

CSS

Web Application Development

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SOURCE: W3SCHOOLS

The image shows a browser window at <https://www.w3schools.com>. The main navigation bar includes 'TUTORIALS' and 'REFERENCES'. A dropdown menu is open under 'TUTORIALS', listing various topics. 'Learn CSS' is highlighted, and a red arrow points to the right. On the right, a smaller browser window shows the URL <https://www.w3schools.com/css/default.asp>. The 'CSS' tab is selected in the top navigation bar, and a dropdown menu lists 'CSS Tutorial' and 'CSS HOME' (highlighted). The main content area displays 'CSS Tutorial' with a '< Home' button and introductory text: 'CSS is a language that describes the style of an HT...' and 'CSS describes how HTML elements should be displa...'



CSS OUTLINE

Web Application Development

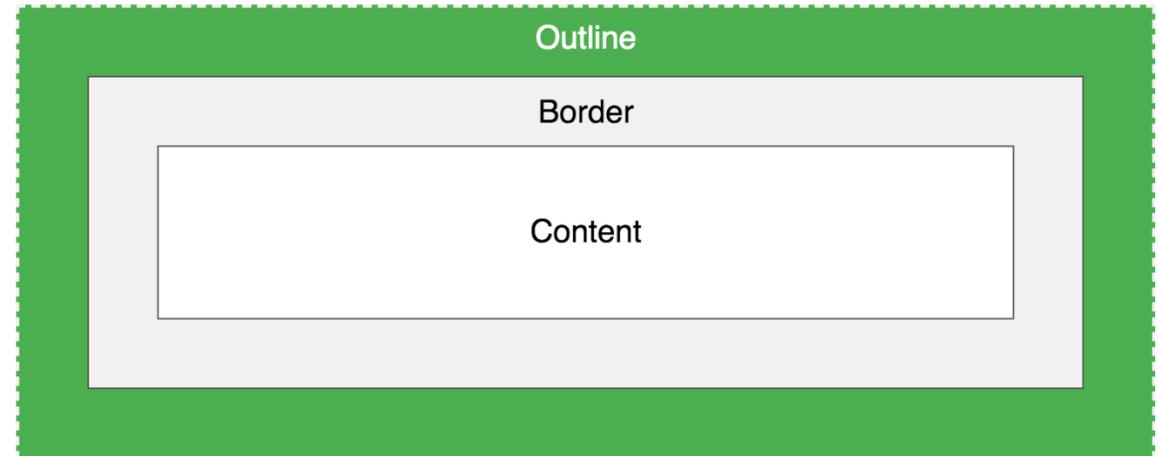
CSS OUTLINE

CSS Outline

An outline is a line that is drawn around elements, **OUTSIDE** the borders, to make the element "stand out".

CSS has the following outline properties:

- `outline-style`
- `outline-color`
- `outline-width`
- `outline-offset`
- `outline`



Note: Outline differs from borders! Unlike border, the outline is drawn outside the element's border, and may overlap other content. Also, the outline is **NOT** a part of the element's dimensions; the element's total width and height is not affected by the width of the outline.

CSS OUTLINE

Outline Style

The `outline-style` property specifies the style of the outline, and can have one of the following values:

- `dotted` - Defines a dotted outline
- `dashed` - Defines a dashed outline
- `solid` - Defines a solid outline
- `double` - Defines a double outline
- `groove` - Defines a 3D grooved outline
- `ridge` - Defines a 3D ridged outline
- `inset` - Defines a 3D inset outline
- `outset` - Defines a 3D outset outline
- `none` - Defines no outline
- `hidden` - Defines a hidden outline

CSS OUTLINE

Outline Style Continued

The following example shows the different outline-style values:

A dotted outline.
A dashed outline.
A solid outline.
A double outline.
A groove outline. The effect depends on the outline-color value.
A ridge outline. The effect depends on the outline-color value.
An inset outline. The effect depends on the outline-color value.
An outset outline. The effect depends on the outline-color value.

Example:

```
p.dotted {outline-style: dotted;}
p.dashed {outline-style: dashed;}
p.solid {outline-style: solid;}
p.double {outline-style: double;}
p.groove {outline-style: groove;}
p.ridge {outline-style: ridge;}
p.inset {outline-style: inset;}
p.outset {outline-style: outset;}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_outline-style

Note: None of the other outline properties will have any effect, unless the `outline-style` property is set!

CSS OUTLINE

Outline Color

The `outline-color` property is used to set the color of the outline.

The color can be set by:

- name - specify a color name, like "red"
- RGB - specify a RGB value, like "rgb(255,0,0)"
- Hex - specify a hex value, like "#ff0000"
- invert - performs a color inversion (which ensures that the outline is visible, regardless of color background)

CSS OUTLINE

Outline Color Continued

The following example shows some different outlines with different colors. Also notice that these elements also have a thin black border inside the outline:

```
p.ex1 {  
  border: 1px solid black;  
  outline-style: solid;  
  outline-color: red;  
}
```

A solid red outline.

```
p.ex2 {  
  border: 1px solid black;  
  outline-style: double;  
  outline-color: green;  
}
```

A double green outline.

```
p.ex3 {  
  border: 1px solid black;  
  outline-style: outset;  
  outline-color: yellow;  
}
```

An outset yellow outline.

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_outline-color

CSS OUTLINE

Outline Color Continued

The following example uses `outline-color: invert`, which performs a color inversion. This ensures that the outline is visible, regardless of color background:



A solid invert outline.

