**CSS Dimension**

## Setting Element Dimensions

CSS has several dimension properties, such as width, height, max-width, min-width, max-height, and min-height that allows you to control the width and height of an element.

## Setting the Width and Height

The width and height property defines the width and height of the content area of an element.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Set Width and Height of an Element</title>

<style>

div {

width: 300px;

height: 200px;

background: #eee8aa;

}

</style>

</head>

<body>

<div>Play with the values to see how it works!</div>

</body>

</html>

## Setting Maximum Width and Height

You can use the max-width and max-height property to specify the maximum width and height of the content area. This maximum width and height does not include paddings, borders, or margins.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Set Maximum Width of an Element</title>

<style>

div {

width: 300px;

max-width: 200px;

background: #bbb3ff;

}

p {

float: left;

max-width: 400px;

background: #eee8aa;

}

</style>

</head>

<body>

<div>The maximum width of this div element is set to 200px, so it can't be wider than that.</div>

<p>Enter some text to see how it works.</p>

</body>

</html>

## Setting Minimum Width and Height

You can use the min-width and min-height property specify the minimum width and height of the content area. This minimum width and height does not include paddings, borders, or margins.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Set Minimum Width of an Element</title>

<style>

div {

min-width: 300px;

background: #bbb3ff;

}

p {

float: left;

min-width: 400px;

background: #eee8aa;

}

</style>

</head>

<body>

<div>The minimum width of this div element is set to 300px, so it can't be narrower than that.</div>

<p>Enter some text to see how it works.</p>

</body>

</html>

## Setting a Width and Height Range

he min-width and min-height properties are often used in combination with the max-width and max-height properties to produce a width and height range for an element.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Set Width Range for an Element</title>

<style>

div {

float: left;

min-width: 300px;

max-width: 500px;

height: 100px;

background: #eee8aa;

}

</style>

</head>

<body>

<p><strong>Note:</strong> The minimum width of the following div element will be 300px, and it can stretches horizontally up to 500px. Enter few lines of text inside the div element to understand how it works.</p>

<div>Python is a Programming Language Python is Programming Python is Programming

</div>

</body>

</html>

# CSS Padding

## CSS Padding Properties

The CSS padding properties allow you to set the spacing between the content of an element and its border (or the edge of the element's box, if it has no defined border).

## Define Paddings for Individual Sides

You can specify the paddings for the individual sides of an element such as top, right, bottom, and left sides using the CSS padding-top, padding-right, padding-bottom, and the padding-left properties, respectively

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Padding for Individual Sides</title>

<style>

h1 {

padding-top: 50px;

padding-bottom: 100px;

background: lime;

}

p {

padding-left: 75px;

padding-right: 75px;

background: lime;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

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

<p><strong>Note:</strong> Play with the padding property value to see how it works.</p>

</body>

</html>

## The Padding Shorthand Property

The padding property is a shorthand property to avoid setting padding of each side separately, i.e., padding-top, padding-right, padding-bottom and padding-left.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>Set Padding for All Sides At Once</title>

<style>

h1 {

padding: 50px; /\* apply to all four sides \*/

}

p {

padding: 25px 75px; /\* vertical | horizontal \*/

}

div {

padding: 25px 50px 75px; /\* top | horizontal | bottom \*/

}

pre {

padding: 25px 50px 75px 100px; /\* top | right | bottom | left \*/

}

h1, p, div, pre {

background: lime;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

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

<div>This is a DIV element.</div>

<pre>This is a piece of preformatted text.</pre>

</body>

</html>

## CSS Border Properties

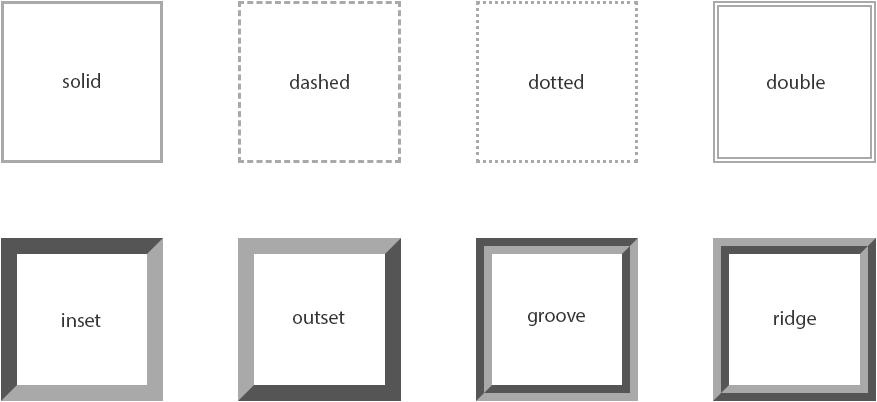
The CSS border properties allow you to define the border area of an element's box.

