the HTML JavaScript chapter, or in our JavaScript Tutorial.

Chapter Summary

The id attribute is used to specify a unique id for an HTML element

The value of the id attribute must be unique within the HTML document

The id attribute is used by CSS and JavaScript to style/select a specific element

The value of the id attribute is case sensitive

The id attribute is also used to create HTML bookmarks

JavaScript can access an element with a specific id with the getElementById() method

HTML Exercises

Test Yourself With Exercises

Exercise:

Add the correct HTML attribute to make the H1 element red.

<!DOCTYPE html>

<html>

<head>

<style>

#myheader {color:red;}

</style>

</head>

<body>

<h1

>My Home Page</h1>

</body>

</html>

Start the Exercise

HTML Iframes

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

HTML Iframe Syntax

The HTML <iframe> tag specifies an inline frame.

An inline frame is used to embed another document within the current HTML document.

Syntax

<iframe src="url" title="description"></iframe>

Tip: It is a good practice to always include a title attribute for the <iframe>. This is used by screen readers to read out what the content of the iframe is.

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" title="Iframe Example"></iframe>

Or you can add the style attribute and use the CSS height and width properties:

Example

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

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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;" title="Iframe Example"></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;" title="Iframe Example"></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" title="Iframe Example"></iframe>

<p><a href="https://www.w3schools.com" target="iframe\_a">W3Schools.com</a></p>

Chapter Summary

The HTML <iframe> tag specifies an inline frame

The src attribute defines the URL of the page to embed

Always include a title attribute (for screen readers)

The height and width attributes specify the size of the iframe

Use border:none; to remove the border around the iframe

HTML Exercises

Test Yourself With Exercises

Exercise:

Create an iframe with a URL address that goes to https://www.w3schools.com.

<iframe

="https://www.w3schools.com"></iframe>

Start the Exercise