```
p.ex1 {  
  border: 1px solid yellow;  
  outline-style: solid;  
  outline-color: invert;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_outline-color_invert

CSS OUTLINE

Outline Width

The `outline-width` property specifies the width of the outline, and can have one of the following values:

- `thin` (typically 1px)
- `medium` (typically 3px)
- `thick` (typically 5px)
- A specific size (in px, pt, cm, em, etc)

The following example shows some outlines with different widths:



```
p.ex1 {
  border: 1px solid black;
  outline-style: solid;
  outline-color: red;
  outline-width: thin;
}

p.ex2 {
  border: 1px solid black;
  outline-style: solid;
  outline-color: red;
  outline-width: medium;
}

p.ex3 {
  border: 1px solid black;
  outline-style: solid;
  outline-color: red;
  outline-width: thick;
}

p.ex4 {
  border: 1px solid black;
  outline-style: solid;
  outline-color: red;
  outline-width: 4px;
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?file name=trycss_outline-width

CSS OUTLINE

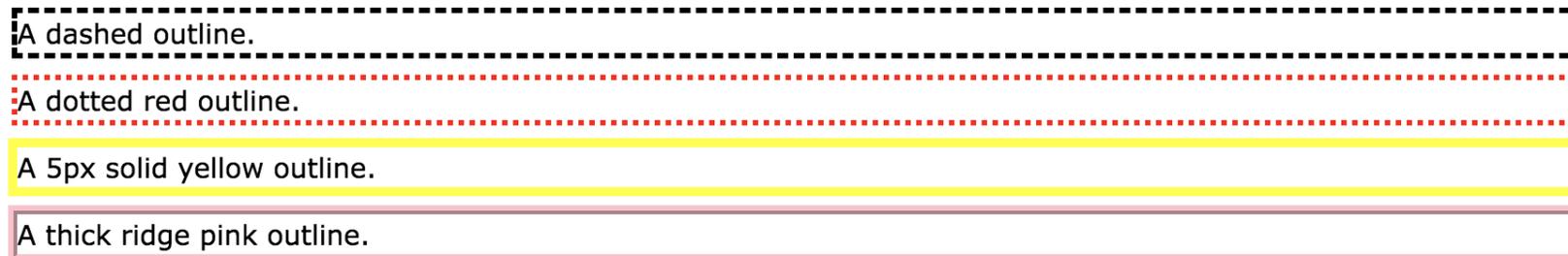
Outline - Shorthand property

The `outline` property is a shorthand property for setting the following individual outline properties:

- `outline-width`
- `outline-style` (required)
- `outline-color`

The `outline` property is specified as one, two, or three values from the list above. The order of the values does not matter.

The following example shows some outlines specified with the shorthand `outline` property:



```
p.ex1 {outline: dashed;}
p.ex2 {outline: dotted red;}
p.ex3 {outline: 5px solid yellow;}
p.ex4 {outline: thick ridge pink;}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_outline

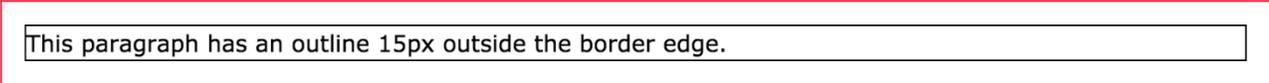
CSS OUTLINE

Outline Offset

The `outline-offset` property adds space between an outline and the edge/border of an element. The space between an element and its outline is transparent.

The following example specifies an outline 15px outside the border edge:

```
p {  
  margin: 30px;  
  border: 1px solid black;  
  outline: 1px solid red;  
  outline-offset: 15px;  
}
```



This paragraph has an outline 15px outside the border edge.

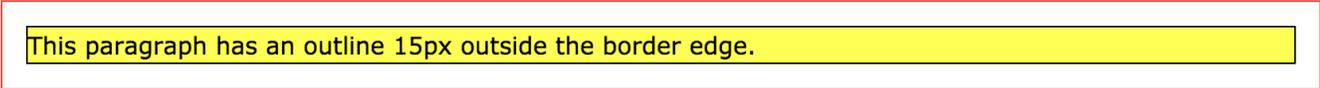
Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_outline-offset

CSS OUTLINE

Outline Offset Continued

The following example shows that the space between an element and its outline is transparent:

```
p {  
  margin: 30px;  
  background: yellow;  
  border: 1px solid black;  
  outline: 1px solid red;  
  outline-offset: 15px;  
}
```



This paragraph has an outline 15px outside the border edge.

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_outline-offset2

CSS OUTLINE

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)

CSS OUTLINE

All CSS Outline Properties

Property	Description
<u>outline</u>	A shorthand property for setting outline-width, outline-style, and outline-color in one declaration
<u>outline-color</u>	Sets the color of an outline
<u>outline-offset</u>	Specifies the space between an outline and the edge or border of an element
<u>outline-style</u>	Sets the style of an outline
<u>outline-width</u>	Sets the width of an outline



CSS TEXT

Web Application Development

CSS TEXT

Text Color

The color property is used to set the color of the text. The color is specified by:

- a color name - like "red"
- a HEX value - like "#ff0000"
- an RGB value - like "rgb(255,0,0)"

Look at [CSS Color Values](#) for a complete list of possible color values.

The default text color for a page is defined in the body selector.

Example:

```
body {  
    color: blue;  
}  
  
h1 {  
    color: green;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_color

Note: For W3C compliant CSS: If you define the `color` property, you must also define the `background-color`.

CSS TEXT

Text Alignment

The `text-align` property is used to set the horizontal alignment of a text.

A text can be left or right aligned, centered, or justified.

The following example shows center aligned, and left and right aligned text (left alignment is default if text direction is left-to-right, and right alignment is default if text direction is right-to-left):

```
h1 {
  text-align: center;
}
h2 {
  text-align: left;
}
h3 {
  text-align: right;
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-align

CSS TEXT

Text Alignment Continued

When the `text-align` property is set to "justify", each line is stretched so that every line has equal width, and the left and right margins are straight (like in magazines and newspapers):

```
div {  
    text-align: justify;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-align_all

CSS TEXT

Text Decoration

The `text-decoration` property is used to set or remove decorations from text.

The value `text-decoration: none;` is often used to remove underlines from links:

```
a {  
    text-decoration: none;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-decoration_link

CSS TEXT

Text Decoration Continued

The other `text-decoration` values are used to decorate text:

```
h1 {  
  text-decoration: overline;  
}  
  
h2 {  
  text-decoration: line-through;  
}  
  
h3 {  
  text-decoration: underline;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_text-decoration

Note: It is not recommended to underline text that is not a link, as this often confuses the reader.

CSS TEXT

Text Transformation

The `text-transform` property is used to specify uppercase and lowercase letters in a text.

It can be used to turn everything into uppercase or lowercase letters, or capitalize the first letter of each word:

```
p.uppercase {  
    text-transform: uppercase;  
}
```

```
p.lowercase {  
    text-transform: lowercase;  
}
```

```
p.capitalize {  
    text-transform: capitalize;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-transform

CSS TEXT

Text Indentation

The `text-indent` property is used to specify the indentation of the first line of a text:

```
p {  
    text-indent: 50px;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-indent

CSS TEXT

Letter Spacing

The `letter-spacing` property is used to specify the space between the characters in a text.

The following example demonstrates how to increase or decrease the space between characters:

```
h1 {  
    letter-spacing: 3px;  
}  
  
h2 {  
    letter-spacing: -3px;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_letter-spacing

CSS TEXT

Line Height

The `line-height` property is used to specify the space between lines:

```
p.small {  
    line-height: 0.8;  
}
```

```
p.big {  
    line-height: 1.8;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_line-height

CSS TEXT

Text Direction

The `direction` property is used to change the text direction of an element:

```
p {  
    direction: rtl;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_text_direction

CSS TEXT

Word Spacing

The `word-spacing` property is used to specify the space between the words in a text.

The following example demonstrates how to increase or decrease the space between words:

```
h1 {  
    word-spacing: 10px;  
}  
  
h2 {  
    word-spacing: -5px;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text_word-spacing

CSS TEXT

Text Shadow

The `text-shadow` property adds shadow to text.

The following example specifies the position of the horizontal shadow (3px), the position of the vertical shadow (2px) and the color of the shadow (red):

```
h1 {  
    text-shadow: 3px 2px red;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_text-shadow

CSS TEXT

More Examples

- [Disable text wrapping inside an element](#)
This example demonstrates how to disable text wrapping inside an element.
- [Vertical alignment of an image](#)
This example demonstrates how to set the vertical align of an image in a text.

Tip: [Go to our CSS Fonts](#) chapter to learn about how to change fonts, text size and the style of a text.

CSS TEXT

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)
- [Exercise 5](#)

CSS TEXT

All CSS Text Properties

Property	Description
color	Sets the color of text
direction	Specifies the text direction/writing direction
letter-spacing	Increases or decreases the space between characters in a text
line-height	Sets the line height
text-align	Specifies the horizontal alignment of text
text-decoration	Specifies the decoration added to text
text-indent	Specifies the indentation of the first line in a text-block
text-shadow	Specifies the shadow effect added to text
text-transform	Controls the capitalization of text
text-overflow	Specifies how overflowed content that is not displayed should be signaled to the user
unicode-bidi	Used together with the direction property to set or return whether the text should be overridden to support multiple languages in the same document
vertical-align	Sets the vertical alignment of an element
white-space	Specifies how white-space inside an element is handled
word-spacing	Increases or decreases the space between words in a text



CSS FONTS

Web Application Development

CSS FONT

The CSS font properties define the font family, boldness, size, and the style of a text.

CSS FONT

Difference Between Serif and Sans-serif Fonts



Sans-serif



Serif



Serif
(red serifs)

CSS FONT

CSS Font Families

In CSS, there are two types of font family names:

- **generic family** - a group of font families with a similar look (like "Serif" or "Monospace")
- **font family** - a specific font family (like "Times New Roman" or "Arial")

Generic family	Font family	Description
Serif	Times New Roman Georgia	Serif fonts have small lines at the ends on some characters
Sans-serif	Arial Verdana	"Sans" means without - these fonts do not have the lines at the ends of characters
Monospace	Courier New Lucida Console	All monospace characters have the same width

Note: On computer screens, sans-serif fonts are considered easier to read than serif fonts.

CSS FONT

Font Family

The font family of a text is set with the `font-family` property.

The `font-family` property should hold several font names as a "fallback" system. If the browser does not support the first font, it tries the next font, and so on.

Start with the font you want, and end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available.

Note: If the name of a font family is more than one word, it must be in quotation marks, like: "Times New Roman".

More than one font family is specified in a comma-separated list:

```
p {  
  font-family: "Times New Roman", Times, serif;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-family

For commonly used font combinations, look at our [Web Safe Font Combinations](#).

CSS FONT

Font Style

The `font-style` property is mostly used to specify italic text.

This property has three values:

- `normal` - The text is shown normally
- `italic` - The text is shown in italics
- `oblique` - The text is "leaning" (oblique is very similar to italic, but less supported)

```
p.normal {  
    font-style: normal;  
}
```

```
p.italic {  
    font-style: italic;  
}
```

```
p.oblique {  
    font-style: oblique;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-style

CSS FONT

Font Size

The `font-size` property sets the size of the text.

Being able to manage the text size is important in web design. However, you should not use font size adjustments to make paragraphs look like headings, or headings look like paragraphs.

Always use the proper HTML tags, like `<h1>` - `<h6>` for headings and `<p>` for paragraphs.

The `font-size` value can be an absolute, or relative size.

Absolute size:

- Sets the text to a specified size
- Does not allow a user to change the text size in all browsers (bad for accessibility reasons)
- Absolute size is useful when the physical size of the output is known

Relative size:

- Sets the size relative to surrounding elements
- Allows a user to change the text size in browsers

Note: If you do not specify a font size, the default size for normal text, like paragraphs, is 16px (16px=1em).

