CSS Layout - The Display Property

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

The display Property

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`.

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>

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 <span> element inside a paragraph.

Examples of inline elements:

- <span>
- <a>
- <img>

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.

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 `<li>` elements for horizontal menus:

Example

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

The following example displays <span> elements as block elements:

Example

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

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

Example

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

CSS Layout - display: inline-block

The display: inline-block Value

Compared to `display: inline`, the major difference is that `display: inline-block` allows to set a width and height on the element.

Also, with `display: inline-block`, the top and bottom margins/paddings are respected, but with `display: inline` they are not.

Compared to `display: block`, the major difference is that `display: inline-block` does not add a line-break after the element, so the element can sit next to other elements.

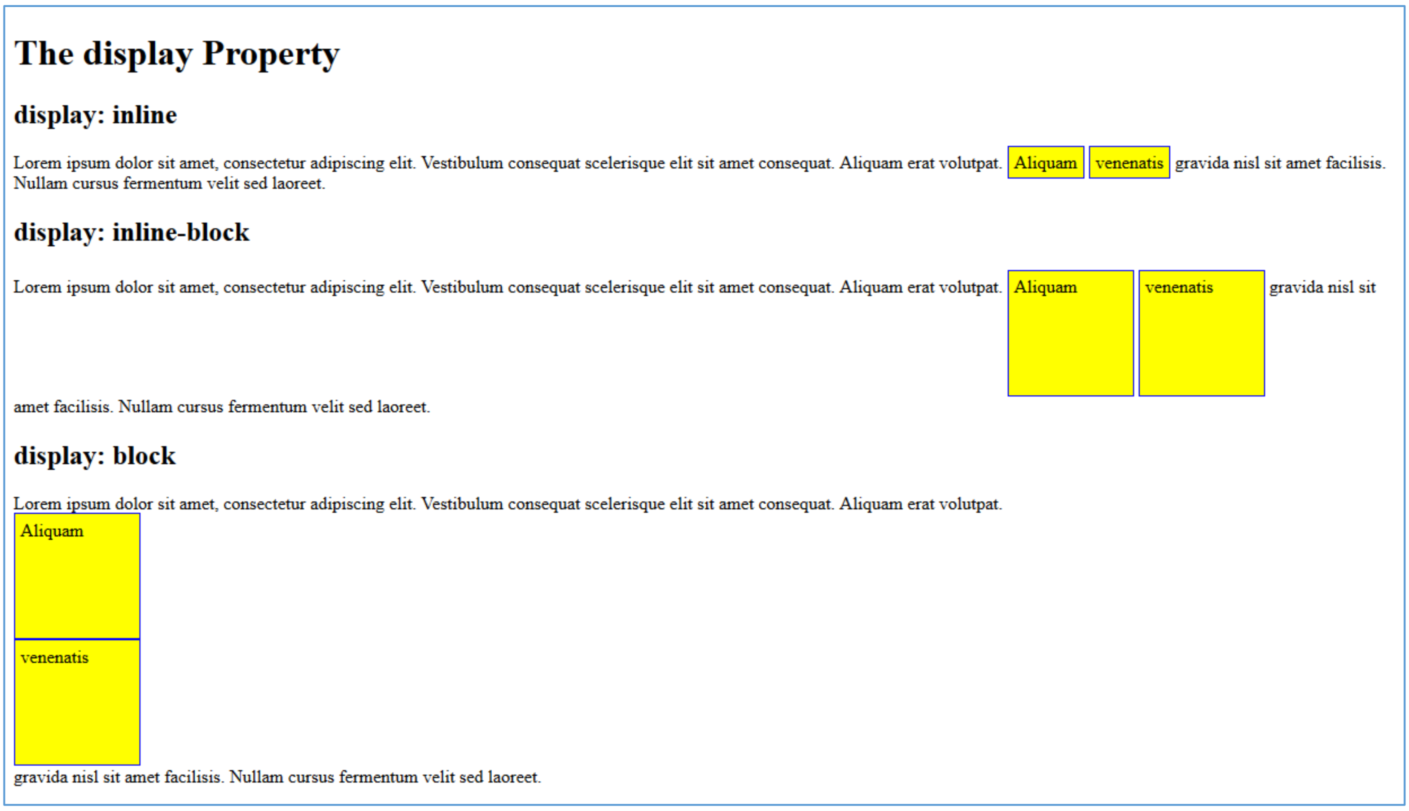
The following example shows the different behavior of `display: inline`, `display: inline-block` and `display: block`:

Example

```
span.a {  display: inline; /* the default for span */
  width: 100px;
  height: 100px;
  padding: 5px;
  border: 1px solid blue;
  background-color: yellow; }

span.b {  display: inline-block;
  width: 100px;
  height: 100px;
  padding: 5px;
  border: 1px solid blue;
  background-color: yellow; }

span.c {  display: block;
  width: 100px;
  height: 100px;
  padding: 5px;
  border: 1px solid blue;
  background-color: yellow; }
```