Borders appear directly between the margin and padding of an element. The border can either be a predefined style like, solid line, dotted line, double line, etc. or [an image](https://www.tutorialrepublic.com/css-tutorial/css3-border.php).

## Understanding the Different Border Styles

The [border-style](https://www.tutorialrepublic.com/css-reference/css-border-style-property.php) property sets the style of a box's border such as: solid, dotted, etc. It is a shorthand property for setting the line style for all four sides of the elements border.

The border-style property can have the following values: none, hidden, solid, dashed, dotted, double, inset, outset, groove, and ridge.



<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS border-style Property</title>

<style>

p {

border-width: 15px;

background: yellow;

padding: 20px;

margin: 20px;

}

p.none {

border-style: none;

}

p.hidden {

border-style: hidden;

}

p.dotted {

border-style: dotted;

}

p.dashed {

border-style: dashed;

}

p.solid {

border-style: solid;

}

p.double {

border-style: double;

}

p.groove {

border-style: groove;

}

p.ridge {

border-style: ridge;

}

p.inset {

border-style: inset;

}

p.outset {

border-style: outset;

}

</style>

</head>

<body>

<p class="none">No border.</p>

<p class="hidden">Hidden border.</p>

<p class="dotted">A dotted border.</p>

<p class="dashed">A dashed border.</p>

<p class="solid">A solid border.</p>

<p class="double">A double border.</p>

<p class="inset">An inset border.</p>

<p class="outset">An outset border.</p>

<p class="groove">A groove border.</p>

<p class="ridge">A ridge border.</p>

</body>

</html>

## Setting the Border Width

The [border-width](https://www.tutorialrepublic.com/css-reference/css-border-width-property.php) property specifies the width of the border area. It is a shorthand property for setting the thickness of all the four sides of an element's border at the same time.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS border-width Property</title>

<style>

p {

border-style: solid;

padding: 20px;

margin: 20px;

}

p.one {

border-width: 5px;

}

p.two {

border-width: 5px 10px;

}

p.three {

border-width: 5px 10px 15px;

}

p.four {

border-width: medium 10px thick 15px;

}

</style>

</head>

<body>

<p class="one"><strong>one-value syntax:</strong> the single value sets the width of all four border sides.</p>

<p class="two"><strong>two-value syntax:</strong> the first value sets the width of the top and bottom border, while the second value sets the width of the right and left sides border.</p>

<p class="three"><strong>three-value syntax:</strong> the first value sets the width of the top border, the second value sets the width of the right and left border, and the third value sets the width of the the bottom border.</p>

<p class="four"><strong>four-value syntax:</strong> each value sets the width of the border individually in the order top, right, bottom, and left.</p>

</body>

</html>

## Specifying the Border Color

The [border-color](https://www.tutorialrepublic.com/css-reference/css-border-color-property.php) property specifies the [color](https://www.tutorialrepublic.com/css-reference/css-color-property.php) of the border area. This is also a shorthand property for setting the color of all the four sides of an element's border.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS border-color Property</title>

<style>

p {

border-width: 15px;

padding: 20px;

margin: 20px;

}

p.one {

border-style: solid;

border-color: #ff0000;

}

p.two {

border-style: solid;

border-color: #ff0000 #00ff00;

}

p.three {

border-style: solid;

border-color: #ff0000 #00ff00 #0000ff;

}

p.four {

border-style: solid;

border-color: #ff0000 #00ff00 #0000ff #ff00ff;

}

</style>

</head>

<body>

<p class="one"><strong>one-value syntax:</strong> the single value sets the color of all four border sides.</p>

<p class="two"><strong>two-value syntax:</strong> the first value sets the color of the top and bottom border, while the second value sets the color of the right and left sides border.</p>

<p class="three"><strong>three-value syntax:</strong> the first value sets the color of the top border, the second value sets the color of the right and left border, and the third value sets the color of the the bottom border.</p>

<p class="four"><strong>four-value syntax:</strong> each value sets the color of the border individually in the order top, right, bottom, and left.</p>

</body>

</html>

# CSS Margin

The CSS margin properties allow you to set the spacing around the border of an element's box (or the edge of the element's box, if it has no defined border).