CSS FONT

Set Font Size With Pixels

Setting the text size with pixels gives you full control over the text size:

```
h1 {  
  font-size: 40px;  
}  
  
h2 {  
  font-size: 30px;  
}  
  
p {  
  font-size: 14px;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-size_px

Tip: If you use pixels, you can still use the zoom tool to resize the entire page.

CSS FONT

Set Font Size With Em

To allow users to resize the text (in the browser menu), many developers use em instead of pixels.

The em size unit is recommended by the W3C.

1em is equal to the current font size. The default text size in browsers is 16px. So, the default size of 1em is 16px.

The size can be calculated from pixels to em using this formula: $pixels/16=em$

```
h1 {  
  font-size: 2.5em; /* 40px/16=2.5em */  
}  
  
h2 {  
  font-size: 1.875em; /* 30px/16=1.875em */  
}  
  
p {  
  font-size: 0.875em; /* 14px/16=0.875em */  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-size_em

CSS FONT

Set Font Size With Em Continued

In the example on the previous slide, the text size in em is the same as the previous example in pixels. However, with the em size, it is possible to adjust the text size in all browsers.

Unfortunately, there is still a problem with older versions of IE. The text becomes larger than it should when made larger, and smaller than it should when made smaller.

CSS FONT

Use a Combination of Percent and Em

The solution that works in all browsers, is to set a default font-size in percent for the <body> element:

```
body {  
    font-size: 100%;  
}  
  
h1 {  
    font-size: 2.5em;  
}  
  
h2 {  
    font-size: 1.875em;  
}  
  
p {  
    font-size: 0.875em;  
}
```

Our code now works great! It shows the same text size in all browsers, and allows all browsers to zoom or resize the text!

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-size_percent_em

CSS FONT

Font Weight

The `font-weight` property specifies the weight of a font:

```
p.normal {  
    font-weight: normal;  
}
```

```
p.thick {  
    font-weight: bold;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-weight

CSS FONT

Responsive Font Size

The text size can be set with a vw unit, which means the "viewport width".

That way the text size will follow the size of the browser window:

```
<h1 style="font-size:10vw">Hello World</h1>
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_font_responsive

Viewport is the browser window size. $1\text{vw} = 1\%$ of viewport width. If the viewport is 50cm wide, 1vw is 0.5cm.

CSS FONT

Font Variant

The `font-variant` property specifies whether or not a text should be displayed in a small-caps font.

In a small-caps font, all lowercase letters are converted to uppercase letters. However, the converted uppercase letters appears in a smaller font size than the original uppercase letters in the text.

```
p.normal {  
    font-variant: normal;  
}  
  
p.small {  
    font-variant: small-caps;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_font-variant

CSS FONT

More Examples

- All the font properties in one declaration

This example demonstrates how to use the shorthand property for setting all of the font properties in one declaration.

CSS FONT

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)
- [Exercise 5](#)

CSS FONT

All CSS Font Properties

Property	Description
<u>font</u>	Sets all the font properties in one declaration
<u>font-family</u>	Specifies the font family for text
<u>font-size</u>	Specifies the font size of text
<u>font-style</u>	Specifies the font style for text
<u>font-variant</u>	Specifies whether or not a text should be displayed in a small-caps font
<u>font-weight</u>	Specifies the weight of a font



CSS ICONS

Web Application Development

CSS ICONS

How To Add Icons



The simplest way to add an icon to your HTML page, is with an icon library, such as Font Awesome.

Add the name of the specified icon class to any inline HTML element (like `<i>` or ``).

All the icons in the icon libraries below, are scalable vectors that can be customized with CSS (size, color, shadow, etc.)

CSS ICONS

Font Awesome Icons

To use the Font Awesome icons, add the following line inside the <head> section of your HTML page

Note: No downloading or installation is required!

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
</head>
<body>

<i class="fa fa-cloud"></i>
<i class="fa fa-heart"></i>
<i class="fa fa-car"></i>
<i class="fa fa-file"></i>
<i class="fa fa-bars"></i>

</body>
</html>
```

Result: 

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_icons_fa

CSS ICONS

Bootstrap Icons

To use the Bootstrap glyphicons, add the following line inside the <head> section of your HTML page.
Note: No downloading or installation is required!

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet"href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/
bootstrap.min.css">
</head>
<body>

<i class="glyphicon glyphicon-cloud"></i>
<i class="glyphicon glyphicon-remove"></i>
<i class="glyphicon glyphicon-user"></i>
<i class="glyphicon glyphicon-envelope"></i>
<i class="glyphicon glyphicon-thumbs-up"></i>

</body>
</html>
```

Result: 

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_icons_bs

CSS ICONS

Google Icons

To use the Google icons, add the following line inside the <head> section of your HTML page.

Note: No downloading or installation is required!

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
</head>
<body>

<i class="material-icons">cloud</i>
<i class="material-icons">favorite</i>
<i class="material-icons">attachment</i>
<i class="material-icons">computer</i>
<i class="material-icons">traffic</i>

</body>
</html>
```

Result:     

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_icons_google



CSS LINKS

Web Application Development

CSS LINKS

Styling Links

With CSS, links can be styled in different ways.