The display Property

display: inline

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display: inline-block

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display: block

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venenatis

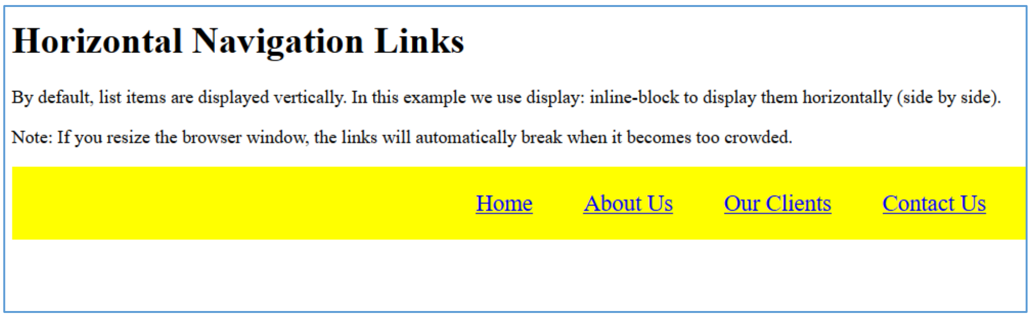
gravida nisl sit amet facilisis. Nullam cursus fermentum velit sed laoreet.

Using inline-block to Create Navigation Links

One common use for `display: inline-block` is to display list items horizontally instead of vertically. The following example creates horizontal navigation links:

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
.nav {
  background-color: yellow;
  list-style-type: none;
  text-align: center;
  margin: 0;
  padding: 0;
}

.nav li {
  display: inline-block;
  font-size: 20px;
  padding: 20px;
}
</style>
</head>
<body>

<h1>Horizontal Navigation Links</h1>
<p>By default, list items are displayed vertically. In this example we use display: inline-block to display them
horizontally (side by side).</p>
<p>Note: If you resize the browser window, the links will automatically break when it becomes too crowded.</p>

<ul class="nav">
  <li><a href="#home">Home</a></li>
  <li><a href="#about">About Us</a></li>
  <li><a href="#clients">Our Clients</a></li>
  <li><a href="#contact">Contact Us</a></li>
</ul>

</body>
</html>
```



Horizontal Navigation Links

By default, list items are displayed vertically. In this example we use display: inline-block to display them horizontally (side by side).

Note: If you resize the browser window, the links will automatically break when it becomes too crowded.

CSS Layout - 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

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

There are five different position values:

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

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.

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:

This <div> element has position: static;

Here is the CSS that is used:

Example

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

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.

This <div> element has position: relative;

Here is the CSS that is used:

Example

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

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.

Notice the fixed element in the lower-right corner of the page. Here is the CSS that is used:

Example

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

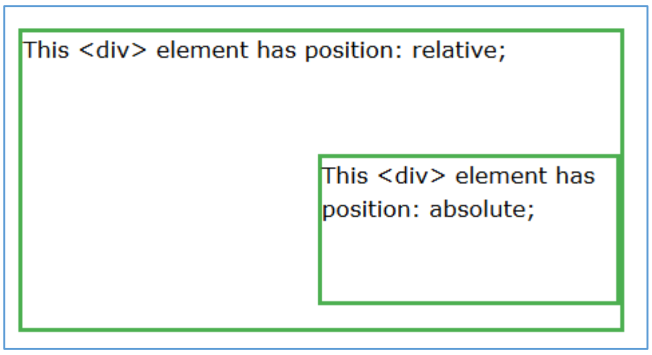
position: absolute;

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:


This <div> element has position: relative;
This <div> element has position: absolute;

Here is the CSS that is used:

Example

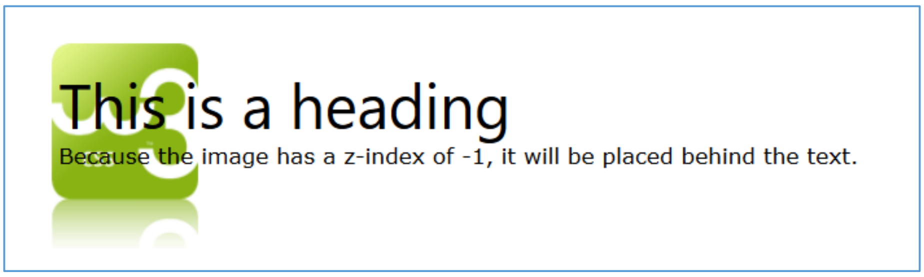
```
div.relative {
  position: relative;
  width: 400px;
  height: 200px;
  border: 3px solid #73AD21;}

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

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:


This is a heading

Because the image has a z-index of -1, it will be placed behind the text.

