

HTML5

Notes for Professionals

Chapter 12: Linking Resources

Attribute	Details
charset	Specifies the character encoding of the linked document.
crossorigin	Specifies how the element handles cross origin requests.
href	Specifies the location of the linked document.
hreflang	Specifies the language of the linked document.
media	Specifies on what device the linked document will be displayed, often used in combination with the device media query.
rel	Specifies the relationship between the current document and the linked document.
rev	Specifies the relationship between the linked document and the current document.
size	Specifies the size of the linked resource. Only when rel="icon".
target	Specifies where the linked document is to be loaded.
type	Specifies the media type of the linked document.
integrity	Specifies a base64 encoded hash (sha256, sha384, or sha512) of the linked document, used to verify its integrity.

While many scripts, icons, and stylesheets can be written straight into HTML markup, it is often more efficient to include these resources in their own file and link them to your document. This allows external resources such as stylesheets and scripts to be loaded in parallel, improving the page load time.

Section 12.1: JavaScript

Synchronous
The `<script>` element is placed just before the closing `</body>` tag. This allows your site's visitors to see more quickly and encourages your JavaScript elements that haven't loaded yet.

Asynchronous
Another alternative, when the JavaScript code being loaded is not necessary for the page to render, is to use the `async` attribute. Using `async` the browser will load the script asynchronously, speeding up the page load. Using `defer` the HTML parsing is not interrupted, and once it is fully downloaded, will interrupt the HTML parsing in order to execute the script.

Deferred
Deferred scripts are like `async` scripts, with the exception that the parsing is not interrupted. Deferred scripts are guaranteed to be loaded in the order of their appearance in the document.

The `<noscript>` element defines content to be displayed if the user has scripts disabled or if the browser does not support using scripts. The `<noscript>` tag can be placed in either the `<head>` or the `<body>`.

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Chapter 17: Input Control Elements

Parameter	Details
class	Indicates the class of the input.
id	Indicates the ID of the input.
type	Indicates the type of input control to display. Acceptable values are hidden, text, tel, url, email, password, date, time, number, range, color, checkbox, radio, file, submit, image, reset, and button. Defaults to text if not specified, if the value is invalid, or if the browser does not support the type specified.
name	Indicates the name of the input.
disabled	Boolean value that indicates the input should be disabled. Disabled controls cannot be edited, are not sent on form submission, and cannot receive focus.
checked	When the value of the type attribute is radio or checkbox, the presence of this Boolean attribute indicates that the control is selected by default; otherwise it is ignored.
multiple	HTML5 indicates multiple files or values can be passed (Applies only to file and email type inputs).
placeholder	HTML5 A hint to the user of what can be entered in the control. The placeholder text must not contain carriage returns or line-feeds.
autocomplete	HTML5 indicates whether the value of the control can be automatically completed by the browser. Boolean value that indicates the input is not editable. Readonly controls are still sent on form submission, but will not receive focus. HTML5: This attribute is ignored when the value of type attribute is either set to hidden, range, color, checkbox, radio, file or button.
required	HTML5 indicates a value must be present or the element must be checked in order for the form to be submitted.
alt	An alternative text for images, in case they are not displayed.
autofocus	The <code><input></code> element should get the focus when page loads.
value	Specifies the value of <code><input></code> element.
step	The step attribute specifies the legal number intervals. It works with the following input types: number, range, date, datetime-local, month, time and week.

A key component of interactive web systems, input tags are HTML elements designed to take a specific form of input from users. Different types of input elements can regulate the data entered to fit a specified format and provide security to password entry.

Section 17.1: Text

The most basic input type and the default input if no type is specified. This input type defines a single-line text field with line-breaks automatically removed from the input value. All other characters can be entered into this. `<div>` elements are used within a `<form>` element to declare input controls that allow users to input data.

Syntax

```
<input type="text">
```

or without specifying a type, using the default attributes:

```
<input>
```

The default width of a text field input is 20 characters. This can be changed by specifying a value for the `size` attribute like this:

```
<input type="text" size="50">
```

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Chapter 20: Sectioning Elements

Section 20.1: Nav Element

The `<nav>` element is primarily intended to be used for sections that contain main navigation blocks for the website. This can include links to other parts of the web page (e.g. anchors for a table of contents) or other pages entirely.

Inline items

The following will display an inline set of hyperlinks:

```
<nav>  
  <a href="https://google.com">Google</a>  
  <a href="https://www.yahoo.com">Yahoo</a>  
</nav>
```

Use list items when needed

If the content represents a list of items, use a list item to show this and enhance the user experience. Note the role="navigation", more on this below.

```
<nav role="navigation">  
  <ul>  
    <li><a href="https://google.com">Google</li>  
    <li><a href="https://www.yahoo.com">Yahoo</li>  
  </ul>  
</nav>
```

Avoid unnecessary usage

`<footer>` elements may have a list of links to other parts of the site (FAQ, T&C, etc.). The footer element alone is sufficient in this case, you don't need to further wrap your links with a `<nav>` element in the `<footer>`.

!-- the <nav> is not required in the <footer -->
<footer>
 ...
</footer>

!-- The footer alone is sufficient -->
<footer>
 ...
</footer>

Notes:

- `<main>` descendants are not allowed within a `<nav>`.

Adding a `role="navigation"` **data role** to the `<nav>` element is advised to aid user agents that don't support HTML5 and also to provide more context for those that do.

HTML5 Notes for Professionals

100+ pages
of professional hints and tricks

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Credits

You may also like

Chapter 1: Getting started with HTML

RFC 1866

W3C: HTML 3.2 Specification

W3C: HTML 4.0 Specification

W3C: HTML 4.01 Specification

WHATWG: HTML Living Standard

W3C: HTML 5.1 Specification

Section 1.1: Hello World

HTML

Cascading Style Sheets (CSS)

Still existing elements that

allow for such

font

<element_name>

</element_name>

<element_name>...content...</element_name>



<meta>

<link>

video

audio

table	footer
-------	--------

video audio table footer

<video> <audio> <table> <footer> </html> </body>

<p>

<p>

</p>

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

"Hello World"

text editor

.html

.htm

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

  <head>
    <meta charset="UTF-8">
    <title>Hello!</title>
  </head>

  <body>
    <h1>Hello World!</h1>
    <p>This is a simple paragraph.</p>
  </body>

</html>
```

<!DOCTYPE>

<html>

ISO language codes

</html>

lang

<head>

</head>

<meta>

encoding

<meta>

charset

UTF-8

character

<title>

</title>

<body>

</body>

<h1>

<p>

HTML5, 11.2 Non-conforming features

.htm

DOS

Chapter 2: Doctypes

Section 2.1: Adding the Doctype

`<!DOCTYPE`

`<html>`

Version ≥ 5

`<!DOCTYPE html>`

Section 2.2: HTML 5 Doctype

`<!DOCTYPE html>`



`<!doctype html>`
`<!dOCTyPe html>`
`<!DocTYpe html>`

[Uppercase or lowercase doctype?](#)

Chapter 3: Headings

Section 3.1: Using Headings

`<h1>` `<h6>`

`<h1>`

`<h6>`

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
```

h1

h1

h2

```
<h1>Main title</h1>
<p>Introduction</p>

<h2>Reasons</h2>

  <h3>Reason 1</h3>
  <p>Paragraph</p>

  <h3>Reason 2</h3>
  <p>Paragraph</p>

<h2>In conclusion</h2>
<p>Paragraph</p>
```

Chapter 4: Paragraphs

`<p>`

`
`

`<pre>`

Section 4.1: HTML Paragraphs

`<p>`

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

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

`<p>This is another paragraph, extra spaces will be removed by browsers</p>`

Chapter 5: Text Formatting

Section 5.1: Highlighting

`<mark>`

1

`<p>`Here is some content from an article that contains the `<mark>`searched query`</mark>` that we are looking for. Highlighting the text will make it easier for the user to find what they are looking for.`</p>`

Here is some content from an article that contains the searched query that we are looking for. Highlighting the text will make it easier for the user to find what they are looking for.

Section 5.2: Bold, Italic, and Underline

``

``

``Bold Text Here``

``Bold Text Here``

``

``

``

``

``

`<i>`

`Italicized Text Here`

`<i>Italicized Text Here</i>`

``
`<i>`

``

`<i>`

`<u>`

`<p>This paragraph contains some <u>mispelled</u> text.</p>`

Section 5.3: Abbreviation

`<abbr>`

`<p>I like to write <abbr title="Hypertext Markup Language">HTML</abbr>!</p>`

`title`

Section 5.4: Inserted, Deleted, or Stricken

`<ins>`

`<ins>New Text</ins>`

``

`Deleted Text`

`<s>`

`<s>Struck-through text here</s>`

Section 5.5: Superscript and Subscript

`<sup>` `<sub>`

`^{superscript here}`

_{subscript here**}**

Chapter 6: Anchors and Hyperlinks

href	http://example.com/	name	/about-us/
hreflang	BCP 47	href	RFC 1766
rel	defined in the specification	registered in the Microformats wiki	
target	_parent	_top	framesetname
			_blank
			_self
title			
download			

Section 6.1: Link to another site

`<a>` (anchor element)

```
<a href="http://example.com/">Link to example.com</a>
```

http://example.com/

href

Link to example.com

external

```
<a href="http://example.com/" rel="external">example site</a>
```

```
<a href="ftp://example.com/">This could be a link to a FTP site</a>
```

example.com

This could be a link to a FTP site

Section 6.2: Link to an anchor

<a>

id

page1.html

```
<h2>First topic</h2>
<p>Content about the first topic</p>
<h2>Second topic</h2>
<p>Content about the second topic</p>
```

id

```
<h2 id="Topic1">First topic</h2>
<p>Content about the first topic</p>
<h2 id="Topic2">Second topic</h2>
<p>Content about the second topic</p>
```

```
<h1>Table of Contents</h1>
<a href="#Topic1">Click to jump to the First Topic</a>
<a href="#Topic2">Click to jump to the Second Topic</a>
```

page1.html

Remember, you can always `look back in the First Topic` for supporting information.

Section 6.3: Link to a page on the same site

relative path

```
<a href="/example">Text Here</a>
```

example

/

http://example.com

```
<a href="/page">Text Here</a>
<a href="http://example.com/page">Text Here</a>
```

page

example.com

Section 6.4: Link that dials a number

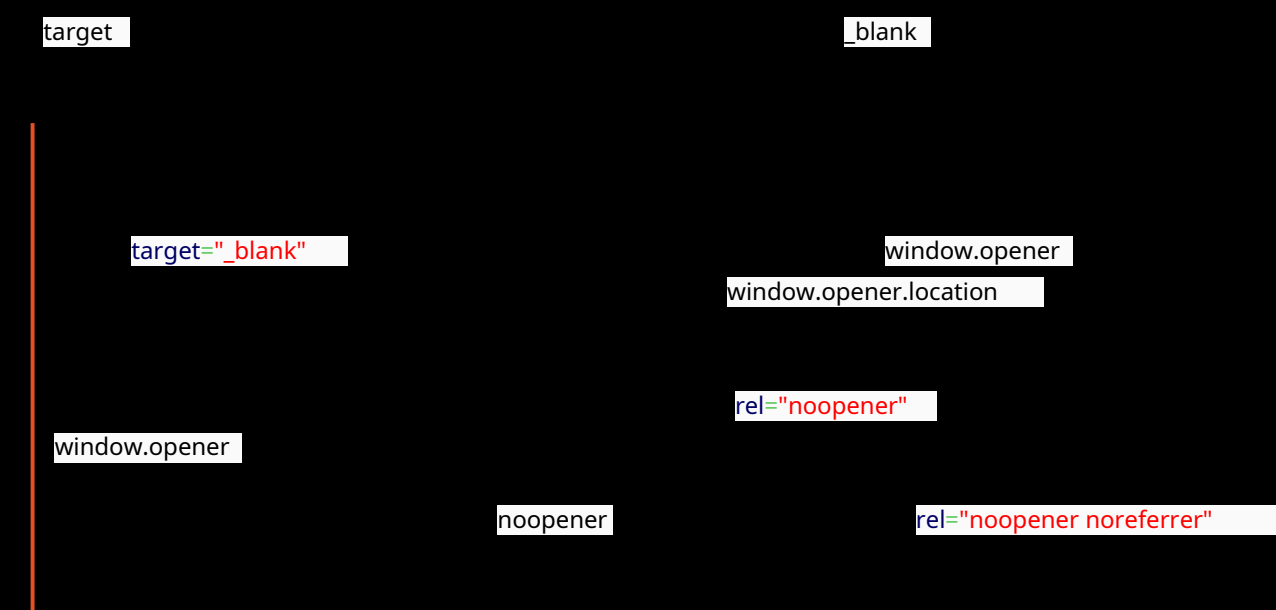
href

tel:

```
<a href="tel:11234567890">Call us</a>
```

Section 6.5: Open link in new tab/window

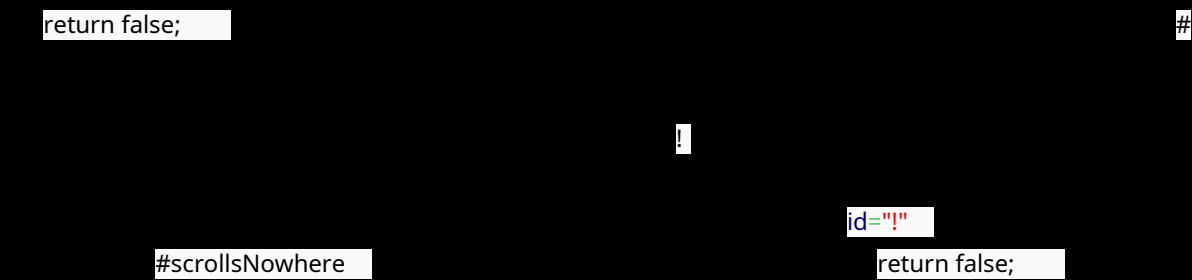
```
<a href="example.com" target="_blank">Text Here</a>
```



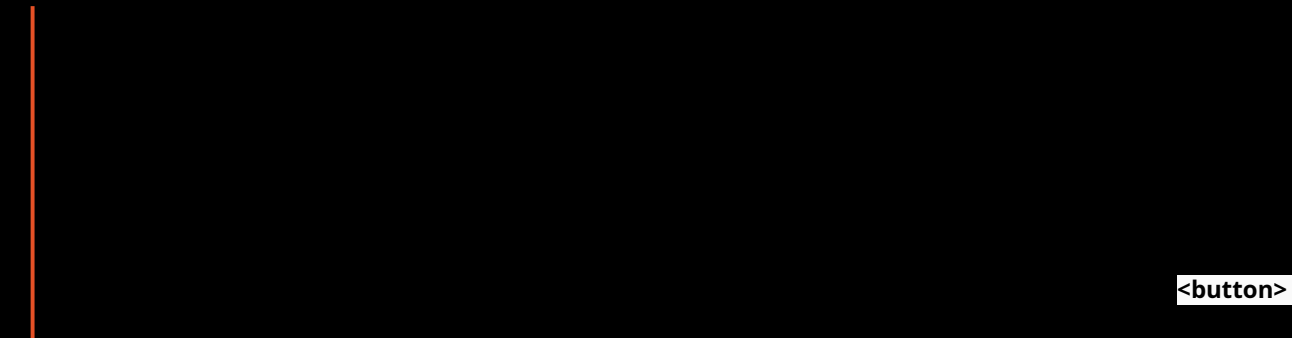
Section 6.6: Link that runs JavaScript

```
javascript:  
<a href="javascript:myFunction();">Run Code</a>
```

```
onclick  
<a href="#" onclick="myFunction(); return false;">Run Code</a>
```



```
<a href="#" onclick="myFunction();">Run Code</a>
```



Section 6.7: Link that runs email client

href

mailto:

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

example@example.com

```
<a href="mailto:example@example.com?cc=john@example.com&bcc=jane@example.com">Send email</a>
```

```
<a href="mailto:example@example.com?subject=Example+subject&body=Message+text">Send email</a>
```

URL encoded

mailto:

Chapter 7: Lists

Section 7.1: Ordered List

``

``

```
<ol>  
  <li>Item</li>  
  <li>Another Item</li>  
  <li>Yet Another Item</li>  
</ol>
```

`start`

```
<ol start="3">  
  <li>Item</li>  
  <li>Some Other Item</li>  
  <li>Yet Another Item</li>  
</ol>
```

```
<li value="7"></li>
```

`value`


```
<ol start="5">
  <li>Item</li>
  <li>Some Other Item</li>
  <li value="4">A Reset Item</li>
  <li>Another Item</li>
  <li>Yet Another Item</li>
</ol>
```

start value

Version ≥ 5

reversed ol

```
<ol reversed>
  <li>Item</li>
  <li>Some Other Item</li>
  <li value="4">A Reset Item</li>
  <li>Another Item</li>
  <li>Yet Another Item</li>
</ol>
```

type

```
<ol type="1 | a | A | i | I">
```

1
a
A
i
I

ol

Section 7.2: Unordered List


```
<ul>
  <li>Item</li>
  <li>Another Item</li>
  <li>Yet Another Item</li>
</ul>
```

ul

Section 7.3: Nested lists

```
<ul>
  <li>item 1</li>
  <li>item 2
    <ul>
      <li>sub-item 2.1</li>
      <li>sub-item 2.2</li>
    </ul>
  </li>
  <li>item 3</li>
</ul>
```

li

```
<ol>
  <li>Hello, list!</li>
  <li>
    <ul>
      <li>Hello, nested list!</li>
    </ul>
  </li>
</ol>
```

Section 7.4: Description List

dl

dt

dd

```
<dl>
  <dt>name 1</dt>
  <dd>value for 1</dd>
  <dt>name 2</dt>
  <dd>value for 2</dd>
</dl>
```

[Live demo](#)

```
<dl>

  <dt>name 1</dt>
  <dt>name 2</dt>
  <dd>value for 1 and 2</dd>

  <dt>name 3</dt>
  <dd>value for 3</dd>
  <dd>value for 3</dd>

</dl>
```

[Live demo](#)

Chapter 8: Tables

`<table>`

Section 8.1: Simple Table

```
<table>
<tr>
  <th>Heading 1/Column 1</th>
  <th>Heading 2/Column 2</th>
</tr>
<tr>
  <td>Row 1 Data Column 1</td>
  <td>Row 1 Data Column 2</td>
</tr>
<tr>
  <td>Row 2 Data Column 1</td>
  <td>Row 2 Data Column 2</td>
</tr>
</table>
```

`<table>`
`<td>` `<th>`
`<td>` `<th>`

`<tr>`
`<td>`

`<th>`

Section 8.2: Spanning columns or rows

`<th>` `<td>`

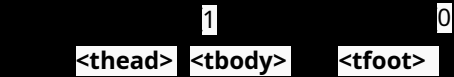
`colspan`

`rowspan`

```
<table>
<tr>
  <td>row 1 col 1</td>
  <td>row 1 col 2</td>
  <td>row 1 col 3</td>
</tr>
<tr>
  <td colspan="3">This second row spans all three columns</td>
</tr>
<tr>
  <td rowspan="2">This cell spans two rows</td>
  <td>row 3 col 2</td>
  <td>row 3 col 3</td>
</tr>
<tr>
  <td>row 4 col 2</td>
  <td>row 4 col 3</td>
</tr>
</table>
```

row 1 col 1	row 1 col 2	row 1 col 3
This second row spans all three columns		
This cell spans two rows	row 3 col 2	row 3 col 3
	row 4 col 2	row 4 col 3

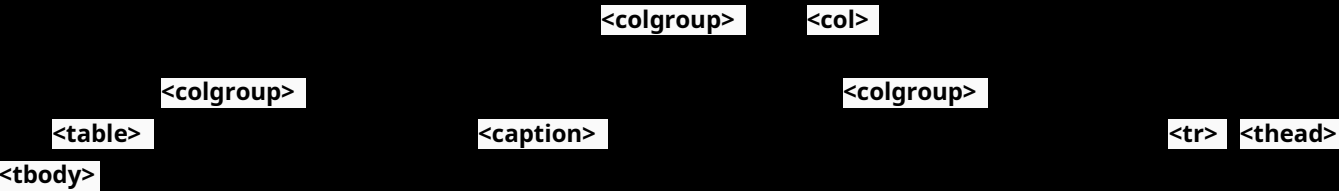
rowspan



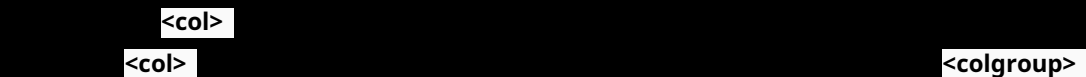
colspan



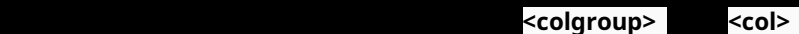
Section 8.3: Column Groups



```
<table>
  <colgroup span="2"></colgroup>
  <colgroup span="2"></colgroup>
  ...
</table>
```



```
<table>
  <colgroup>
    <col id="MySpecialColumn" />
  </colgroup>
  <colgroup>
    <col class="CoolColumn" />
    <col class="NeatColumn" span="2" />
  </colgroup>
  ...
</table>
```



border

background

width

visibility

display

display: none

display: none;

[HTML5 Tabular data](#)