Text Link

Text Link

Link Button

Link Button

Links can be styled with any CSS property (e.g. `color`, `font-family`, `background`, etc.).

```
a {  
    color: hotpink;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_link_all

CSS LINKS

Styling Links Continued

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

The four links states are:

- `a:link` - a normal, unvisited link
- `a:visited` - a link the user has visited
- `a:hover` - a link when the user mouses over it
- `a:active` - a link the moment it is clicke

When setting the style for several link states, there are some order rules:

- `a:hover` MUST come after `a:link` and `a:visited`
- `a:active` MUST come after `a:hover`

```
/* unvisited link */
a:link {
    color: red;
}

/* visited link */
a:visited {
    color: green;
}

/* mouse over link */
a:hover {
    color: hotpink;
}

/* selected link */
a:active {
    color: blue;
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_link

CSS LINKS

Text Decoration

The `text-decoration` property is mostly used to remove underlines from links:

```
a:link {
    text-decoration: none;
}

a:visited {
    text-decoration: none;
}

a:hover {
    text-decoration: underline;
}

a:active {
    text-decoration: underline;
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_link_decoration

CSS LINKS

Background Color

The `background-color` property can be used to specify a background color for links:

```
a:link {
    background-color: yellow;
}

a:visited {
    background-color: cyan;
}

a:hover {
    background-color: lightgreen;
}

a:active {
    background-color: hotpink;
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_link_background

CSS LINKS

Advanced - Link Buttons

This example demonstrates a more advanced example where we combine several CSS properties to display links as boxes/buttons:

```
a:link, a:visited {
    background-color: #f44336;
    color: white;
    padding: 14px 25px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
}

a:hover, a:active {
    background-color: red;
}
```

Try it Yourself: [https://www.w3schools.com/css/tryit.asp?filename=trycss link advanced](https://www.w3schools.com/css/tryit.asp?filename=trycss_link_advanced)

CSS LINKS

More Examples

- [Add different styles to hyperlinks](#)
This example demonstrates how to add other styles to hyperlinks.
- [Advanced - Create a link button with borders](#)
Another example of how to create link boxes/buttons.
- [Change the cursor](#)
The cursor property specifies the type of cursor to display. This example demonstrates the different types of cursors (can be useful for links).

CSS LINKS

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)



CSS LISTS

Web Application Development

CSS LISTS

Unordered Lists vs. Ordered Lists

Unordered Lists:

- Coffee
 - Tea
 - Coca Cola
-
- Coffee
 - Tea
 - Coca Cola

Ordered Lists:

1. Coffee
 2. Tea
 3. Coca Cola
-
- I. Coffee
 - II. Tea
 - III. Coca Cola

CSS LISTS

HTML Lists and CSS List Properties

In HTML, there are two main types of lists:

- unordered lists () - the list items are marked with bullets
- ordered lists () - the list items are marked with numbers or letters

The CSS list properties allow you to:

- Set different list item markers for ordered lists
- Set different list item markers for unordered lists
- Set an image as the list item marker
- Add background colors to lists and list items

CSS LISTS

Different List Item Markers

The `list-style-type` property specifies the type of list item marker.

The following example shows some of the available list item markers:

```
ul.a {  
    list-style-type: circle;  
}  
  
ul.b {  
    list-style-type: square;  
}  
  
ol.c {  
    list-style-type: upper-roman;  
}  
  
ol.d {  
    list-style-type: lower-alpha;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style-type_ex

Note: Some of the values are for unordered lists, and some for ordered lists.

CSS LISTS

An Image as The List Item Marker

The `list-style-image` property specifies an image as the list item marker:

```
ul {  
    list-style-image: url('sqpurple.gif');  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style-image

CSS LISTS

Position The List Item Markers

The `list-style-position` property specifies the position of the list-item markers (bullet points).

"`list-style-position: outside;`" means that the bullet points will be outside the list item. The start of each line of a list item will be aligned vertically. This is default:

- Coffee - A brewed drink prepared from roasted coffee beans...
- Tea
- Coca-cola

"`list-style-position: inside;`" means that the bullet points will be inside the list item. As it is part of the list item, it will be part of the text and push the text at the start:

- Coffee - A brewed drink prepared from roasted coffee beans...
- Tea
- Coca-cola

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style-position

CSS LISTS

Remove Default Settings

The `list-style-type:none` property can also be used to remove the markers/bullets. Note that the list also has default margin and padding. To remove this, add `margin:0` and `padding:0` to `` or ``:

```
ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style_none

CSS LISTS

List - Shorthand property

The `list-style` property is a shorthand property. It is used to set all the list properties in one declaration:

```
ul {  
  list-style: square inside url("sqpurple.gif");  
}
```

When using the shorthand property, the order of the property values are:

- `list-style-type` (if a `list-style-image` is specified, the value of this property will be displayed if the image for some reason cannot be displayed)
- `list-style-position` (specifies whether the list-item markers should appear inside or outside the content flow)
- `list-style-image` (specifies an image as the list item marker)

If one of the property values above are missing, the default value for the missing property will be inserted, if any.

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style

CSS LISTS

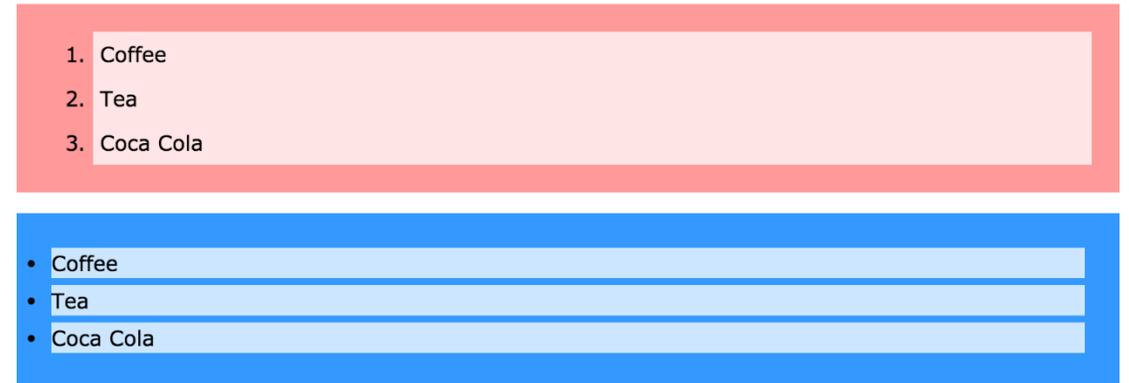
Styling List With Colors

We can also style lists with colors, to make them look a little more interesting.

Anything added to the `` or `` tag, affects the entire list, while properties added to the `` tag will affect the individual list items:

```
ol {  
  background: #ff9999;  
  padding: 20px;  
}  
  
ul {  
  background: #3399ff;  
  padding: 20px;  
}  
  
ol li {  
  background: #ffe5e5;  
  padding: 5px;  
  margin-left: 35px;  
}  
  
ul li {  
  background: #cce5ff;  
  margin: 5px;  
}
```

Result:



Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_list-style_colors

CSS LISTS

More Examples

- Customized list with a red left border
This example demonstrates how to create a list with a red left border.
- Full-width bordered list
This example demonstrates how to create a bordered list without bullets.
- All the different list-item markers for lists
This example demonstrates all the different list-item markers in CSS.

CSS LISTS

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)

CSS LISTS

All CSS List Properties

Property	Description
<u>list-style</u>	Sets all the properties for a list in one declaration
<u>list-style-image</u>	Specifies an image as the list-item marker
<u>list-style-position</u>	Specifies the position of the list-item markers (bullet points)
<u>list-style-type</u>	Specifies the type of list-item marker



CSS TABLES

Web Application Development

CSS TABLES

The look of an HTML table can be greatly improved with CSS:

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Berglunds snabbköp	Christina Berglund	Sweden
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Königlich Essen	Philip Cramer	Germany
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_table_fancy

CSS TABLES

Table Borders

To specify table borders in CSS, use the `border` property.

The example below specifies a black border for `<table>`, `<th>`, and `<td>` elements:

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

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Notice that the table in the example above has double borders. This is because both the table and the `<th>` and `<td>` elements have separate borders.

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_border

CSS TABLES

Collapse Table Borders

The `border-collapse` property sets whether the table borders should be collapsed into a single border:

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

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_border-collapse

CSS TABLES

Collapse Table Borders Continued

If you only want a border around the table, only specify the `border` property for `<table>`:

```
table {  
    border: 1px solid black;  
}
```

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_border2

CSS TABLES

Table Width and Height

Width and height of a table are defined by the `width` and `height` properties.

The example below sets the width of the table to 100%, and the height of the `<th>` elements to 50px:

```
table {  
    width: 100%;  
}  
  
th {  
    height: 50px;  
}
```

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_table_width

CSS TABLES

Horizontal Alignment

The `text-align` property sets the horizontal alignment (like left, right, or center) of the content in `<th>` or `<td>`.

By default, the content of `<th>` elements are center-aligned and the content of `<td>` elements are left-aligned.

The following example left-aligns the text in `<th>` elements:

```
th {  
    text-align: left;  
}
```

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_align

CSS TABLES

Vertical Alignment

The `vertical-align` property sets the vertical alignment (like top, bottom, or middle) of the content in `<th>` or `<td>`.

By default, the vertical alignment of the content in a table is middle (for both `<th>` and `<td>` elements).

The following example sets the vertical text alignment to bottom for `<td>` elements:

```
td {  
    height: 50px;  
    vertical-align: bottom;  
}
```

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_table_vertical-align

CSS TABLES

Table Padding

To control the space between the border and the content in a table, use the `padding` property on `<td>` and `<th>` elements:

```
th, td {  
    padding: 15px;  
    text-align: left;  
}
```

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_padding

CSS TABLES

Horizontal Dividers

Add the `border-bottom` property to `<th>` and `<td>` for horizontal dividers:

```
th, td {  
    border-bottom: 1px solid #ddd;  
}
```

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_border_divider

CSS TABLES

Hoverable Table

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

```
tr:hover {background-color: #f5f5f5;}
```

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_hover

CSS TABLES

Striped Tables

For zebra-striped tables, use the `nth-child()` selector and add a `background-color` to all even (or odd) table rows:

```
tr:nth-child(even) {background-color: #f2f2f2;}
```

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

[https://www.w3schools.com/css/tryit.asp?filename=trycss_table_striped](https://www.w3schools.com/css/tryit.asp?filename=trycss_table_stripped)

CSS TABLES

Table Color

The example below specifies the background color and text color of <th> elements:

```
th {  
    background-color: #4CAF50;  
    color: white;  
}
```

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_table_color

CSS TABLES

Responsive Table

A responsive table will display a horizontal scroll bar if the screen is too small to display the full content.

Add a container element (like `<div>`) with `overflow-x:auto` around the `<table>` element to make it responsive:

```
<div style="overflow-x:auto;">
<table>
... table content ...
</table>
</div>
```

First Name	Last Name	Points	P							
Jill	Smith	50	50	50	50	50	50	50	50	5
Eve	Jackson	94	94	94	94	94	94	94	94	9
Adam	Johnson	67	67	67	67	67	67	67	67	6

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_table_responsive

Note: In OS X Lion (on Mac), scrollbars are hidden by default and only shown when being used (even though "overflow:scroll" is set).

CSS TABLES

More Examples

- [Make a fancy table](#)
This example demonstrates how to create a fancy table.
- [Set the position of the table caption](#)
This example demonstrates how to position the table caption.

CSS TABLES

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)
- [Exercise 5](#)
- [Exercise 6](#)

CSS TABLES

CSS Table Properties

Property	Description
<u>border</u>	Sets all the border properties in one declaration
<u>border-collapse</u>	Specifies whether or not table borders should be collapsed
<u>border-spacing</u>	Specifies the distance between the borders of adjacent cells
<u>caption-side</u>	Specifies the placement of a table caption
<u>empty-cells</u>	Specifies whether or not to display borders and background on empty cells in a table
<u>table-layout</u>	Sets the layout algorithm to be used for a table



CSS DISPLAY

Web Application Development

CSS DISPLAY

The display Property

The `display` property is the most important CSS property for controlling layout.

The `display` property specifies if/how an element is displayed.

Every HTML element has a default display value depending on what type of element it is. The default display value for most elements is `block` or `inline`.

Click to show panel

This panel contains a `<div>` element, which is hidden by default (`display: none`).

It is styled with CSS, and we use JavaScript to show it (change it to (`display: block`)).

CSS DISPLAY

Block-level Elements

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

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

Examples of block-level elements:

- `<div>`
- `<h1>` - `<h6>`
- `<p>`
- `<form>`
- `<header>`
- `<footer>`
- `<section>`

CSS DISPLAY

Inline Elements

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

This is an inline element inside a paragraph.

Examples of inline elements:

- ``
- `<a>`
- ``

CSS DISPLAY

Display: none;

`display: none;` is commonly used with JavaScript to hide and show elements without deleting and recreating them. Take a look at our last example on this page if you want to know how this can be achieved.

The `<script>` element uses `display: none;` as default.

CSS DISPLAY

Override The Default Display Value

As mentioned, every element has a default display value. However, you can override this.

Changing an inline element to a block element, or vice versa, can be useful for making the page look a specific way, and still follow the web standards.

A common example is making inline `` elements for horizontal menus:

```
li {  
    display: inline;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_display_inline_list

Note: Setting the display property of an element only changes **how the element is displayed**, NOT what kind of element it is. So, an inline element with `display: block;` is not allowed to have other block elements inside it.

CSS DISPLAY

Override The Default Display Value Continued

The following example displays `` elements as block elements:

```
span {  
    display: block;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_display_block

The following example displays `<a>` elements as block elements:

```
a {  
    display: block;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_display_block_a

CSS DISPLAY

Hide an Element - `display:none` or `visibility:hidden`?

Hiding an element can be done by setting the `display` property to `none`. The element will be hidden, and the page will be displayed as if the element is not there:

```
h1.hidden {  
    display: none;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_display_none

However, the element will still take up the same space as before. The element will be hidden, but still affect the layout:

```
h1.hidden {  
    visibility: hidden;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_visibility_hidden

CSS DISPLAY

More Examples

- Differences between display: none; and visibility: hidden;
This example demonstrates display: none; versus visibility: hidden;
- Using CSS together with JavaScript to show content
This example demonstrates how to use CSS and JavaScript to show an element on click.

CSS DISPLAY

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)

CSS DISPLAY

CSS Display/Visibility Properties

Property	Description
<u>display</u>	Specifies how an element should be displayed
<u>visibility</u>	Specifies whether or not an element should be visible



CSS MAX-WIDTH

Web Application Development

CSS MAX-WIDTH

Using width, max-width and margin: auto;

As mentioned in the previous chapter; a block-level element always takes up the full width available (stretches out to the left and right as far as it can).

Setting the `width` of a block-level element will prevent it from stretching out to the edges of its container. Then, you can set the margins to `auto`, to horizontally center the element within its container. The element will take up the specified width, and the remaining space will be split equally between the two margins.

Note: The problem with the `<div>` above occurs when the browser window is smaller than the width of the element. The browser then adds a horizontal scrollbar to the page.

Example:

```
div.ex1 {  
    width: 500px;  
    margin: auto;  
    border: 3px solid #73AD21;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_max-width

CSS MAX-WIDTH

Using width, max-width and margin: auto; Continued

Using `max-width` instead, in this situation, will improve the browser's handling of small windows. This is important when making a site usable on small devices.

```
div.ex2 {  
    max-width: 500px;  
    margin: auto;  
    border: 3px solid #73AD21;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_max-width



CSS POSITION

Web Application Development

CSS POSITION

The position Property

The `position` property specifies the type of positioning method used for an element (static, relative, fixed, absolute or sticky).

The position property specifies the type of positioning method used for an element.

There are five different position values:

- `static`
- `relative`
- `fixed`
- `absolute`
- `sticky`

Elements are then positioned using the `top`, `bottom`, `left`, and `right` properties. However, these properties will not work unless the `position` property is set first. They also work differently depending on the position value.

CSS POSITION

`position: static;`

HTML elements are positioned static by default.

Static positioned elements are not affected by the top, bottom, left, and right properties.

An element with `position: static;` is not positioned in any special way; it is always positioned according to the normal flow of the page.

```
div.static {  
    position: static;  
    border: 3px solid #73AD21;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_position_static

CSS POSITION

`position: relative;`

An element with `position: relative;` is positioned relative to its normal position.

Setting the `top`, `right`, `bottom`, and `left` properties of a relatively-positioned element will cause it to be adjusted away from its normal position. Other content will not be adjusted to fit into any gap left by the element.

Here is the CSS that is used:

```
div.relative {  
    position: relative;  
    left: 30px;  
    border: 3px solid #73AD21;  
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_position_relative

CSS POSITION

`position: fixed;`

An element with `position: fixed;` is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled. The top, right, bottom, and left properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

Here is the CSS that is used:

```
div.fixed {  
    position: fixed;  
    bottom: 0;  
    right: 0;  
    width: 300px;  
    border: 3px solid #73AD21;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_position_fixed

CSS POSITION

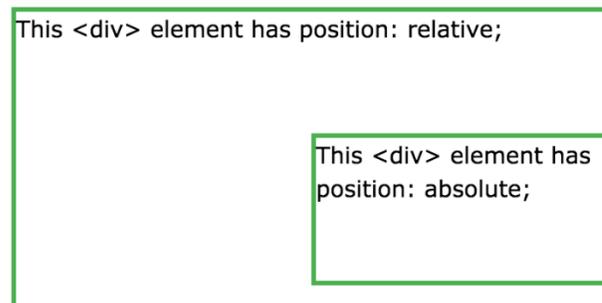
`position: absolute;`

An element with `position: absolute;` is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like `fixed`).

However; if an absolute positioned element has no positioned ancestors, it uses the document body, and moves along with page scrolling.

Note: A "positioned" element is one whose position is anything except `static`.

Here is a simple example:



Example:

```
div.relative {
  position: relative;
  width: 400px;
  height: 200px;
  border: 3px solid #73AD21;
}

div.absolute {
  position: absolute;
  top: 80px;
  right: 0;
  width: 200px;
  height: 100px;
  border: 3px solid #73AD21;
}
```

Try it Yourself:

https://www.w3schools.com/css/tryit.asp?filename=trycss_position_absolute

CSS POSITION

`position: sticky;`

An element with `position: sticky;` is positioned based on the user's scroll position.

A sticky element toggles between `relative` and `fixed`, depending on the scroll position. It is positioned relative until a given offset position is met in the viewport - then it "sticks" in place (like `position: fixed`).

In this example, the sticky element sticks to the top of the page (`top: 0`), when you reach its scroll position.

