HTML5

* 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

<!DOCTYPE html>  
<html>  
<head>  
<title>Page Title</title>  
</head>  
<body>  
  
<h1>My First Heading</h1>  
<p>My first paragraph.</p>  
  
</body>  
</html>

* 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

HTML Element

* An HTML element is defined by a start tag, some content, and an end tag:
* <tagname> Content goes here... </tagname>

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

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

[HTML - Wikipedia](https://en.wikipedia.org/wiki/HTML)

Year Version

1989 Tim Berners-Lee invented www

1991 Tim Berners-Lee invented HTML

1993 Dave Raggett drafted HTML+

1995 HTML Working Group defined HTML 2.0

1997 W3C Recommendation: HTML 3.2

1999 W3C Recommendation: HTML 4.01

2000 W3C Recommendation: XHTML 1.0

2008 WHATWG HTML5 First Public Draft

2012 WHATWG HTML5 Living Standard

2014 W3C Recommendation: HTML5

2016 W3C Candidate Recommendation: HTML 5.1

2017 W3C Recommendation: HTML5.1 2nd Edition

2017 W3C Recommendation: HTML5.2

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

You can use either .htm or .html as file extension.

## The <!DOCTYPE> Declaration

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

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

The <!DOCTYPE> declaration is not case sensitive.

The <!DOCTYPE> declaration for HTML5 is:

## How to View HTML Source

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

### **View HTML Source Code:**

Right-click in an HTML page and select "View Page Source" (in Chrome) or "View Source" (in Edge), or similar in other browsers. This will open a window containing the HTML source code of the page.

### **Inspect an HTML Element:**

Right-click on an element (or a blank area), and choose "Inspect" or "Inspect Element" to see what elements are made up of (you will see both the HTML and the CSS). You can also edit the HTML or CSS on-the-fly in the Elements or Styles panel that opens.

The HTML <head> element is a container for the following elements: <title>, <style>, <meta>, <link>, <script>, and <base>.

* The <head> element is a container for metadata (data about data)
* The <head> element is placed between the <html> tag and the <body> tag
* The <title> element is required and it defines the title of the document
* The <style> element is used to define style information for a single document
* The <link> tag is most often used to link to external style sheets
* The <meta> element is typically used to specify the character set, page description, keywords, author of the document, and viewport settings
* The <script> element is used to define client-side JavaScripts
* The <base> element specifies the base URL and/or target for all relative URLs in a page

The <head> element is a container for metadata (data about data) and is placed between the <html> tag and the <body> tag.

HTML metadata is data about the HTML document. Metadata is not displayed.

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

## The HTML <title> Element

The <title> element defines the title of the document. The title must be text-only, and it is shown in the browser's title bar or in the page's tab.

The <title> element is required in HTML documents!

The content of a page title is very important for search engine optimization (SEO)! The page title 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 favourites
* displays a title for the page in search engine-results

<!DOCTYPE html>  
<html>  
<head>  
  <title>A Meaningful Page Title</title>  
</head>  
<body>  
  
The content of the document......  
  
</body>  
</html>

## The HTML <style> Element

The <style> element is used to define style information for a single HTML page:

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

## The HTML <link> Element

The <link> element defines the relationship between the current document and an external resource.  
  
The <link> tag is most often used to link to external style sheets:

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

The HTML <meta> Element

The <meta> element is typically used to specify the character set, page description, keywords, author of the document, and viewport settings.

The metadata will not be displayed on the page, but is used by browsers (how to display content or reload page), by search engines (keywords), and other web services.

Examples

**Define the character set used:**

<meta charset="UTF-8">

**Define keywords for search engines:**

<meta name="keywords" content="HTML, CSS, JavaScript">

**Define a description of your web page:**

<meta name="description" content="Free Web tutorials">

**Define the author of a page:**

<meta name="author" content="John Doe">

**Refresh document every 30 seconds:**

<meta http-equiv="refresh" content="30">

**Setting the viewport to make your website look good on all devices:**

<meta name="viewport" content="width=device-width, initial-scale=1.0">

Example of <meta> tags:

<meta charset="UTF-8">  
<meta name="description" content="Free Web tutorials">  
<meta name="keywords" content="HTML, CSS, JavaScript">  
<meta name="author" content="John Doe">

Setting The Viewport

The viewport is the user's visible area of a web page. It varies with the device - it will be smaller on a mobile phone than on a computer screen.

You should include the following <meta> element in all your web pages:

<meta name="viewport" content="width=device-width, initial-scale=1.0">

This gives the browser instructions on how to control the page's dimensions and scaling.

The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The initial-scale=1.0 part sets the initial zoom level when the page is first loaded by the browser.

Here is an example of a web page *without* the viewport meta tag, and the same web page *with* the viewport meta tag:

<https://www.w3schools.com/html/example_withoutviewport.htm>

<https://www.w3schools.com/html/example_withviewport.htm>

## The HTML <script> Element

The <script> element is used to define client-side JavaScripts.