Section 8.4: Table with thead, tbody, tfoot, and caption

<thead>

<tbody>

<tfoot>

<caption>

<thead>

```
<table>
<caption>Table Title</caption> <!-- | caption is the first child of table |-->
<thead> <!--=====| thead is after caption |-->
  <tr>
    <th>Header content 1</th>
    <th>Header content 2</th>
  </tr>
</thead>

<tbody> <!--=====| tbody is after thead |-->
  <tr>
    <td>Body content 1</td>
    <td>Body content 2</td>
  </tr>
</tbody>

<tfoot><!-- | tfoot can be placed before or after tbody, but not in a group of tbody. |-->
<!-- | Regardless where tfoot is in markup, it is rendered at the bottom. |-->

  <tr>
    <td>Footer content 1</td>
    <td>Footer content 2</td>
  </tr>
</tfoot>

</table>
```

background-color

color

border

Table Title	
Header content 1	Header content 2
Body content 1	Body content 2
Footer content 1	Footer content 2

Table Title	
Header content 1	Header content 2
Body content 1	Body content 2
Footer content 1	Footer content 2

<caption>

<thead>

<tbody>

<tfoot>

<th>

<td>

Section 8.5: Heading scope

th

```
<table>
  <thead>
    <tr>
      <td></td>
      <th>Column Heading 1</th>
      <th>Column Heading 2</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <th>Row Heading 1</th>
      <td></td>
      <td></td>
    </tr>
    <tr>
      <th>Row Heading 2</th>
      <td></td>
      <td></td>
    </tr>
  </tbody>
</table>
```

scope

```
<table>
  <thead>
    <tr>
      <td></td>
      <th scope="col">Column Heading 1</th>
      <th scope="col">Column Heading 2</th>
```



```
</tr>
</thead>
<tbody>
  <tr>
    <th scope="row">Row Heading 1</th>
    <td></td>
    <td></td>
  </tr>
  <tr>
    <th scope="row">Row Heading 1</th>
    <td></td>
    <td></td>
  </tr>
</tbody>
</table>
```

scope

col

row

colgroup

rowgroup

<https://developer.mozilla.org/en-US/docs/Web/HTML/Element/th#attr-scope>
<https://www.w3.org/TR/WCAG20-TECHS/H63.html>

Chapter 9: Comments

Section 9.1: Creating comments

```
<!--
```

```
-->
```

```
<!-- I'm an HTML comment! -->
```

```
<h1>This part will be displayed <!-- while this will not be displayed -->.</h1>
```

```
<!-- This is a multiline HTML comment.  
Whatever is in here will not be rendered by the browser.  
You can "comment out" entire sections of HTML code.  
-->
```

```
<h1 <!-- testAttribute="something" -->>This will not work</h1>
```

```
h1
```

```
<h1 <!-- testAttribute="something" -->
```

```
>
```

```
--
```

Section 9.2: Commenting out whitespace between inline elements

```
span a
```

```
<!-- Use an HTML comment to nullify the newline character below: -->  
<a href="#">I hope there will be no extra whitespace after this!</a><!--  
--><button>Foo</button>
```

```
<!-- Use an HTML comment to nullify the newline character below: -->
```

```
<a href="#">I hope there will be no extra whitespace after this!</a><!--
--><button>Foo</button>
<hr>
<!-- Without it, you can notice a small formatting difference: -->
<a href="#">I hope there will be no extra whitespace after this!</a>
<button>Foo</button>
```

[I hope there will be no extra whitespace after this!](#)

[I hope there will be no extra whitespace after this!](#)

Chapter 10: Classes and IDs

Section 10.1: Giving an element a class

class

```
<div class="example-class"></div>
```

```
<div class="class1 class2"></div>
```

span

```
<span></span>  
<span class="special"></span>
```

highlight

```
<div class="highlight">Lorem ipsum</div>  
<span class="highlight">Lorem ipsum</span>
```

```
.highlight { color: green; }
```

div

highlight

```
div.highlight { color: green; }
```

.highlight

div.highlight

```
.main .highlight { color: red; } /* Descendant combinator */
```

```
.footer > .highlight { color: blue; } /* Child combinator */
```

```
<div class="special left menu">This text will be pink</div>
```

```
.special.left.menu { color: pink; }
```

Section 10.2: Giving an element an ID

```
<div id="example-id"></div>
```

```
<div id="example-id"></div>  
<span id="example-id"></span>
```

#

```
#example-id { color: green; }
```

#

```
http://example.com/about#example-id
```

Section 10.3: Acceptable Values

Version ≥ 5

id

```
<div id="container"> ... </div>
```

```
<div id="999"> ... </div>
<div id="#%LV-| |"> ... </div>
<div id="___V"> ... </div>
<div id="⌘~"> ... </div>
<div id="  "> ... </div>
<div id="{ }"> ... </div>
<div id="©"> ... </div>
<div id="♠♣♥♦☆€~¥"> ... </div>
```

```
<div id=" "> ... </div>
```

```
<div id="results"> ... </div>
<div id="results"> ... </div>
```

Version ≤ 4.01

id

```
<div id="container"> ... </div>
```

```
<div id="sampletext"> ... </div>
<div id="sample-text"> ... </div>
<div id="sample_text"> ... </div>
<div id="sample:text"> ... </div>
<div id="sample.text"> ... </div>
```

id

class

```
<div id="results"> ... </div>
<div id="results"> ... </div>
```

```
<div class="results"> ... </div>
```

```
<div class="results"> ... </div>
```

id

class

id

```
<div id="9lions"> ... </div>
```

4.1.3 Characters and case

[3.2.5.1 The id attribute](#)

[3.2.5.7 The class attribute](#)

[6.2 SGML basic types](#)

Section 10.4: Problems related to duplicated IDs

```
<div id="aDiv">a</div>
<div id="aDiv">b</div>
```

```
#aDiv {
  color: red;
}
```

```
var html = document.getElementById("aDiv").innerHTML;
```

html

div

("a")

Chapter 11: Data Attributes

Section 11.1: Older browsers support

value
 value

```

```

dataset
setAttribute
getAttribute

Section 11.2: Data Attribute Use

data-*

```
<div data-submitted="yes" class="user_profile">  
  ... some content ...  
</div>
```

data-* data-
json data-*

Chapter 12: Linking Resources

charset

crossorigin

href

hreflang

media

rel

rev

sizes

rel="icon"

target

type

integrity

Section 12.1: JavaScript

```
<script src="path/to.js"></script>
```

<script>

</body>

```
<script src="path/to.js" async></script>
```

async

```
<script src="path/to.js" defer></script>
```

```
<noscript>JavaScript disabled</noscript>
```

<noscript>

<noscript>

<head>

<body>

Section 12.2: External CSS Stylesheet

```
<link rel="stylesheet" href="path/to.css" type="text/css">
```

<link>

<head>

type

```
<link rel="stylesheet" href="path/to.css" type="text/css">
```

```
<link rel="stylesheet" href="path/to.css">
```

@import

```
<style type="text/css">
  @import("path/to.css")
</style>
```

```
<style>
  @import("path/to.css")
</style>
```

Section 12.3: Favicon

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

image/png

image/x-icon

*.ico

[this SO](#)

[question](#)

favicon.ico

<link>

Section 12.4: Alternative CSS

```
<link rel="alternate stylesheet" href="path/to/style.css" title="yourTitle">
```


Section 12.5: Resource Hint: dns-prefetch, prefetch, prerender

preconnect

dns-prefetch

```
<link rel="preconnect" href="URL">
```

```
<link rel="dns-prefetch" href="URL">
```

```
<link rel="prefetch" href="URL">
```

```
<link rel="prerender" href="URL">
```

te

```
<link rel="stylesheet" href="test.css" media="print">
```

print

Section 12.7: Prev and Next

prev

next

```
<link rel="prev" href="http://stackoverflow.com/documentation/java/topics">
```

```
<link rel="next" href="http://stackoverflow.com/documentation/css/topics">
```

Section 12.8: Web Feed

rel="alternate"

```
<link rel="alternate" type="application/atom+xml" href="http://example.com/feed.xml" />
```

```
<link rel="alternate" type="application/rss+xml" href="http://example.com/feed.xml" />
```


Chapter 13: Include JavaScript Code in HTML

src

type

async

defer

charset

crossorigin

nonce

CSP3

Section 13.1: Handling disabled Javascript

<noscript>

</noscript>

```
<script>
  document.write("Hello, world!");
</script>
<noscript>This browser does not support Javascript.</noscript>
```

Section 13.2: Linking to an external JavaScript file

```
<script src="example.js"></script>
```

src

<head>

Section 13.3: Directly including JavaScript code

```
<script>
// JavaScript code
</script>
```

Section 13.4: Including a JavaScript file executing asynchronously

```
<script type="text/javascript" src="URL" async></script>
```

Chapter 14: Using HTML with CSS

`<style>`

`<link>`

Section 14.1: External Stylesheet Use

`link`

`head`

```
<head>
  <link rel="stylesheet" type="text/css" href="stylesheet.css">
</head>
```

```
<head>
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css" integrity="sha384-
BVYiISiFeK1dGmJRAkycuHAHRg32OmUcww7on3RYdg4Va+PmSTsz/K68vbdEjh4u" crossorigin="anonymous">
</head>
```

Section 14.2: Internal Stylesheet

`<style>`

```
<head>
  <style type="text/css">
    body {
      background-color: gray;
    }
  </style>
</head>
```

```
<head>
  <style type="text/css">
    body {
      background-color: gray;
    }
  </style>

  <style type="text/css">
    p {
      background-color: blue;
    }
  </style>
</head>
```

Section 14.3: Inline Style

style

```
<span style="color: red">This text will appear in red.</span>
```

Section 14.4: Multiple Stylesheets

```
<head>
  <link rel="stylesheet" type="text/css" href="general.css">
  <link rel="stylesheet" type="text/css" href="specific.css">
</head>
```

general.css

```
body {
  background-color: red;
}
```

specific.css

```
body {
  background-color: blue;
}
```


Chapter 15: Images

src

srcset

sizes

crossorigin

usemap

ismap

alt

width

height

Section 15.1: Creating an image

alt

img

src

```

```

```

```



```

```

Section 15.2: Choosing alt text

<!-- Incorrect -->

```
 An anonymous user wrote:
```

```
<blockquote>Lorem ipsum dolor sed.</blockquote>
```

```
<a href="https://google.com/"></a> /
```

```
<a href="https://google.com/"></a>
```

[Edit icon](#) [Delete icon](#)

```
<!-- Correct -->
 An anonymous user wrote:
<blockquote>Lorem ipsum dolor sed.</blockquote>
<a href="https://google.com/"></a> /
<a href="https://google.com/"></a>
```

[Edit](#) [Delete](#)

Section 15.3: Responsive image using the srcset attribute

```

```

sizes

srcset

img/hello-300.jpg
img/hello-600.jpg
img/hello-900.jpg
img/hello-1200.jpg



srcset

srcset src

```

```

srcset

x

img/hello-300.jpg
img/hello-600.jpg
img/hello-1200.jpg

src

srcset

srcset src

Section 15.4: Responsive image using picture element

```
<picture>
<source media="(min-width: 600px)" srcset="large_image.jpg">
<source media="(min-width: 450px)" srcset="small_image.jpg">

</picture>
```

