

Web Programming

Lec 2: HTML



References

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 - o https://www.w3schools.com/php
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 - o https://www.w3schools.com/js
- Additional Topics
 - o JQuery: https://www.w3schools.com/jquery
 - O Bootstrap 5.0: https://www.w3schools.com/bootstrap5
 - O Laravel/Blade Framework 11.0: https://www.w3schools.in/laravel

HTML

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!

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

HTML

Use target="_blank" to open the linked document in a new browser window or tab: Visit W3Schools!

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



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>
<a href="https://www.w3.org/">W3C</a>
<a href="https://www.google.com/">Google</a>
<h2>Relative URLs</h2>
<a href="html_images.asp">HTML Images</a>
<a href="/css/default.asp">CSS Tutorial</a>
```

```
<!DOCTYPE html>
<html>
<body>
<h2>Absolute URLs</h2>
<a href="https://www.w3.org/">W3C</a>
<a href="https://www.google.com/">Google</a>
<h2>Relative URLs</h2>
<a href="html_images.asp">HTML Images</a>
<a href="/css/default.asp">CSS Tutorial</a>
</body>
</html>
```



HTML Links - Use an Image as a Link

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

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

```
<!DOCTYPE html>
<html>
<body>
<h2>Image as a Link</h2>
The image below is a link. Try to click on it.
<a href="default.asp"><img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;"></a>
</body>
</html>
```

Image as a Link

The image below is a link. Try to click on it.



HTML

```
<!DOCTYPE html>
<html>
<body>
<h2>Button as a Link</h2>
Click the button to go to the HTML tutorial.
<button onclick="document.location='https://www.youtube.com/watch?</pre>
v=HA6bByKdAQM'">HTML Tutorial</button>
</body>
</html>
```

Button as a Link

Click the button to go to the HTML tutorial.

HTML Tutorial



</body>

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link {
  color: green;
  background-color: transparent;
  text-decoration: none;
a:hover {
  color: red;
  background-color: transparent;
  text-decoration: underline;
a:active {
                                              The four links states are:
  color: yellow:
                                                 • a:link - a normal, unvisited link
  background-color: transparent;
                                                 • a:visited - a link the user has visited
  text-decoration: underline;
</style>
</head>
<body>
<h2>Link Colors</h2>
```

Link Colors

You can change the default colors of links

HTML Images

In addition, links can be styled differently depending on what state they are in.

- a:hover a link when the user mouses over it
- a:active a link the moment it is clicked

HTML Images

You can change the default colors of links

```
<!DOCTYPE html>
<html>
<head>
<style>
a:link, a:visited {
  background-color: blue;
 color: white;
 padding: 15px 25px;
 text-align: center;
 text-decoration: none;
 display: inline-block;
a:hover, a:active {
 background-color: yellow;
</style>
</head>
<body>
<h2>Link Button</h2>
A link styled as a button:
<a href="default.asp" target="_blank">This is a link</a>
</body>
</html>
```

Link Button

A link styled as a button:

This is a link



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.

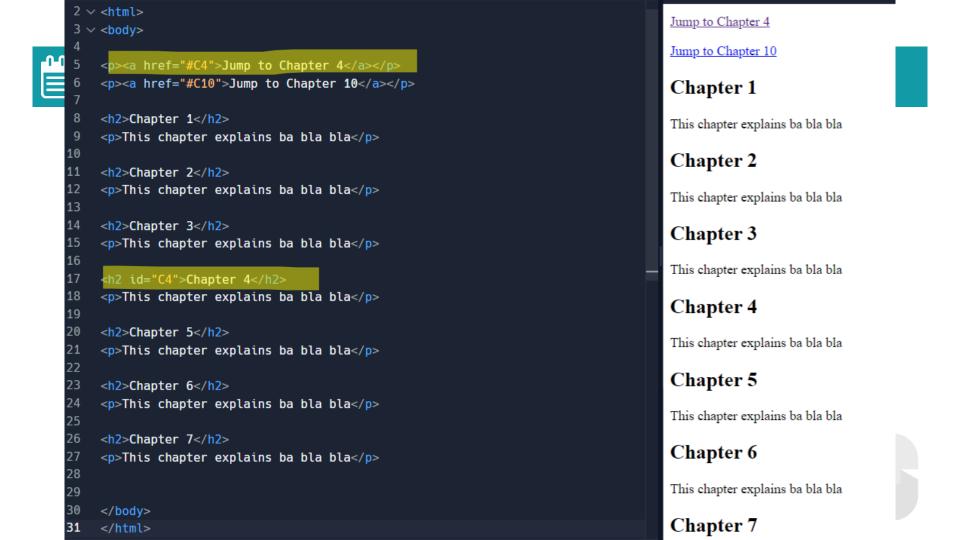
```
First, use the id attribute to create a bookmark:

<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>
```



```
<html>
     <head>
     <style>
 6
       background-image: url('download.jfif');
     </style>
     </head>
10
     <body>
11
12
     <h2>Background Image</h2>
                                                      7>9.
13
                                                      S
14
     ZAMALEK BATAL ELQARN ELHAKEKI <br/>br>
                                                      H
15
     7>9.<br>
16
     S<br>
                                                      K
17
    H<br>
                                                      A
18
     I<br>
19
    K<br>
20
     A <br>
21
     </body>
23
     </html>
```