The following JavaScript writes "Hello JavaScript!" into an HTML element with id="demo":

### **Example**

<script>  
function myFunction() {  
  document.getElementById("demo").innerHTML = "Hello JavaScript!";  
}  
</script>

Tag Description

<head> Defines information about the document

<title> Defines the title of a document

<base> Defines a default address or a default target for all links on a page

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

<meta> Defines metadata about an HTML document

<script> Defines a client-side script

<style> Defines style information for a document

Tag Description

<!--...--> Defines a comment

<!DOCTYPE> Defines the document type

<a> Defines a hyperlink

<abbr> Defines an abbreviation or an acronym

<acronym> Not supported in HTML5. Use <abbr> instead.

Defines an acronym

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

<applet> Not supported in HTML5. Use <embed> or <object> instead.

Defines an embedded applet

<area> Defines an area inside an image map

<article> Defines an article

<aside> Defines content aside from the page content

<audio> Defines embedded sound content

<b> Defines bold text

<base> Specifies the base URL/target for all relative URLs in a document

<basefont> Not supported in HTML5. Use CSS instead.

Specifies a default color, size, and font for all text in a document

<bdi> Isolates a part of text that might be formatted in a different direction from other text outside it

<bdo> Overrides the current text direction

<big> Not supported in HTML5. Use CSS instead.

Defines big text

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

<body> Defines the document's body

<br> Defines a single line break

<button> Defines a clickable button

<canvas> Used to draw graphics, on the fly, via scripting (usually JavaScript)

<caption> Defines a table caption

<center> Not supported in HTML5. Use CSS instead.

Defines centered text

<cite> Defines the title of a work

<code> Defines a piece of computer code

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

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

<data> Adds a machine-readable translation of a given content

<datalist> Specifies a list of pre-defined options for input controls

<dd> Defines a description/value of a term in a description list

<del> Defines text that has been deleted from a document

<details> Defines additional details that the user can view or hide

<dfn> Specifies a term that is going to be defined within the content

<dialog> Defines a dialog box or window

<dir> Not supported in HTML5. Use <ul> instead.

Defines a directory list

<div> Defines a section in a document

<dl> Defines a description list

<dt> Defines a term/name in a description list

<em> Defines emphasized text

<embed> Defines a container for an external application

<fieldset> Groups related elements in a form

<figcaption> Defines a caption for a <figure> element

<figure> Specifies self-contained content

<font> Not supported in HTML5. Use CSS instead.

Defines font, color, and size for text

<footer> Defines a footer for a document or section

<form> Defines an HTML form for user input

<frame> Not supported in HTML5.

Defines a window (a frame) in a frameset

<frameset> Not supported in HTML5.

Defines a set of frames

<h1> to <h6> Defines HTML headings

<head> Contains metadata/information for the document

<header> Defines a header for a document or section

<hr> Defines a thematic change in the content

<html> Defines the root of an HTML document

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

<iframe> Defines an inline frame

<img> Defines an image

<input> Defines an input control

<ins> Defines a text that has been inserted into a document

<kbd> Defines keyboard input

<label> Defines a label for an <input> element

<legend> Defines a caption for a <fieldset> element

<li> Defines a list item

<link> Defines the relationship between a document and an external resource (most used to link to style sheets)

<main> Specifies the main content of a document

<map> Defines an image map

<mark> Defines marked/highlighted text

<meta> Defines metadata about an HTML document

<meter> Defines a scalar measurement within a known range (a gauge)

<nav> Defines navigation links

<noframes> Not supported in HTML5.

Defines an alternate content for users that do not support frames

<noscript> Defines an alternate content for users that do not support client-side scripts

<object> Defines a container for an external application

<ol> Defines an ordered list

<optgroup> Defines a group of related options in a drop-down list

<option> Defines an option in a drop-down list

<output> Defines the result of a calculation

<p> Defines a paragraph

<param> Defines a parameter for an object

<picture> Defines a container for multiple image resources

<pre> Defines preformatted text

<progress> Represents the progress of a task

<q> Defines a short quotation

<rp> Defines what to show in browsers that do not support ruby annotations

<rt> Defines an explanation/pronunciation of characters (for East Asian typography)

<ruby> Defines a ruby annotation (for East Asian typography)

<s> Defines text that is no longer correct

<samp> Defines sample output from a computer program

<script> Defines a client-side script

<section> Defines a section in a document

<select> Defines a drop-down list

<small> Defines smaller text

<source> Defines multiple media resources for media elements (<video> and <audio>)

<span> Defines a section in a document

<strike> Not supported in HTML5. Use <del> or <s> instead.

Defines strikethrough text

<strong> Defines important text

<style> Defines style information for a document

<sub> Defines subscripted text

<summary> Defines a visible heading for a <details> element

<sup> Defines superscripted text

<svg> Defines a container for SVG graphics

<table> Defines a table

<tbody> Groups the body content in a table

<td> Defines a cell in a table

<template> Defines a container for content that should be hidden when the page loads

<textarea> Defines a multiline input control (text area)

<tfoot> Groups the footer content in a table

<th> Defines a header cell in a table

<thead> Groups the header content in a table

<time> Defines a specific time (or datetime)

<title> Defines a title for the document

<tr> Defines a row in a table

<track> Defines text tracks for media elements (<video> and <audio>)

<tt> Not supported in HTML5. Use CSS instead.

Defines teletype text

<u> Defines some text that is unarticulated and styled differently from normal text

<ul> Defines an unordered list

<var> Defines a variable

<video> Defines embedded video content

<wbr> Defines a possible line-break