Chapter 16: Image Maps

``
`usemap` `name` `usemap="#map"` `name="map"`

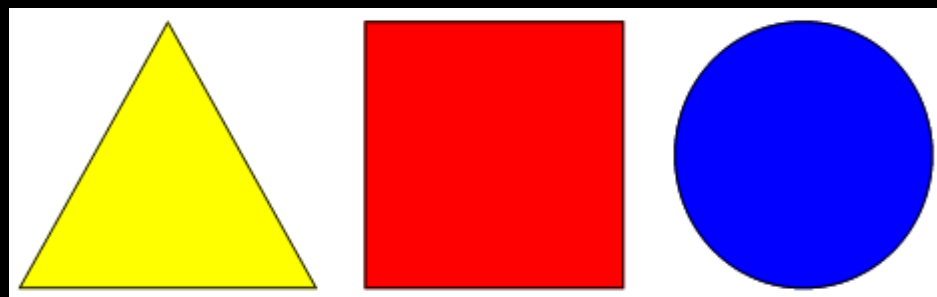
`<map>`
`name` `usemap`

`<area>` `<area>` `href` `<a>` `ping` `<area>` `<area>`
`alt` `<area>` `href` `MDN docs`

`coords` `shape="rectangle"` `shape="circle"` `shape="polygon"`
`shape="polygon" coords="x1, y1, x2, y2, x3, y3, ..."`
`left, top, right, bottom`
`centerX, centerY, radius`

`href` `<area>` `shape` `circle` `circ` `default` `rectangle` `rect` `coords` `polygon` `poly`

ps



```

<map name="shapes">
  <area shape="polygon" coords="79,6,5,134,153,134">
  <area shape="rectangle" coords="177,6,306,134">
  <area shape="circle" coords="397,71,65">
```

</map>

[live demo](#)

Chapter 17: Input Control Elements

password date time number range color checkbox radio file submit image reset hidden text tel url email button

file email

hidden range color checkbox radio file button type

<input>

<input>

step number range date datetime-local month time week

Section 17.1: Text

type

<input>

<form>

```
<input type="text">
```

type

```
<input>
```



```
<input type="text" size="50">
```

size

size

size

<textarea>

Section 17.2: Checkbox and Radio Buttons

[specification](#)

<input>

[HTML](#)

<input>

type

checkbox

radio

```
<input type="checkbox">  
<input type="radio">
```

name

name

```
<input type="radio" name="color" id="red" value="#F00">  
<input type="radio" name="color" id="green" value="#0F0">  
<input type="radio" name="color" id="blue" value="#00F">
```

value

on

value

checked

checked



| | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

checked

```
<input type="radio">  
<input type="checkbox">
```

<form>

checked

<label>

```
<label>  
  <input type="radio" name="color" value="#F00">  
  Red  
</label>
```

<label>

for

id

```
<input type="checkbox" name="color" value="#F00" id="red">  
<label for="red">Red</label>
```

<fieldset>

<legend>

```
<fieldset>  
  <legend>Theme color:</legend>  
  <p>  
    <input type="radio" name="color" id="red" value="#F00">  
    <label for="red">Red</label>  
  </p>  
  <p>  
    <input type="radio" name="color" id="green" value="#0F0">  
    <label for="green">Green</label>  
  </p>
```



```
<p>
  <input type="radio" name="color" id="blue" value="#00F">
  <label for="blue">Blue</label>
</p>
</fieldset>
```



Section 17.3: Input Validation

email url tel date

Version ≥ 5

required

```
<input required>
```

minlength

maxlength

```
<input minlength="3">
<input maxlength="15">
<input minlength="3" maxlength="15">
```

min

max

number

range

Marks: `<input type="number" size="6" name="marks" min="0" max="100" />`

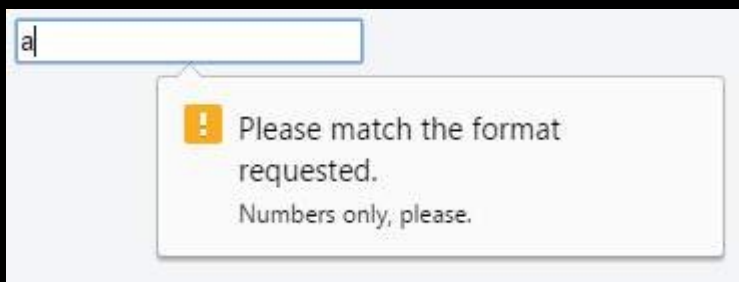
Subject Feedback: `<input type="range" size="2" name="feedback" min="1" max="5" />`

Version ≥ 5

pattern

title

```
<input pattern="\d*" title="Numbers only, please.">
```



[CanIUse](#)

Version \geq 5

file

[media types](#)

```
<input type="file" accept="image/*" title="Only images are allowed">
```

```
<input type="file" accept="image/*,.rar,application/zip">
```

novalidate

form

formnovalidate

```
<form>
```

```
<input type="text" name="name" required>
```

```
<input type="email" name="email" required>
```

```
<input pattern="\d*" name="number" required>
```

```
<input type="submit" value="Publish"> <!-- form will be validated -->
```

```
<input type="submit" value="Save" formnovalidate> <!-- form will NOT be validated -->
```

```
</form>
```

Section 17.4: Color

Version \geq 5

```
<input type="color" name="favcolor" value="#ff0000">
```

color

color





type="text"

Section 17.5: Password

```
<input type="password" name="password">
```

password

type="text"

```
<input type="password" name="password" placeholder="Password">
```


Section 17.6: File

```
<input type="file" name="fileSubmission">
```

form

file

upload_file.php

```
<form action="upload_file.php" method="post" enctype="multipart/form-data">
  Select file to upload:
  <input type="file" name="fileSubmission" id="fileSubmission">
  <input type="submit" value="Upload your file" name="submit">
</form>
```


multiple

```
<input type="file" name="fileSubmission" id="fileSubmission" multiple>
```

.png .gif .jpeg

```
<input type="file" name="fileSubmission" accept="image/x-png,image/gif,image/jpeg" />
```

Section 17.7: Button

```
<input type="button" value="Button Text">
```

<button>

```
<button type="button">Button Text</button>
```

```
<input type="button" onclick="alert('hello world!)" value="Click Me">
```

```
<button type="button" onclick="alert('hello world!)">Click Me</button>
```

[name]

name

[type]

type

submit

reset

button

men

[value]

form

formaction

formenctype

formmethod="post"

formmethod

formnovalidate

formtarget

Section 17.8: Submit

```
<input type="submit" value="Submit">
```

<button>

```
<button type="submit">  
   Submit  
</button>
```

Section 17.9: Reset

```
<input type="reset" value="Reset">
```

reset

value

selected

checked

form

<form>

Section 17.10: Hidden

```
<input type="hidden" name="inputName" value="inputValue">
```

Section 17.11: Tel

```
<input type="tel" value="+8400000000">
```

tel

Section 17.12: Email

Version ≥ 5

```
<input type="email">
```

```
<form>
  <label>E-mail: <label>
  <input type="email" name="email">
</form>
```

Section 17.13: Number

Version ≥ 5

```
<input type="number" value="0" name="quantity">
```

number

e1e-, 0

Section 17.14: Range

Version ≥ 5

```
<input type="range" min="" max="" step="" />
```

Section 17.15: Search

Version ≥ 5

```
<input type="search" name="googlesearch">
```

Section 17.16: Image

```
<input type="image" src="img.png" alt="image_name" height="50px" width="50px"/>
```

Section 17.17: Week

Version ≥ 5

```
<input type="week" />
```

Section 17.18: Url

Version ≥ 5

```
<input type="url" name="Homepage">
```

url

url

Section 17.19: DateTime-Local

Version ≥ 5

```
<input type="datetime-local" />
```

Section 17.20: Month

Version ≥ 5

```
<input type="month" />
```

Section 17.21: Time

Version ≥ 5

```
<input type="time" />
```

time

[RFC 3339](#)

19:04:39
08:20:39.04

Section 17.22: DateTime (Global)

```
<fieldset>
  <p><label>Meeting time: <input type=datetime name="meeting.start"></label>
</fieldset>
```

Section 17.23: Date

Version ≥ 5

```
<input type="date" />
```

Chapter 18: Forms

accept-charset

action

autocomplete

enctype

method

name

novalidate

target

Section 18.1: Submitting

```
<form action="action.php">
```

```
<form action="action.php" method="get">  
<form action="action.php" method="post">
```

```
www.example.com/action.php?firstname=Mickey&lastname=Mouse
```

```
<input type="text" name="lastname" value="Mouse">
```

```
<form action="action.php" method="post" target="_blank" accept-charset="UTF-8"  
enctype="application/x-www-form-urlencoded" autocomplete="off" novalidate>
```

```
<!-- form elements -->
```

```
</form>
```

Section 18.2: Target attribute in form tag

```
<form target="_blank">
```

Section 18.3: Uploading Files

```
data enctype
```

```
enctype
```

```
form
```

```
multipart/form-
```

```
<form method="post" enctype="multipart/form-data" action="upload.php">  
  <input type="file" name="pic" />  
  <input type="submit" value="Upload" />  
</form>
```

Section 18.4: Grouping a few input fields

```
<form>  
  <fieldset>  
    <legend>1st field set:</legend>  
    Field one:<br>  
    <input type="text"><br>
```

```
Field two:<br>
<input type="text"><br>
</fieldset><br>
<fieldset>
  <legend>2nd field set:</legend>
  Field three:<br>
  <input type="text"><br>
  Field four:<br>
  <input type="text"><br>
</fieldset><br>
<input type="submit" value="Submit">
</form>
```

1st field set:

Field one:

Field two:

2nd field set:

Field three:

Field four:

Submit

Chapter 19: Div Element

Section 19.1: Basic usage

`<div>`

`<div>`

```
<div>
  <p>Hello! This is a paragraph.</p>
</div>
```

`div`

```
div {
  display: block;
}
```



`<nav>`

`<article>`

`<section>`

`<fieldset>`

Section 19.2: Nesting

`<div>`

`<div>`

`<div class="outer-div">`

`<div class="inner-div">`

`<p>`

```
<div class="outer-div">
  <div class="inner-div">
    <p>This is a paragraph</p>
  </div>
  <div class="inner-div">
    <p>This is another paragraph</p>
  </div>
</div>
```

This is a paragraph

This is another paragraph

`<div>`

`div`

Chapter 20: Sectioning Elements

Section 20.1: Nav Element

`<nav>`

```
<nav>
  <a href="https://google.com">Google</a>
  <a href="https://www.yahoo.com">Yahoo!</a>
  <a href="https://www.bing.com">Bing</a>
</nav>
```

`role="navigation"`

```
<nav role="navigation">
  <ul>
    <li><a href="https://google.com">Google</a></li>
    <li><a href="https://www.yahoo.com">Yahoo!</a></li>
    <li><a href="https://www.bing.com">Bing</a></li>
  </ul>
</nav>
```