## Setting Margins for Individual Sides

You can specify the margins for the individual sides of an element such as top, right, bottom, and left sides using the CSS margin-top, margin-right, margin-bottom, and the margin-left properties, respectively.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>CSS Margin for Individual Sides</title>

<style>

h1 {

margin-top: 50px;

margin-bottom: 100px;

background: yellow;

}

p {

margin-left: 75px;

margin-right: 75px;

background: yellow;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

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

<p><strong>Note:</strong> Play with the margin property value to see how it works.</p>

</body>

</html>

## The Margin Shorthand Property

The margin property is a shorthand property to avoid setting margin of each side separately, i.e., margin-top, margin-right, margin-bottom and margin-left.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>Set Margin for All Sides At Once</title>

<style>

h1 {

margin: 50px; /\* apply to all four sides \*/

}

p {

margin: 25px 75px; /\* vertical | horizontal \*/

}

div {

margin: 25px 50px 75px; /\* top | horizontal | bottom \*/

}

hr {

margin: 25px 50px 75px 100px; /\* top | right | bottom | left \*/

}

h1, p, div {

background: yellow;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

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

<div>This is a DIV element.</div>

<hr>

<p><strong>Note:</strong> Play with the margin property value to see how it works.</p>

</body>

</html>

## Horizontal Centering with Auto Margins

The auto value for the margin property tells the web browser to automatically calculate the margin. This is commonly used to center an element horizontally within a larger container.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<title>Centering an Element with CSS Auto Margin</title>

<style>

.container {

width: 300px;

height: 200px;

background: #ddd;

margin: 0 auto;

}

</style>

</head>

<body>

<div class="container">

<h1>This is a heading</h1>

<p>This is a paragraph of text.</p>

</div>

</body>

</html>

CSS Navigation Bar

**Navigation Bar = List of Links**

A navigation bar needs standard HTML as a base.

In our examples we will build the navigation bar from a standard HTML list.

A navigation bar is basically a list of links, so using the <ul> and <li> elements makes perfect sense:

<ul>  
  <li><a href="default.html">Home</a></li>  
  <li><a href="news.html">News</a></li>  
  <li><a href="contact.html">Contact</a></li>  
  <li><a href="about.html">About</a></li>  
</ul>

Now let's remove the bullets and the margins and padding from the list:

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

**Vertical Navigation Bar**

To build a vertical navigation bar, you can style the <a> elements inside the list

<!DOCTYPE html>

<html>

<head>

<style>

ul {

list-style-type: none;

margin: 0;

padding: 0;

}

li a {

display: block;

width: 60px;

background-color: #dddddd;

}

</style>

</head>

<body>

<ul>

<li><a href="#home">Home</a></li>

<li><a href="#news">News</a></li>

<li><a href="#contact">Contact</a></li>

<li><a href="#about">About</a></li>

</ul>

<p>A background color is added to the links to show the link area.</p>

<p>Notice that the whole link area is clickable, not just the text.</p>

</body>

</html>

display: block; - Displaying the links as block elements makes the whole link area clickable (not just the text), and it allows us to specify the width (and padding, margin, height, etc. if you want)

width: 60px; - Block elements take up the full width available by default. We want to specify a 60 pixels width

You can also set the width of <ul>, and remove the width of <a>, as they will take up the full width available when displayed as block elements.

<!DOCTYPE html>

<html>

<head>

<style>

ul {

list-style-type: none;

margin: 0;

padding: 0;

width: 60px;

}

li a {

display: block;

background-color: #dddddd;

}

</style>

</head>

<body>

<ul>

<li><a href="#home">Home</a></li>

<li><a href="#news">News</a></li>

<li><a href="#contact">Contact</a></li>

<li><a href="#about">About</a></li>

</ul>

<p>A background color is added to the links to show the link area.</p>

<p>Notice that the whole link area is clickable, not just the text.</p>

</body>

</html>

**Vertical Navigation Bar Examples**

Create a basic vertical navigation bar with a gray background color and change the background color of the links when the user moves the mouse over them:

<!DOCTYPE html>

<html>

<head>

<style>

ul {

list-style-type: none;

margin: 0;

padding: 0;

width: 200px;

background-color: #f1f1f1;

}

li a {

display: block;

color: #000;

padding: 8px 16px;

text-decoration: none;

}

/\* Change the link color on hover \*/

li a:hover {

background-color: #555;

color: white;

}

</style>

</head>

<body>

<h2>Vertical Navigation Bar</h2>

<ul>

<li><a href="#home">Home</a></li>

<li><a href="#news">News</a></li>

<li><a href="#contact">Contact</a></li>

<li><a href="#about">About</a></li>

</ul>

</body>

</html>