```
div.sticky {  
    position: -webkit-sticky; /* Safari */  
    position: sticky;  
    top: 0;  
    background-color: green;  
    border: 2px solid #4CAF50;  
}
```

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_position_sticky

Note: Internet Explorer, Edge 15 and earlier versions do not support sticky positioning. Safari requires a `-webkit-` prefix (see example below). You must also specify at least one of `top`, `right`, `bottom` or `left` for sticky positioning to work.

CSS POSITION

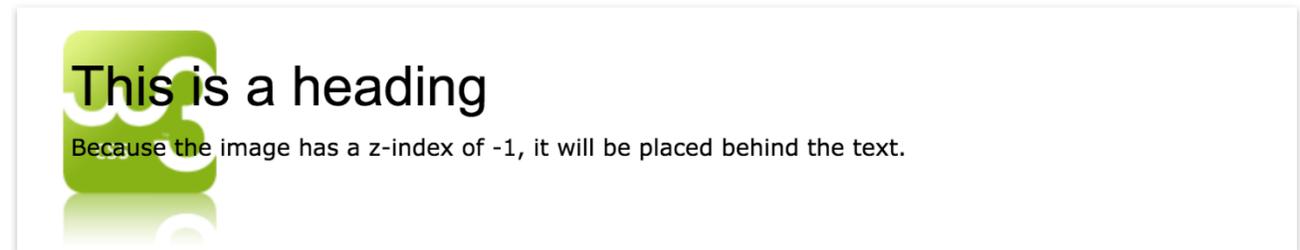
Overlapping Elements

When elements are positioned, they can overlap other elements.

The `z-index` property specifies the stack order of an element (which element should be placed in front of, or behind, the others).

An element can have a positive or negative stack order:

```
img {  
  position: absolute;  
  left: 0px;  
  top: 0px;  
  z-index: -1;  
}
```



An element with greater stack order is always in front of an element with a lower stack order.

Try it Yourself: https://www.w3schools.com/css/tryit.asp?filename=trycss_zindex

Note: If two positioned elements overlap without a `z-index` specified, the element positioned last in the HTML code will be shown on top.

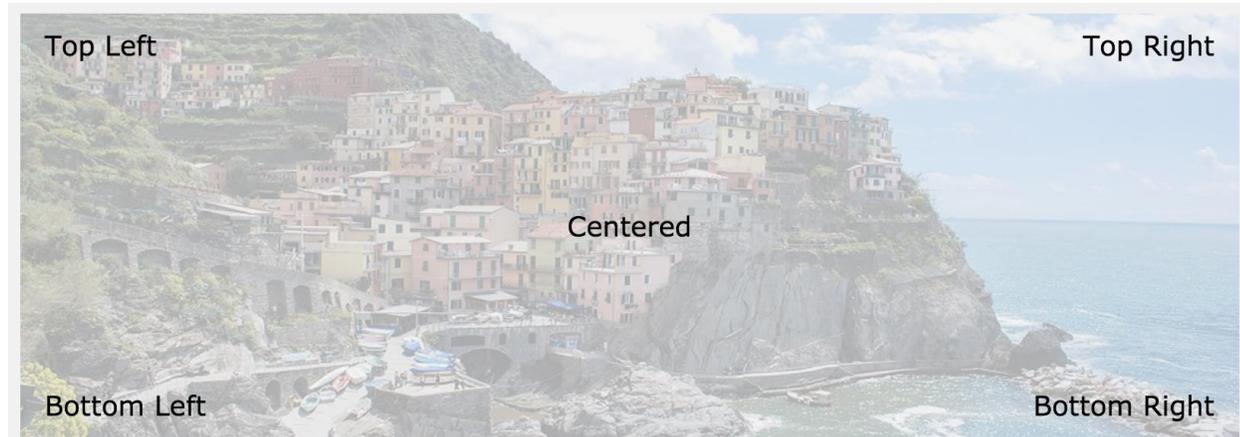
CSS POSITION

Positioning Text In an Image

How to position text over an image:

Try it Yourself:

- [Top Left](#)
- [Top Right](#)
- [Bottom Left](#)
- [Bottom Right](#)
- [Centered](#)



CSS POSITION

More Examples

- Set the shape of an element

This example demonstrates how to set the shape of an element. The element is clipped into this shape, and displayed.

CSS POSITION

Test Yourself with Exercises!

- [Exercise 1](#)
- [Exercise 2](#)
- [Exercise 3](#)
- [Exercise 4](#)
- [Exercise 5](#)

CSS POSITION

All CSS Positioning Properties

Property	Description
<u>bottom</u>	Sets the bottom margin edge for a positioned box
<u>clip</u>	Clips an absolutely positioned element
<u>left</u>	Sets the left margin edge for a positioned box
<u>position</u>	Specifies the type of positioning for an element
<u>right</u>	Sets the right margin edge for a positioned box
<u>top</u>	Sets the top margin edge for a positioned box
<u>z-index</u>	Sets the stack order of an element



THE END

Web Application Development