`<footer>`

`<nav>`

`<footer>`

`<!-- the <nav> is not required in the <footer> -->`

```
<footer>
  <nav>
    <a href="#">...</a>
  </nav>
</footer>
```

`<!-- The footer alone is sufficient -->`

```
<footer>
  <a href="#">...</a>
</footer>
```

`<main>` element

`<nav>`

`role="navigation"` ARIA role

`<nav>`

```
<nav role="navigation"><!-- ... --></nav>
```

```
<nav>
```

```
<nav>
```

```
<nav>
```

[Click here to read the official HTML5 Specification for the `<nav>` element](#)

Section 20.2: Article Element

```
<article>
```

```
section
```

```
article
```

```
article
```

```
<section>
```

```
<!-- Each individual blog post is an <article> -->
```

```
<article>
```

```
<header>
```

```
<h1>Blog Post</h1>
```

```
<time datetime="2016-03-13">13th March 2016</time>
```

```
</header>
```

```
<p>The article element represents a self contained article or document.</p>
```

```
<p>The section element represents a grouping of content.</p>
```

```
<section>
```

```
<h2>Comments <small>relating to "Blog Post"</small></h2>
```

```
<!-- Related comment is also a self-contained article -->
```

```
<article id="user-comment-1">
```

```
<p>Excellent!</p>
```

```
<footer><p>...</p><time>...</time></footer>
```

```
</article>
```

```
</section>
```

```
</article>
```

```
<!-- ./repeat: <article> -->
```

```
</section>
```

```
<!-- Content unrelated to the blog or posts should be outside the section. -->
```

```
<footer>
```

```
<p>This content should be unrelated to the blog.</p>
```

```
</footer>
```


`<article>`

`<main>`

```
<article>
  <p>This doesn't make sense, this article has no real `context`.</p>
</article>
```

`<main>`

`main`

```
<main>
  <p>I'm the main content, I don't need to belong to an article.</p>
</main>
```

`<main>` [ARIA role](#)

```
<section role="main">
  <p>This section is the main content of this page.</p>
</section>
```

`<main>` [element](#)

`<article>`

[Click here to read the official HTML5 Specification for the `<article>` element](#)

Section 20.3: Main Element

`<main>`

`<main>`

`<main>`

`article`

`aside`

`footer`

`header`

`nav`

```
<body>
  <header>
    <nav>...</nav>
  </header>

  <main>
    <h1>Individual Blog Post</h1>
    <p>An introduction for the post.</p>

    <article>
      <h2>References</h2>
      <p>...</p>
    </article>

    <article>
```

```
<h2>Comments</h2> ...  
</article>  
</main>  
  
<footer>...</footer>  
</body>
```

`<main>`

`<header>`

`<footer>`

`<main>`

`<main>`

[ARIA role attributes](#) `main`

`presentation`

`role="main"` [ARIA role](#)

`<main>`

[Click here to read the official HTML5 Specification for the `<main>` element](#)

Section 20.4: Header Element

`<header>`

`<header>`

```
<header>  
<p>Welcome to...</p>  
<h1>Voidwars!</h1>  
</header>
```

`<article>`

`<header>`

```
<article>  
<header>  
<h1>Flexbox: The definitive guide</h1>  
</header>  
<p>The guide about Flexbox was supposed to be here, but it turned out Wes wasn't a Flexbox expert  
either.</p>  
</article>
```

Section 20.5: Footer Element

`<footer>`

`<footer>`

`<p>`

```
<footer>
  <p>All rights reserved</p>
</footer>
```

Section 20.6: Section Element

`<section>`

`section`

`<section>`

`<article>`

`<section>`

`<div>`

```
<article>
  <header>
    <h2>Blog Post</h2>
  </header>
  <p>An introduction for the post.</p>
  <section>
    <h3>Chapter 1</h3>
    <p>...</p>
  </section>
  <section>
    <h3>Chapter 2</h3>
    <p>...</p>
  </section>
  <section>
    <h3>Comments</h3> ...
  </section>
</article>
```

[Click here to read the official HTML5 Specification for the `<main>` element](#)

Chapter 21: Navigation Bars

Section 21.1: Basic Navigation Bar

```
<ul>
  <li><a href="#">Home</a></li>
  <li><a href="#">About</a></li>
  <li><a href="#">Contact</a></li>
</ul>
```

Section 21.2: HTML5 Navigation Bar

```
<nav>
  <a href="#">Home</a>
  <a href="#">About</a>
  <a href="#">Contact</a>
</nav>
```


Chapter 22: Label Element

```
<input type="text" value="Surname" for="surname" />

<form id="someFormId">
  <label>
    Surname:
  </label>
  <input type="text" value="Surname" />
</form>
```

Section 22.1: About Label

```
<label>
  Surname:
</label>
<input type="text" value="Surname" />
```

```
<label>
  Surname:
</label>
<input type="text" value="Surname" />
```

```
<label>
  <input type="checkbox" name="Cats">
  I like Cats!
</label>
```

```
<input type="checkbox" name="Cats">
I like Cats!
```

```
<label>
  <input type="checkbox" name="Cats">
  I like Cats!
</label>
```

```
<input id="cats" type="checkbox" name="Cats">
<label for="cats">I like Cats!</label>
```

```
<label>
  <input type="checkbox" name="Cats">
  I like Cats!
</label>
```

Section 22.2: Basic Use

```
<form action="/login" method="POST">

  <label for="username">Username:</label>
  <input id="username" type="text" name="username" />

  <label for="pass">Password:</label>
  <input id="pass" type="password" name="pass" />

  <input type="submit" name="submit" />

</form>
```

```
Version ≥ 5

<form id="my-form" action="/login" method="POST">

  <input id="username" type="text" name="username" />

  <input id="pass" type="password" name="pass" />

  <input type="submit" name="submit" />

</form>
```

```
<label for="pass">Password:</label>
<input id="pass" type="password" name="pass" />

<input type="submit" name="submit" />

</form>

<label for="username" form="my-form">Username:</label>
```

Chapter 23: Output Element

[MDN Global Attributes](#)

document.forms

<inputs id="inp1"> for value is "inp1"

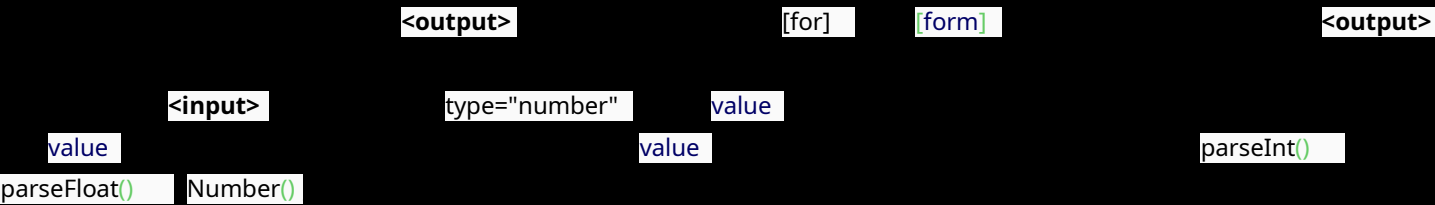
<form>

<form>

<form>

<form>

Section 23.1: Output Element Using For and Form Attributes



[Live Demo](#)

```
<!--form1 will collect the values of in1 and in2 on 'input' event.-->
<!--out1 value will be the sum of in1 and in2 values.-->

<form id="form1" name="form1" oninput="out1.value = parseInt(in1.value, 10) + parseInt(in2.value, 10)">

  <fieldset>

    <legend>Output Example</legend>

    <input type="number" id="in1" name="in1" value="0">
    <br/>
    +
    <input type="number" id="in2" name="in2" value="0">

  </fieldset>

</form>

<!--[for] attribute enables out1 to display calculations for in1 and in2.-->
<!--[form] attribute designates form1 as the form owner of out1 even if it isn't a descendant.-->

<output name="out1" for="in1 in2" form="form1">0</output>
```

Section 23.2: Output Element with Attributes

```
<output name="out1" form="form1" for="inp1 inp2"></output>
```


Chapter 24: Void Elements

Section 24.1: Void elements

area

base

br

col

hr

img

input

link

meta

param

command

keygen

source

picture

audio

video

```
<div>
  <a href="http://stackoverflow.com/">
    <h3>Click here to visit <i>Stack Overflow!</i></h3>
  </a>
  <button onclick="alert('Hello!');">Say Hello!</button>
  <p>My favorite language is <b>HTML</b>. Here are my others:</p>
  <ol>
    <li>CSS</li>
    <li>JavaScript</li>
    <li>PHP</li>
  </ol>
</div>
```

```

<br>
<hr>
<input type="number" placeholder="Enter your favorite number">
```


Chapter 25: Media Elements

```
<source>
```

Section 25.1: Audio

```
<audio>
```

```
<audio controls>
  <source src="file.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

Section 25.2: Video

```
<video>
```

```
<video width="500" height="700" controls>
  <source src="video.mp4" type="video/mp4">
Your browser does not support the video tag.
</video>
```

Section 25.3: Using `<video>` and `<audio>` element to display audio/video content

```
<audio>
```

```
<source>
```

```
<!-- Simple video example -->
<video src="videofile.webm" autoplay poster="posterimage.jpg">
  Sorry, your browser doesn't support embedded videos,
  but don't worry, you can <a href="videofile.webm">download it</a>
  and watch it with your favorite video player!
</video>

<!-- Video with subtitles -->
<video src="foo.webm">
  <track kind="subtitles" src="foo.en.vtt" srclang="en" label="English">
  <track kind="subtitles" src="foo.sv.vtt" srclang="sv" label="Svenska">
```

```

</video>
<!-- Simple video example -->
<video width="480" controls poster="https://archive.org/download/WebmVp8Vorbis/webmvp8.gif" >
  <source src="https://archive.org/download/WebmVp8Vorbis/webmvp8.webm" type="video/webm">
  <source src="https://archive.org/download/WebmVp8Vorbis/webmvp8_512kb.mp4" type="video/mp4">
  <source src="https://archive.org/download/WebmVp8Vorbis/webmvp8.ogv" type="video/ogg">
  Your browser doesn't support HTML5 video tag.
</video>

```

```

<!-- Simple audio playback -->
<audio src="http://developer.mozilla.org/@api/deki/files/2926/=AudioTest_(1).ogg" autoplay>
  Your browser does not support the <code>audio</code> element.
</audio>

```

```

<!-- Audio playback with captions -->
<audio src="foo.ogg">
  <track kind="captions" src="foo.en.vtt" srclang="en" label="English">
  <track kind="captions" src="foo.sv.vtt" srclang="sv" label="Svenska">
</audio>

```

Section 25.4: Video header or background

```

<video width="1280" height="720" autoplay muted loop poster="video.jpg" id="videobg">
  <source src="video.mp4" type="video/mp4">
  <source src="video.webm" type="video/webm">
  <source src="video.ogg" type="video/ogg">
</video>

```

```

#videobg {
  background: url(video.jpg) no-repeat;
  background-size: cover;
}

```

Chapter 26: Progress Element

`<progress>`

`<progress>`

Section 26.1: Progress

`<progress>`

```
<progress value="22" max="100"></progress>
```

Section 26.2: Changing the color of a progress bar

`progress[value]`

250px

20px

```
progress[value] {  
  width: 250px;  
  height: 20px;  
}
```

`-webkit-appearance`

```
progress[value] {  
  -webkit-appearance: none;  
  appearance: none;  
}
```

```
progress[value]::-webkit-progress-bar {  
  background-color: "green";  
}
```

```
progress[value] {  
  -moz-appearance: none;  
  appearance: none;  
  border: none; /* Firefox also renders a border */
```

```
}
```

progress

background-color

```
progress[value] {  
  -webkit-appearance: none;  
  -moz-appearance: none;  
  appearance: none;  
  
  border: none;           /* Remove border from Firefox */  
  
  width: 250px;  
  height: 20px;  
  
  color: blue;  
}
```

Section 26.3: HTML Fallback

progress

```
<progress max="100" value="20">  
  <div class="progress-bar">  
    <span style="width: 20%;">Progress: 20%</span>  
  </div>  
</progress>
```

Chapter 27: Selection Menu Controls

Section 27.1: Select Menu

`<select>`

```
<select name="">
  <option value="1">One</option>
  <option value="2">Two</option>
  <option value="3">Three</option>
  <option value="4">Four</option>
</select>
```

`size`

```
<select name="" size="4"></select>
```

`multiple`

`multiple`

```
<select name="" multiple></select>
```

`multiple`

Section 27.2: Options

```
<option>Some Option</option>
```

`<option>`

`value`

`label`

```
<option label="Some Option" value="Some Option">
```

```
<option value="option1">Some Option</option>
```

selected

selected

```
<option value="option1" selected>Some option</option>
```

```
<select multiple>
  <option value="option1" selected>Some option</option>
  <option value="option2" selected>Some option</option>
</select>
```

Section 27.3: Option Groups

<optgroup>

label

```
<select name="">
  <option value="milk">Milk</option>
  <optgroup label="Fruits">
    <option value="banana">Bananas</option>
    <option value="strawberry">Strawberries</option>
  </optgroup>
  <optgroup label="Vegetables" disabled>
    <option value="carrot">Carrots</option>
    <option value="zucchini">Zucchini</option>
  </optgroup>
</select>
```

Section 27.4: Datalist

<datalist>

<input>

<input>

```
<input list="Languages">
```



```
<datalist id="Languages">
  <option value="PHP">
  <option value="Perl">
  <option value="Python">
  <option value="Ruby">
  <option value="C+">
</datalist>
```

Chapter 28: Embed

`src`
`type`
`width`
`height`

Section 28.1: Basic usage

`embed`

```
<embed src="myflash.swf">
```

Section 28.2: Defining the MIME type

MIME `type`

```
<embed type="video/mp4" src="video.mp4" width="640" height="480">
```

Chapter 29: IFrames

`name` `a` `src`
`width`
`height`
`src`
`srcdoc`

`sandbox`

`allowFullscreen` `requestFullscreen()`

Section 29.1: Basics of an Inline Frame

`base.html`

```
<iframe src="base.html"></iframe>
```

Section 29.2: Sandboxing

```
<iframe sandbox src="http://example.com/"></iframe>
```

`allow-scripts`

`allow-forms`

`sandbox attribute`

```
<iframe sandbox="allow-scripts allow-forms" src="http://example.com/"></iframe>
```

```
<iframe sandbox="allow-same-origin allow-top-navigation"  
src="http://example.com/untrusted/comments/page2">
```

`allow-top-`

`navigation`

[defense in depth](#)

[Content Security Policy](#)

Section 29.3: Setting the Frame Size

`width`

`height`

```
<iframe src="base.html" width="800" height="600"></iframe>
```

Section 29.4: Using the "srcdoc" Attribute

srcdoc

src

```
<iframe srcdoc="<p>IFrames are cool!</p>"></iframe>
```

srcdoc

src

srcdoc

srcdoc

src

```
<iframe srcdoc="<p>IFrames are cool!</p>" src="base.html"></iframe>
```

srcdoc

base.html

Section 29.5: Using Anchors with IFrames

href

target

name

```
<iframe src="webpage.html" name="myIframe"></iframe>
```

```
<a href="different_webpage.html" target="myIframe">Change the Iframe content to  
different_webpage.html</a>
```

Chapter 30: Content Languages

Section 30.1: Base Document Language

html

```
<html lang="en">
```

lang

lang

Section 30.2: Element Language

lang

```
<p lang="en">The content of this element is in English.</p>
```

```
<p lang="en" title="The value of this attribute is also in English.">The content of this element is  
in English.</p>
```

```
<div lang="en">
```

```
<p>This element contains English content.</p>
```

```
<p title="This attribute, too.">Same with this element.</p>  
</div>
```

Section 30.3: Elements with Multiple Languages

```
<p lang="en">This English sentence contains the German word <span lang="de">Hallo</span>.</p>
```

Section 30.4: Regional URLs

hreflang

<a>

<area>

BCP 47

```
<p>  
<a href="example.org" hreflang="en">example.org</a> is one of IANA's example domains.  
</p>
```

Tags for Identifying Languages

Section 30.5: Handling Attributes with Different Languages

applet base

basefont br frame frameset hr iframe meta param script

lang

```
<p lang="en" title="An English paragraph">  
  <span lang="de" title="A German sentence">Hallo Welt!</span>  
</p>
```

Chapter 31: SVG

`<svg>`

Section 31.1: Inline SVG

```
<body>
  <svg class="attention" xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" viewBox="0 0 1000 1000" >
    <path id="attention"
    d="m571,767l0,-106q0,-8,-5,-13t-12,-5l-108,0q-7,0,-12,5t-5,13l0,106q0,8,5,13t12,6l108,0q7,0,12,-6t5
    ,-13zm-1,-208l10,-257q0,-6,-5,-10q-7,-6,-14,-6l-122,0q-7,0,-14,6q-5,4,-5,12l9,255q0,5,6,9t13,3l103,
    0q8,0,13,-3t6,-9zm-7,-522l428,786q20,35,-1,70q-10,17,-26,26t-35,10l-858,0q-18,0,-35,-10t-26,-26q-21
    ,-35,-1,-70l429,-786q9,-17,26,-27t36,-10t36,10t27,27z" />
  </svg>
</body>
```

```
.attention {
  fill: red;
  width: 50px;
  height: 50px;
}
```



Section 31.2: Embedding external SVG files in HTML

``

`<object>`

```

```

``

```
<object type="image/svg+xml" data="attention.svg" width="50" height="50">
```

`` `<object>`

Section 31.3: Embedding SVG using CSS

background-image

<div class="attention"></div>

```
.attention {
  background-image: url(attention.svg);
  background-size: 100% 100%;
  width: 50px;
  height: 50px;
}
```

```
background-image:
url(data:image/svg+xml,%3Csvg%20xmlns%3D%22http%3A%2F%2Fwww.w3.org%2F2000%2Fsvg%22%20xmlns%3Axlink%3D%22http%3A%2F%2Fwww.w3.org%2F1999%2Fxlink%22%20viewBox%3D%220%200%201000%201000%22%20%3E%0D%0A%3Cpath%20id%3D%22attention%22%20d%3D%22m571%2C767%2C-106q0%2C-8%2C-5%2C-13t-12%2C-5l-108%2C0q-7%2C0%2C-12%2C5t-5%2C13l0%2C106q0%2C8%2C5%2C13t12%2C6l108%2C0q7%2C0%2C12%2C-6t5%2C-13Zm-1%2C-208l10%2C-257q0%2C-6%2C-5%2C-10q-7%2C-6%2C-14%2C-6l-122%2C0q-7%2C0%2C-14%2C6q-5%2C4%2C-5%2C12l9%2C255q0%2C5%2C6%2C9t13%2C3l103%2C0q8%2C0%2C13%2C-3t6%2C-9Zm-7%2C-522l428%2C786q20%2C35%2C-1%2C70q-10%2C17%2C-26%2C26t-35%2C10l-858%2C0q-18%2C0%2C-35%2C-10t-26%2C-26q-21%2C-35%2C-1%2C-70l429%2C-786q9%2C-17%2C26%2C-27t36%2C-10t36%2C10t27%2C27Z%22%20%2F%3E%0D%0A%3C%2Fsvg%3E);
```


Chapter 32: Canvas

Section 32.1: Basic Example

canvas

```
<canvas id="myCanvas">
  Cannot display graphic. Canvas is not supported by your browser (IE<9)
</canvas>
```

<canvas>

canvas

CanvasRenderingContext2D

HTMLCanvasElement

.getContext("2d")

```
var ctx = document.getElementById("myCanvas").getContext("2d");
// now we can refer to the canvas's 2D layer context using `ctx`

ctx.fillStyle = "#f00";
ctx.fillRect(0, 0, ctx.canvas.width, ctx.canvas.height); // x, y, width, height

ctx.fillStyle = "#000";
ctx.fillText("My red canvas with some black text", 24, 32); // text, x, y
```

[jsFiddle example](#)

Section 32.2: Drawing two rectangles on a <canvas>

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Draw two rectangles on the canvas</title>
  <style>
    canvas{
      border:1px solid gray;
    }
  </style>
  <script async>
    window.onload = init; // call init() once the window is completely loaded
    function init(){
      // #1 - get reference to <canvas> element
      var canvas = document.querySelector('canvas');

      // #2 - get reference to the drawing context and drawing API
      var ctx = canvas.getContext('2d');

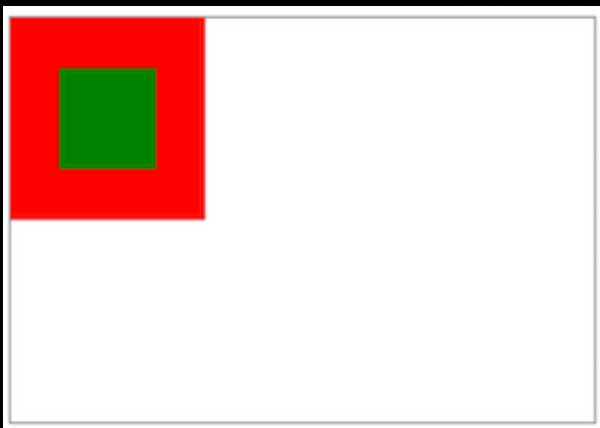
      // #3 - all fill operations are now in red
      ctx.fillStyle = 'red';
```

```
// #4 - fill a 100x100 rectangle at x=0,y=0
ctx.fillRect(0,0,100,100);

// #5 - all fill operations are now in green
ctx.fillStyle = 'green';

// #6 - fill a 50x50 rectangle at x=25,y=25
ctx.fillRect(25,25,50,50);

}
</script>
</head>
<body>
  <canvas width=300 height=200>Your browser does not support canvas.</canvas>
</body>
</html>
```



Chapter 33: Meta Information

Section 33.1: Page Information

application-name

```
<meta name="application-name" content="OpenStreetMap">
```

application-name

author

```
<meta name="author" content="Your Name">
```

description

```
<meta name="description" content="Page Description">
```

description

generator

```
<meta name="generator" content="HTML Generator 1.42">
```

keywords

```
<meta name="keywords" content="Keyword1, Keyword2">
```

keywords

Section 33.2: Character Encoding

charset

windows-1252

ISO-8859-2

Shift_JIS

UTF-8

UTF-8

Version = 5

```
<meta charset="UTF-8">
```

```
<meta charset="ISO-8859-1">
```

```
<meta charset>
```

```
<meta http-equiv="content-type" content="text/html; charset=UTF-8">
```

```
<meta http-equiv="content-type" content="text/html; charset=ISO-8859-1">
```

Encoding Standard

Section 33.3: Robots

```
<meta name="robots" content="noindex">
```

all

noindex

nofollow

follow

none

noarchive

nocache

nosnippet

noodp

notranslate

noimageindex

unavailable_after [RFC-850

date/time]

index, follow

noindex, nofollow

noarchive

[Open Directory project](#)

RFC 850 format

index

follow

index, ..., noindex

Section 33.4: Social Media

```
<meta property="fb:app_id" content="123456789">
<meta property="og:url" content="https://example.com/page.html">
<meta property="og:type" content="website">
<meta property="og:title" content="Content Title">
<meta property="og:image" content="https://example.com/image.jpg">
<meta property="og:description" content="Description Here">
<meta property="og:site_name" content="Site Name">
<meta property="og:locale" content="en_US">
<meta property="article:author" content="">
<!-- Facebook: https://developers.facebook.com/docs/sharing/webmasters#markup -->
<!-- Open Graph: http://ogp.me/ -->
```

[Facebook Open Graph Markup](#)

[Open Graph protocol](#)

```
<meta charset="utf-8">
<meta property="op:markup_version" content="v1.0">

<!-- The URL of the web version of your article -->
<link rel="canonical" href="http://example.com/article.html">

<!-- The style to be used for this article -->
<meta property="fb:article_style" content="myarticlestyle">
```

[Facebook Instant Articles: Creating Articles](#)

[Instant Articles: Format Reference](#)

```
<meta name="twitter:card" content="summary">
<meta name="twitter:site" content="@site_account">
<meta name="twitter:creator" content="@individual_account">
<meta name="twitter:url" content="https://example.com/page.html">
<meta name="twitter:title" content="Content Title">
<meta name="twitter:description" content="Content description less than 200 characters">
<meta name="twitter:image" content="https://example.com/image.jpg">
```

[Twitter Cards: Getting Started Guide](#)

[Twitter Card Validator](#)

```
<link href="https://plus.google.com/+YourPage" rel="publisher">
<meta itemprop="name" content="Content Title">
<meta itemprop="description" content="Content description less than 200 characters">
<meta itemprop="image" content="https://example.com/image.jpg">
```

Section 33.5: Mobile Layout Control

```
<meta name="viewport">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

viewport

content="width=device-width

480px wide

480px wide initial-

scale=1

width

device-width

480

height

device-height

600

initial-scale

minimum-scale

1.0

maximum-scale

1.0

user-scalable

yes

no

width

width=600

width=device-width

height

pixels

height=600

device-height

height=device-height

Section 33.6: Automatic Refresh

meta

head

```
<meta http-equiv="refresh" content="5">
```

Section 33.7: Phone Number Recognition

tel:

```
<meta name="format-detection" content="telephone=no">
```

Section 33.8: Automatic redirect

example.com

```
<meta http-equiv="refresh" content="5;url=https://www.example.com/" />
```

example.com

url=

Section 33.9: Web App

"Add to homescreen"

```
<meta name="mobile-web-app-capable" content="yes">
```

```
<meta name="apple-mobile-web-app-capable" content="yes">
```

```
<meta name="theme-color" content="black">
```

```
<meta name="apple-mobile-web-app-status-bar-style" content="black">
```

Chapter 34: Marking up computer code

Section 34.1: Block with `<pre>` and `<code>`

`code`

`pre`

```
<pre>
  <code>
x = 42
if x == 42:
    print "x is ...    ... 42"
  </code>
</pre>
```

`<`

`<`

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

```
<pre>
  <code>
&lt;p>This is a paragraph.&lt;/p>
  </code>
</pre>
```

Section 34.2: Inline with `<code>`

`code`

`<p>The <code>a</code> element creates a hyperlink.</p>`

Chapter 35: Marking-up Quotes

Section 35.1: Inline with <q>

q

```
<p>She wrote <q>The answer is 42.</q> and everyone agreed.</p>
```

Version ≤ 4.01

Version = 5

cite

cite

```
<p>She wrote <q cite="http://example.com/blog/hello-world">The answer is 42.</q> and everyone  
agreed.</p>
```

a

Section 35.2: Block with <blockquote>

blockquote

```
<blockquote>  
<p>The answer is 42.</p>  
</blockquote>
```

cite

cite

```
<blockquote cite="http://example.com/blog/hello-world">  
<p>The answer is 42.</p>  
</blockquote>
```

a

Version ≤ 4.01

blockquote

```
<blockquote cite="http://example.com/blog/hello-world">  
<p>The answer is 42.</p>  
</blockquote>  
<p>Source: <cite><a href="http://example.com/blog/hello-world" rel="external">Hello  
World</a></cite></p>
```

div

cite

Version = 5

blockquote

cite

footer

```
<blockquote cite="http://example.com/blog/hello-world">
  <p>The answer is 42.</p>
  <footer>
    <p>Source: <cite><a href="http://example.com/blog/hello-world" rel="external">Hello
World</a></cite></p>
  </footer>
</blockquote>
```

cite

Chapter 36: Tabindex

tabindex

Section 36.1: Add an element to the tabbing order

```
<div tabindex="0">Some button</div>
```

button

a

Section 36.2: Remove an element from the tabbing order

```
<button tabindex="-1">This button will not be reachable by tab</button>
```

Section 36.3: Define a custom tabbing order (not recommended)

```
<div tabindex="2">Second</div>  
<div tabindex="1">First</div>
```

tabindex="0"

button

a

Chapter 37: Global Attributes

class
contenteditable
contextmenu
dir
draggable
hidden
id
lang
spellcheck
style
tabindex
title
translate

Section 37.1: Contenteditable Attribute

```
<p contenteditable>This is an editable paragraph.</p>
```

contenteditable

```
<p contenteditable>  
  This is an editable paragraph.  
  <span contenteditable="false">But not this.</span>  
</p>
```

Chapter 38: HTML 5 Cache

Section 38.1: Basic Example of HTML5 cache

```
<!DOCTYPE html>
<html manifest="index.appcache">
<body>
  <p>Content</p>
</body>
</html>
```

```
CACHE MANIFEST
index.html
```

Chapter 39: HTML Event Attributes

Section 39.1: HTML Form Events

Section 39.2: Keyboard Events

Chapter 40: Character Entities

Section 40.1: Character Entities in HTML

<https://dev.w3.org/html5/html-author/charref>

```
<input type="text" placeholder=" ⚡ Search"/>
```

⚡ Search

Section 40.2: Common Special Characters



`&entity_name;` `&entity_number;`

<code>&nbsp;</code>	<code>&#160;</code>
<code>&lt;</code>	<code>&#60;</code>
<code>&gt;</code>	<code>&#62;</code>
<code>&amp;</code>	<code>&#38;</code>
<code>&mdash;</code>	<code>&#8212;</code>
<code>&ndash;</code>	<code>&#8211;</code>
<code>&copy;</code>	<code>&#169;</code>
<code>&reg;</code>	<code>&#174;</code>
<code>&trade;</code>	<code>&#8482;</code>
<code>&phone;</code>	<code>&#9742;</code>

Chapter 41: ARIA

Section 41.1: role="presentation"

```
<div style="float:left;">Some content on the left.</div>
<div style="float:right;">Some content on the right</div>
<div role="presentation" style="clear:both;"></div> <!-- Only used to clear floats -->
```

Section 41.2: role="alert"

```
<div role="alert" aria-live="assertive">Your session will expire in 60 seconds.</div>
```

role="alert"

aria-live="assertive"

'Some practical ARIA examples'

Section 41.3: role="alertdialog"

```
<div role="alertdialog">
  <h1>Warning</h1>
  <div role="alert">Your session will expire in 60 seconds.</div>
</div>
```

Section 41.4: role="application"

```
<div role="application">
  <h1>Calculator</h1>
  <input id="num1" type="text"> + <input id="num2" type="text"> =
  <span id="result"></span>
</div>
```

Section 41.5: role="article"

Setting an ARIA role and/or aria-* attribute that matches the default implicit ARIA semantics is unnecessary and is not recommended as these properties are already set by the browser.

```
<article>
  <h1>My first article</h1>
  <p>Lorem ipsum...</p>
</article>
```

role=article

```
<div role="article">
  <h1>My first article</h1>
  <p>Lorem ipsum...</p>
</div>
```

role=article

Section 41.6: role="banner"

```
<div role="banner">
  <h1>My Site</h1>

  <ul>
    <li><a href="/">Home</a></li>
    <li><a href="/about">About</a></li>
    <li><a href="/contact">Contact</a></li>
  </ul>
</div>
```

Section 41.7: role="button"

```
<button role="button">Add</button>
```

Section 41.8: role="cell"

```
<table>
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <td role="cell">95</td>
    <td role="cell">14</td>
    <td role="cell">25</td>
  </tbody>
</table>
```

Section 41.9: role="checkbox"

```
<p>
  <input type="checkbox" role="checkbox" aria-checked="false">
  I agree to the terms
```

</p>

Section 41.10: role="columnheader"

```
<table role="grid">
  <thead>
    <tr>
      <th role="columnheader">Day 1</th>
      <th role="columnheader">Day 2</th>
      <th role="columnheader">Day 3</th>
    </tr>
  </thead>
  <tbody>
    <!-- etc -->
  </tbody>
</table>
```

Section 41.11: role="combobox"

```
<input type="text" role="combobox" aria-expanded="false">
```

Section 41.12: role="complementary"

```
<div role="complementary">
  <h2>More Articles</h2>

  <ul>
    <!-- etc -->
  </ul>
</div>
```

Section 41.13: role="contentinfo"

```
<p role="contentinfo">
  Author: Albert Einstein<br>
  Published: August 15, 1940
</p>
```

Section 41.14: role="definition"

```
<span role="term" aria-labelledby="def1">Love</span>
```

```
<span id="def1" role="definition">an intense feeling of deep affection.</span>
```

Section 41.15: role="dialog"

```
<div role="dialog">
  <p>Are you sure?</p>
  <button role="button">Yes</button>
  <button role="button">No</button>
</div>
```

Section 41.16: role="directory"

```
<ul role="directory">
  <li><a href="/chapter-1">Chapter 1</a></li>
  <li><a href="/chapter-2">Chapter 2</a></li>
  <li><a href="/chapter-3">Chapter 3</a></li>
</ul>
```

Section 41.17: role="document"

```
<div role="document">
  <h1>The Life of Albert Einstein</h1>
  <p>Lorem ipsum...</p>
</div>
```

Section 41.18: role="form"

```
<form>
```

```
role=form
```

Setting an ARIA role and/or aria-* attribute that matches the default implicit ARIA semantics is unnecessary and is not recommended as these properties are already set by the browser.