Background Image

ZAMALEK BATAL ELQARN ELHAKEKI





```
<html>
<head>
<style>
body {
  background-image: url('SHIKA.jfif');
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: cover;
</style>
</head>
<h2>Background Cover</h2>
ZAMALEK BATAL ELQARN ELHAKEKI <br/>
7>9.<br>
S<br>
H<br>
I<br>
K<br>
A <br>
</body>
```



```
<!DOCTYPE html>
<html>
<style>
table, th, td {
 border:1px solid black;
 border-collapse: collapse;
</style>
<body>
<h2>HTML Table</h2>
Firstname
  Lastname
  Age
 Jill
  Smith
  50
 Eve
  Jackson
  94
 </body>
</html>
```

HTML Table

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94

HTML

```
Firstname
 Lastname
 Age
Jill
 Smith
 50
Eve
 Jackson
 94
```

0

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80



HTML

HTML Block and Inline Elements

Every HTML element has a default display value, depending on what type of element it is. The two most common display values are block and inline.

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

The element defines a **paragraph** in an HTML document.

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





Here are the inline elements in HTML:

<a>>	<abbr></abbr>	<acronym></acronym>		<bdo></bdo>	 		<button></button>
<cite></cite>	<code></code>	<dfn></dfn>		<i>></i>		<input/>	<kbd></kbd>
<label></label>	<map></map>	<object></object>	<output></output>	<q></q>	<samp></samp>	<script></th><th><select></th></tr><tr><th><small></th><th></th><th></th><th><sub></th><th><sup></th><th><textarea></th><th><time></th><th><tt></th></tr><tr><th><var></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr></tbody></table></script>	



Inline Elements

Here are the inline elements in HTML:

<a>>	<abbr></abbr>	<acronym></acronym>		<bdo></bdo>	<big></big>		<button></button>
<cite></cite>	<code></code>	<dfn></dfn>		<i>></i>		<input/>	<kbd></kbd>
<label></label>	<map></map>	<object></object>	<output></output>	<q></q>	<samp></samp>	<script></th><th><select></th></tr><tr><th><small></th><th></th><th></th><th><sub></th><th><sup></th><th><textarea></th><th><time></th><th><tt></th></tr><tr><th><var></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr></tbody></table></script>	



HTML Div Element

https://www.youtube.com/watch?v=WbnCll6vvw4

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

```
<!DOCTYPE html>
<html>
<style>
div {
 background-color: #FFF4A3;
</style>
<body>
<h1>HTML DIV Example</h1>
 <h2>London</h2>
 London is the capital city of England.
 London has over 13 million inhabitants.
</div>
The yellow background is added to demonstrate the footprint of the DIV
element.
</body>
```

HTML DIV Example

London

London is the capital city of England.

London has over 13 million inhabitants.

The yellow background is added to demonstrate the footprint of the DIV element.

```
<!DOCTYPE html>
<body>
<h1>Multiple DIV Elements</h1>
<div style="background-color:#FFF4A3;">
 <h2>London</h2>
 London is the capital city of England.
 London has over 13 million inhabitants.
</div>
<div style="background-color:#FFC0C7;">
 <h2>0slo</h2>
 0slo is the capital city of Norway.
 0slo has over 600.000 inhabitants.
</div>
<div style="background-color:#D9EEE1;">
 <h2>Rome</h2>
 Rome is the capital city of Italy.
 Rome has almost 3 million inhabitants.
<CSS styles are added to make it easier to separate the divs, and to make them more
pretty:)
</body>
</html>
```

Multiple DIV Elements

London

London is the capital city of England.

London has over 13 million inhabitants.

Oslo

Oslo is the capital city of Norway.

Oslo has over 600,000 inhabitants.

Rome

Rome is the capital city of Italy.

Rome has almost 3 million inhabitants.

CSS styles are added to make it easier to separate the divs,



```
<!DOCTYPE html>
.grid-container {
 display: grid;
 grid-template-columns: 33% 33% 33%;
<h1>Grid Example</h1>
Align three DIV elements side by side.
<div class="grid-container">
<div style="background-color:#FFF4A3;">
 <h2>London</h2>
 London is the capital city of England.
 London has over 13 million inhabitants.
<div style="background-color:#FFC0C7;">
 <h2>0slo</h2>
```

Grid Example

Align three DIV elements side by side.

London	Oslo	Rome
London is the capital city of England.	Oslo is the capital city of Norway.	
London has over 13 million inhabitants.	Oslo has over 600.000 inhabitants.	Rome has almost 3 million inhabitants.

```
<!DOCTYPE html>
<head>
<style>
.city {
 background-color: tomato;
 color: white;
 border: 2px solid black;
 margin: 20px;
 padding: 20px;
</style>
</head>
<div class="city">
<h2>London</h2>
London is the capital of England.
</div>
<div class="city">
<h2>Paris</h2>
Paris is the capital of France.
<div class="city">
<h2>Tokyo</h2>
Tokyo is the capital of Japan.
</div>
</body>
```

London

London is the capital of England.

Paris

Paris is the capital of France.

Tokyo

Tokyo is the capital of Japan.

```
.city {
 background-color: tomato;
 color: white;
 border: 2px solid black;
 margin: 20px;
 padding: 20px;
.Capital{
 background-color: blueviolet;
 color: white;
 border: 2px solid black;
 margin: 20px;
 padding: 20px;
</style>
</head>
<body>
<div class="city">
<h2>London</h2>
London is the capital of England.
<div class="city">
<h2>Paris</h2>
Paris is the capital of France.
</div>
<div class= "Capital">
<h2>Tokyo</h2>
Tokyo is the capital of Japan.
```

London

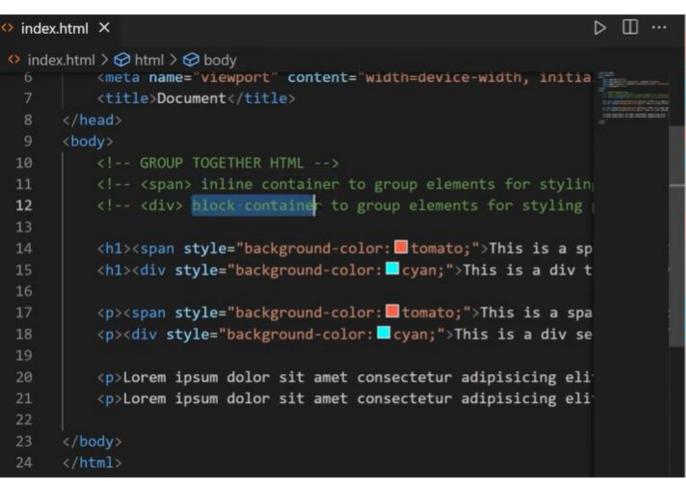
London is the capital of England.

Paris

Paris is the capital of France.

Tokyo

Tokyo is the capital of Japan.



This is a span title

This is a div title

This is a span sentence.

This is a div sentence.

Lorem ipsum dolor sit amet consectetur adipisicing elit. Autem libero illo quos sunt molestias quis ab exercitationem, aliquid dicta omnis. Veniam vero odit, ipsam labore nobis adipisci quidem vel at?

Lorem ipsum dolor sit amet consectetur adipisicing elit.

Autem libero illo quos sunt molestias quis ab exercitationem, aliquid dicta omnis. Veniam vero odit, ipsam labore nobis adipisci quidem vel at?



 elements with a class attribute

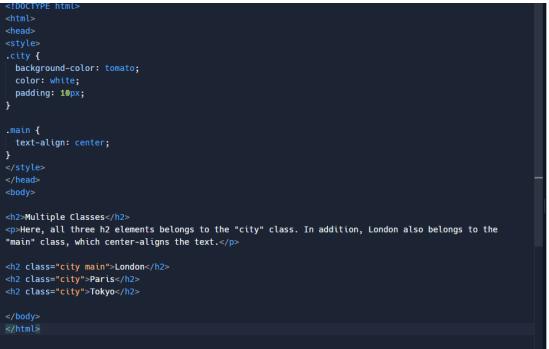
```
<!DOCTYPE html>
<head>
<style>
.note {
 font-size: 120%;
 color: red;
</style>
</head>
<h1>My <span class="note">Important</span> Heading</h1>
This is some <span class="note">important</span> text.
</body>
```

My **Important** Heading

This is some important text.



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:



Multiple Classes

Here, all three h2 elements belongs to the "city" class. In addition, London also belongs to the "main" class,

London

Paris

Tokyo



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.

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



```
<!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>
```

```
000
```

```
#myHeader {
 background-color: lightblue;
 color: black;
 padding: 40px;
 text-align: center;
.city {
 background-color: tomato;
 color: white;
 padding: 10px;
<h2>Difference Between Class and ID</h2>
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:
<h1 id="myHeader">My Cities</h1>
<h2 class="city">London</h2>
London is the capital of England.
<h2 class="city">Paris</h2>
Paris is the capital of France.
<h2 class="city">Tokyo</h2>
Tokyo is the capital of Japan.
```

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:

My Cities

London

London is the capital of England.

Paris

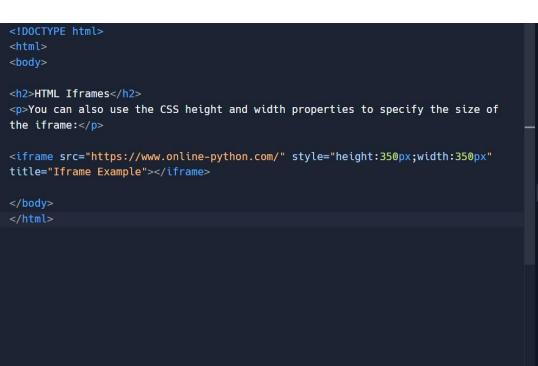
Paris is the capital of France.

Tokyo

Tokyo is the capital of Japan.



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



HTML Iframes

You can also use the CSS height and width properties to specify the size of the iframe:

```
ONLINE PYTHON BETA

DOC 6 $\phi_6$

main.py +

1
2 # Online Python - IDE, Editor, Comp.

4 * def sum(a, b):
5 return (a + b)

6
7 a = int(input('Enter 1st number: ')
8 b = int(input('Enter 2nd number: ')
9
10 print(f'Sum of {a} and {b} is {sum(.)}
```



HTML Semantic Elements

Semantic elements = elements with a meaning.

What are Semantic Elements?

A semantic element clearly describes its meaning to both the browser and the developer.

Examples of **non-semantic** elements: <div> and - Tells nothing about its content.

Examples of **semantic** elements: <form>, , and <article> - Clearly defines its content.

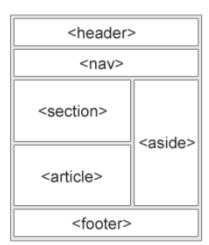


HTML

Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer"> to indicate navigation, header, and footer.

In HTML there are some semantic elements that can be used to define different parts of a web page:

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>





https://www.w3schools.com/html/tryit.asp?filename=tryhtml5_article2

HTML <nav> Element

```
<!DOCTYPE html>
<html>
<body>
<nav>
  <a href="/html/">HTML</a> |
  <a href="/css/">CSS</a> |
  <a href="/js/">JavaScript</a> |
  <a href="/jquery/">jQuery</a>
</nav>
</body>
</html>
```

HTML | CSS | JavaScript | jQuery



```
<!DOCTYPE html>
aside {
 width: 30%;
 padding-left: 15px;
 margin-left: 15px;
 float: right;
 font-style: italic;
 background-color: lightgray;
</head>
My family and I visited The Epcot center this summer. The weather was nice, and Epcot was
amazing! I had a great summer together with my family!
<The Epcot center is a theme park at Walt Disney World Resort featuring exciting attractions,</p>
international pavilions, award-winning fireworks and seasonal special events.
My family and I visited The Epcot center this summer. The weather was nice, and Epcot was
amazing! I had a great summer together with my family!
My family and I visited The Epcot center this summer. The weather was nice, and Epcot was
amazing! I had a great summer together with my family!
</body>
```

My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!

My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!

My family and I visited The Epcot center this summer. The weather was nice, and Epcot was amazing! I had a great summer together with my family!

The Epcot center is a theme park at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks and seasonal special events.

Tag	Description
<u><article></article></u>	Defines independent, self-contained content
<aside></aside>	Defines content aside from the page content
<details></details>	Defines additional details that the user can view or hide
<figcaption></figcaption>	Defines a caption for a <figure> element</figure>
<figure></figure>	Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer></footer>	Defines a footer for a document or section
<header></header>	Specifies a header for a document or section
<main></main>	Specifies the main content of a document
<mark></mark>	Defines marked/highlighted text
<u><nav></nav></u>	Defines navigation links
<section></section>	Defines a section in a document
<summary></summary>	Defines a visible heading for a <details> element</details>
<time></time>	Defines a date/time



HTML Forms

```
<!DOCTYPE html>
<html>
<body>
<h2>Text input fields</h2>
<form>
 <label for="fname">First name:</label><br>
 <input type="text" id="fname" name="fname" value="John"><br>
 <label for="lname">Last name:</label><br>
 <input type="text" id="lname" name="lname" value="Doe">
</form>
Note that the form itself is not visible.
Also note that the default width of text input fields is 20 characters.
</body>
</html>
```

Text input fields

First na	me:	
John		
Last nar	ne:	
Doe		

Note that the form itself is not visible.

Also note that the default width of text input fields is 20 characters.



```
<!DOCTYPE html>
<html>
<body>
<h2>Radio Buttons</h2>
Choose your favorite Web language:
<form>
 <input type="radio" id="html" name="fav_language" value="HTML">
 <label for="html">HTML</label><br>
 <input type="radio" id="css" name="fav language" value="CSS">
 <label for="css">CSS</label><br>
 <input type="radio" id="javascript" name="fav_language" value="JavaScript">
 <label for="javascript">JavaScript</label>
</form>
</body>
</html>
```

Radio Buttons

Choose your favorite Web language:

- O HTML
- O CSS
- JavaScript



HTML Forms

First name:	
John	
Last name:	
Doe	
Submit	

If you click the "Submit" button, the form-data will be sent to a page called "/action_page.php".

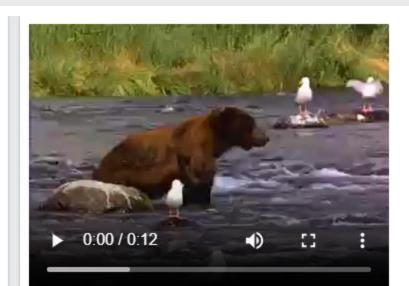




The HTML <video> Element

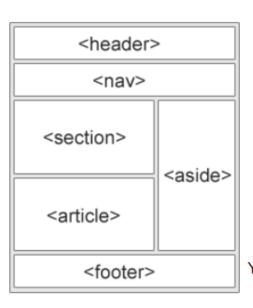
To show a video in HTML, use the <video> element:

Example



HTML Layout Elements

HTML has several semantic elements that define the different parts of a web page:



- <header> Defines a header for a document or a section
- <nav> Defines a set of navigation links
- <section> Defines a section in a document
- <article> Defines an independent, self-contained content
- <aside> Defines content aside from the content (like a sidebar)
- <footer> Defines a footer for a document or a section
- <details> Defines additional details that the user can open and close on demand
- <summary> Defines a heading for the <details> element

You can read more about semantic elements in our HTML Semantics chapter.



HTML Layout Techniques

There are four different techniques to create multicolumn layouts. Each technique has its pros and cons:

- CSS framework
- CSS float property
- CSS flexbox
- CSS grid