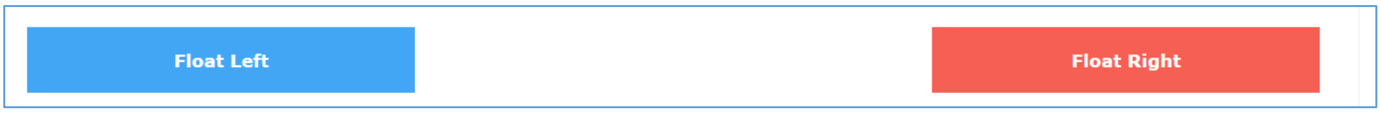
Example

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

CSS Layout - float and clear

The CSS `float` property specifies how an element should float.

The CSS `clear` property specifies what elements can float beside the cleared element and on which side.



The float Property

The `float` property is used for positioning and formatting content e.g. let an image float left to the text in a container.

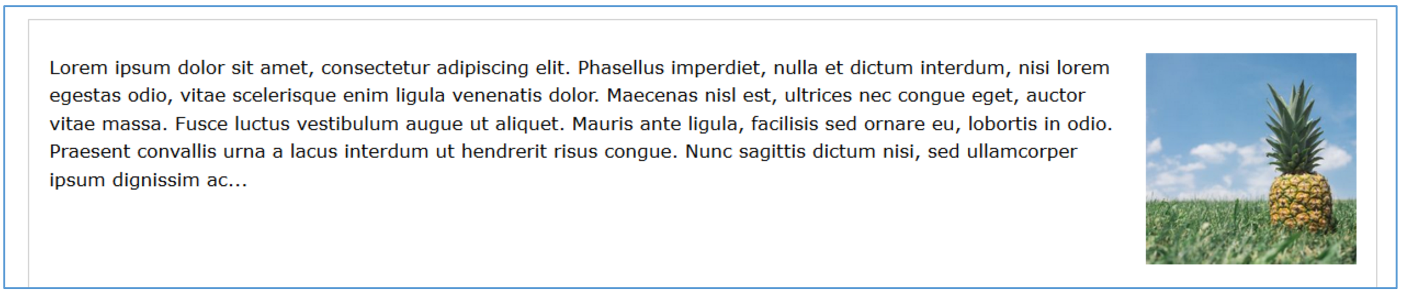
The `float` property can have one of the following values:

- left - The element floats to the left of its container
- right - The element floats to the right of its container
- none - The element does not float (will be displayed just where it occurs in the text). This is default
- inherit - The element inherits the float value of its parent

In its simplest use, the `float` property can be used to wrap text around images.

Example - float: right;

The following example specifies that an image should float to the **right** in a text:

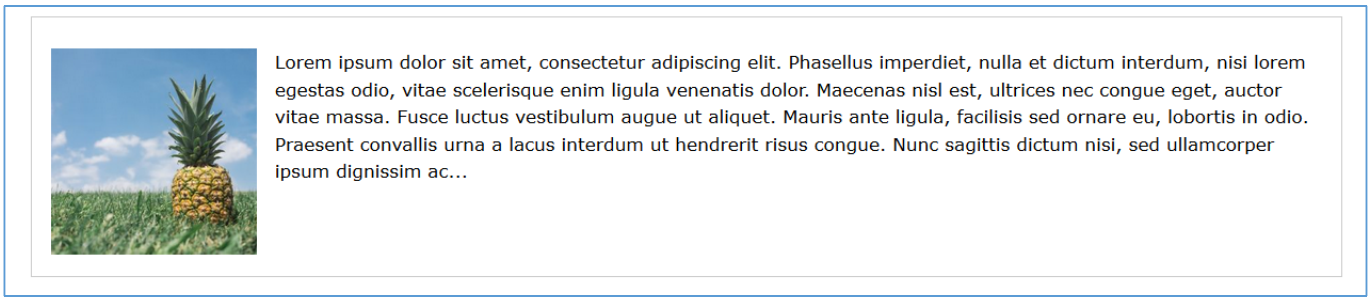

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum, nisi lorem egestas odio, vitae scelerisque enim ligula venenatis dolor. Maecenas nisl est, ultrices nec congue eget, auctor vitae massa. Fusce luctus vestibulum augue ut aliquet. Mauris ante ligula, facilisis sed ornare eu, lobortis in odio. Praesent convallis urna a lacus interdum ut hendrerit risus congue. Nunc sagittis dictum nisi, sed ullamcorper ipsum dignissim ac...

Example

```
img {  float: right; }
```

Example - float: left;

The following example specifies that an image should float to the **left** in a text:



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Example

```
img {
  float: left;}
```

CSS Layout - clear and clearfix

The clear Property

The `clear` property specifies what elements can float beside the cleared element and on which side.