```
<form action="">
  <fieldset>
    <legend>Login form</legend>
    <div>
      <label for="username">Your username</label>
      <input type="text" id="username" aria-describedby="username-tip" required />
      <div role="tooltip" id="username-tip">Your username is your email address</div>
    </div>
    <div>
      <label for="password">Your password</label>
      <input type="text" id="password" aria-describedby="password-tip" required />
    </div>
  </fieldset>
</form>
```

```
<div role="tooltip" id="password-tip">Was emailed to you when you signed up</div>
</div>
</fieldset>
</form>
```

role=form

```
<div role=form>
  <input type="email" placeholder="Your email address">
  <button>Sign up</button>
</div>
```

Section 41.19: role="grid"

```
<table role="grid">
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <!-- etc -->
  </tbody>
</table>
```

Section 41.20: role="gridcell"

```
<table role="grid">
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <tr>
      <td role="gridcell">17</td>
      <td role="gridcell">64</td>
      <td role="gridcell">18</td>
    </tr>
  </tbody>
</table>
```

Section 41.21: role="group"

```
<div role="group">
  <button role="button">Previous</button>
  <button role="button">Next</button>
</div>
```

Section 41.22: role="heading"

```
<h1 role="heading">Introduction</h1>
<p>Lorem ipsum...</p>
```

Section 41.23: role="img"

```
<figure role="img">
  
  <figcaption>This is my cat, Albert.</figcaption>
</figure>
```

Section 41.24: role="link"

semantics

default implicit ARIA

<https://www.w3.org/TR/html5/dom.html#aria-usage-note>

Section 41.25: role="list"

```
<ul role="list">
  <li role="listitem">One</li>
  <li role="listitem">Two</li>
  <li role="listitem">Three</li>
</ul>
```

Section 41.26: role="listbox"

```
<ul role="listbox">
  <li>One</li>
  <li>Two</li>
  <li>Three</li>
</ul>
```

Section 41.27: role="listitem"

```
<ul role="list">
  <li role="listitem">One</li>
  <li role="listitem">Two</li>
  <li role="listitem">Three</li>
</ul>
```


Section 41.28: role="log"

```
<ul role="log">
  <li>User 1 logged in.</li>
  <li>User 2 logged in.</li>
  <li>User 1 logged out.</li>
</ul>
```

Section 41.29: role="main"

```
<!-- header & nav here -->
<div role="main">
  <p>Lorem ipsum...</p>
</div>
<!-- footer here -->
```

Section 41.30: role="marquee"

```
<ul role="marquee">
  <li>Dow +0.26%</li>
  <li>Nasdaq +0.54%</li>
  <li>S&P +0.44%</li>
</ul>
```

Section 41.31: role="math"

```

```

Section 41.32: role="menu"

```
<ul role="menu">
  <li role="menuitem">New</li>
  <li role="menuitem">Open</li>
  <li role="menuitem">Save</li>
  <li role="menuitem">Close</li>
</ul>
```

Section 41.33: role="menubar"

```
<ul role="menubar">
  <li role="menuitem">File</li>
  <li role="menuitem">Edit</li>
  <li role="menuitem">View</li>
```

```
<li role="menuitem">Help</li>
</ul>
```

Section 41.34: role="menuitem"

```
<ul role="menubar">
  <li role="menuitem">File</li>
  <li role="menuitem">Edit</li>
  <li role="menuitem">View</li>
  <li role="menuitem">Help</li>
</ul>
```

Section 41.35: role="menuitemcheckbox"

```
<ul role="menu">
  <li role="menuitem">Console</li>
  <li role="menuitem">Layout</li>
  <li role="menuitemcheckbox" aria-checked="true">Word wrap</li>
</ul>
```

Section 41.36: role="menuitemradio"

```
<ul role="menu">
  <li role="menuitemradio" aria-checked="true">Left</li>
  <li role="menuitemradio" aria-checked="false">Center</li>
  <li role="menuitemradio" aria-checked="false">Right</li>
</ul>
```

Section 41.37: role="navigation"

```
<ul role="navigation">
  <li><a href="/">Home</a></li>
  <li><a href="/about">About</a></li>
  <li><a href="/contact">Contact</a></li>
</ul>
```

Section 41.38: role="note"

```
<p>Lorem ipsum...</p>
<p>Lorem ipsum...</p>
<p role="note">Lorem ipsum...</p>
```

Section 41.39: role="option"

```
<ul role="listbox">
  <li role="option">Option 1</li>
  <li role="option">Option 2</li>
  <li role="option">Option 3</li>
</ul>
```

Section 41.40: role="progressbar"

```
<progress role="progressbar" value="25" max="100">25%</progress>
```

Section 41.41: role="radio"

```
<div role="radiogroup">
  <input role="radio" type="radio" aria-checked="true"> One<br>
  <input role="radio" type="radio" aria-checked="false"> Two<br>
  <input role="radio" type="radio" aria-checked="false"> Three
</div>
```

Section 41.42: role="region"

```
<div role="region">
  Home team: 4<br>
  Away team: 2
</div>
```

Section 41.43: role="radiogroup"

```
<div role="radiogroup">
  <input role="radio" type="radio" aria-checked="true"> One<br>
  <input role="radio" type="radio" aria-checked="false"> Two<br>
  <input role="radio" type="radio" aria-checked="false"> Three
</div>
```

Section 41.44: role="row"

```
<table>
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <tr role="row">
      <!-- etc -->
    </tr>
  </tbody>
```

```
</table>
```

Section 41.45: role="rowgroup"

```
<table>
  <thead role="rowgroup">
    <!-- etc -->
  </thead>
  <tbody role="rowgroup">
    <!-- etc -->
  </tbody>
</table>
```

Section 41.46: role="rowheader"

```
<table role="grid">
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <tr>
      <th role="rowheader">Day 1</th>
      <td>65</td>
    </tr>
    <tr>
      <th role="rowheader">Day 2</th>
      <td>74</td>
    </tr>
  </tbody>
</table>
```

Section 41.47: role="scrollbar"

```
<div id="content1">Lorem ipsum...</div>
<div
  role="scrollbar"
  aria-controls="content1"
  aria-orientation="vertical"
  aria-valuemax="100"
  aria-valuemin="0"
  aria-valuenow="25">
  <div class="scrollhandle"></div>
</div>
```

Section 41.48: role="search"

```
<div role="search">
```



```
<input role="searchbox" type="text">
<button role="button">Search</button>
</div>
```

Section 41.49: role="searchbox"

```
<div role="search">
  <input role="searchbox" type="text">
  <button role="button">Search</button>
</div>
```

Section 41.50: role="separator"

```
<p>Lorem ipsum...</p>
<hr role="separator">
<p>Lorem ipsum...</p>
```

Section 41.51: role="slider"

```
<div
  role="slider"
  aria-valuemax="100"
  aria-valuemin="0"
  aria-valuenow="25">
  <div class="sliderhandle"></div>
</div>
```

Section 41.52: role="spinbutton"

```
<input
  role="spinbutton"
  aria-valuemax="100"
  aria-valuemin="0"
  aria-valuenow="25"
  type="number"
  value="25">
```

Section 41.53: role="status"

```
<div role="status">Online</div>
```

Section 41.54: role="switch"

```
<select role="switch" aria-checked="false">
  <option>On</option>
  <option selected>Off</option>
</select>
```

Section 41.55: role="tab"

```
<ul role="tablist">
  <li role="tab">Introduction</li>
  <li role="tab">Chapter 1</li>
  <li role="tab">Chapter 2</li>
</ul>
```

Section 41.56: role="table"

```
<table role="table">
  <thead>
    <!-- etc -->
  </thead>
  <tbody>
    <!-- etc -->
  </tbody>
</table>
```

Section 41.57: role="tablist"

```
<ul role="tablist">
  <li role="tab">Introduction</li>
  <li role="tab">Chapter 1</li>
  <li role="tab">Chapter 2</li>
</ul>
```

Section 41.58: role="tabpanel"

```
<ul role="tablist">
  <li role="tab">Introduction</li>
  <li role="tab">Chapter 1</li>
  <li role="tab">Chapter 2</li>
</ul>
<div role="tabpanel">
  <!-- etc -->
</div>
```

Section 41.59: role="textbox"

```
<textarea role="textbox"></textarea>
```

Section 41.60: role="timer"

```
<p>  
  <span role="timer">60</span> seconds remaining.  
</p>
```

Section 41.61: role="toolbar"

```
<ul role="toolbar">  
  <li></li>  
  <li></li>  
  <li></li>  
  <li></li>  
</ul>
```

Section 41.62: role="tooltip"

```
<span aria-describedby="slopedesc">Slope</span>  
<div role="tooltip" id="slopedesc">y=mx+b</div>
```

Section 41.63: role="tree"

```
<ul role="tree">  
  <li role="treeitem">  
    Part 1  
    <ul>  
      <li role="treeitem">Chapter 1</li>  
      <li role="treeitem">Chapter 2</li>  
      <li role="treeitem">Chapter 3</li>  
    </ul>  
  </li>  
  <li role="treeitem">  
    Part 2  
    <ul>  
      <li role="treeitem">Chapter 4</li>  
      <li role="treeitem">Chapter 5</li>  
      <li role="treeitem">Chapter 6</li>  
    </ul>  
  </li>  
  <li role="treeitem">  
    Part 3  
    <ul>
```



```
<li role="treeitem">Chapter 7</li>
<li role="treeitem">Chapter 8</li>
<li role="treeitem">Chapter 9</li>
</ul>
</li>
</ul>
```

Section 41.64: role="treegrid"

Section 41.65: role="treeitem"

```
<ul role="tree">
  <li role="treeitem">
    Part 1
    <ul>
      <li role="treeitem">Chapter 1</li>
      <li role="treeitem">Chapter 2</li>
      <li role="treeitem">Chapter 3</li>
    </ul>
  </li>
  <li role="treeitem">
    Part 2
    <ul>
      <li role="treeitem">Chapter 4</li>
      <li role="treeitem">Chapter 5</li>
      <li role="treeitem">Chapter 6</li>
    </ul>
  </li>
  <li role="treeitem">
    Part 3
    <ul>
      <li role="treeitem">Chapter 7</li>
      <li role="treeitem">Chapter 8</li>
      <li role="treeitem">Chapter 9</li>
    </ul>
  </li>
</ul>
```

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