The `clear` property can have one of the following values:

- none - Allows floating elements on both sides. This is default
- left - No floating elements allowed on the left side
- right- No floating elements allowed on the right side
- both - No floating elements allowed on either the left or the right side
- inherit - The element inherits the clear value of its parent

The most common way to use the `clear` property is after you have used a `float` property on an element.

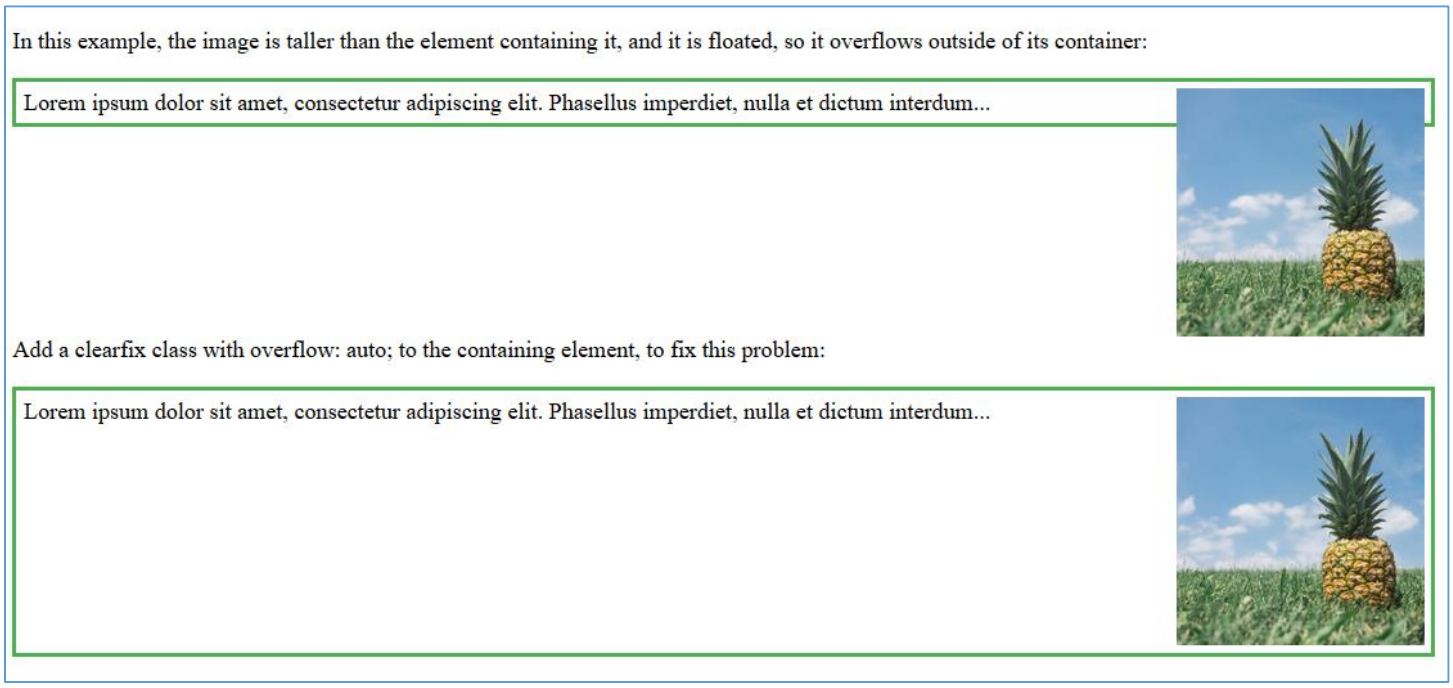
When clearing floats, you should match the clear to the float: If an element is floated to the left, then you should clear to the left. Your floated element will continue to float, but the cleared element will appear below it on the web page.

The following example clears the float to the left. Means that no floating elements are allowed on the left side (of the div):

Example

```
div {  clear: left;}
```

```html
<!DOCTYPE html>
<html>
<head>
<style>
div {
  border: 3px solid #4CAF50;
  padding: 5px;
}

.img1 {  float: right;}

.clearfix {  overflow: auto;}

.img2 {  float: right;}
</style>
</head>
<body>

<p>In this example, the image is taller than the element containing it, and it is floated, so it overflows outside
of its container:</p>

<div>
  <img class="img1" src="pineapple.jpg" alt="Pineapple" width="170" height="170">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...
</div>

<p style="clear:right">Add a clearfix class with overflow: auto; to the containing element, to fix this
problem:</p>

<div class="clearfix">
  <img class="img2" src="pineapple.jpg" alt="Pineapple" width="170" height="170">
  Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...
</div>

</body>
</html>
```



In this example, the image is taller than the element containing it, and it is floated, so it overflows outside of its container:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...

Add a clearfix class with overflow: auto; to the containing element, to fix this problem:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum...