CSS Box Model

All HTML elements can be considered as boxes.

In CSS, the term "box model" is used when talking about design and layout.

The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

* Content - The content of the box, where text and images appear
* Padding - Clears an area around the content. The padding is transparent
* Border - A border that goes around the padding and content
* Margin - Clears an area outside the border. The margin is transparent.

**CSS Borders**

The CSS border properties allow you to specify the style, width, and color of an element's border.

CSS Border Style

The border-style property specifies what kind of border to display.

* The border-style property can have from one to four values (for the top border, right border, bottom border, and the left border).
* dotted - Defines a dotted border
* dashed - Defines a dashed border
* solid - Defines a solid border
* double - Defines a double border
* groove - Defines a 3D grooved border. The effect depends on the border-color value
* ridge - Defines a 3D ridged border. The effect depends on the border-color value
* inset - Defines a 3D inset border. The effect depends on the border-color value
* outset - Defines a 3D outset border. The effect depends on the border-color value
* none - Defines no border
* hidden - Defines a hidden border

Ex: 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;}

CSS Border Width

The border-width property specifies the width of the four borders.

* The width can be set as a specific size (in px, pt, cm, em, etc) or by using one of the three pre-defined values: thin, medium, or thick.

Ex: p.one {

border-style: solid;

border-width: 5px;

}

p.two {

border-style: solid;

border-width: medium;

}

* Specific Side Widths

The border-width property can have from one to four values (for the top border, right border, bottom border, and the left border):

EX: (5px top and bottom, 20px on the sides )

p.one {

border-style: solid;

border-width: 5px 20px;

}

(5px top and bottom, 20px on the sides)

p.three {

border-style: solid;

border-width: 25px 10px 4px 35px;

}

CSS Border Color

The border-color property is used to set the color of the four borders.

The color can be set by:

* name - specify a color name, like "red"
* HEX - specify a HEX value, like "#ff0000"
* RGB - specify a RGB value, like "rgb(255,0,0)"
* HSL - specify a HSL value, like "hsl(0, 100%, 50%)"
* transparent

**Note**: If border-color is not set, it inherits the color of the element.

Ex: p.one {

border-style: solid;

border-color: red;

}

CSS Border Sides

In CSS, there are also properties for specifying each of the borders (top, right, bottom, and left).

* If the border-style property has four values:

Ex: border-style: dotted solid double dashed;

* top border is dotted
* right border is solid
* bottom border is double
* left border is dashed
* If the border-style property has three values:

Ex: border-style: dotted solid double;

* + - top border is dotted
    - right and left borders are solid
    - bottom border is double
* If the border-style property has two values:

Ex: border-style: dotted solid;

* top and bottom borders are dotted
* right and left borders are solid
* If the border-style property has one value:

Ex: border-style: dotted;

* all four borders are dotted

Shorthand Property

To shorten the code, it is also possible to specify all the individual border properties in one property.

The border property is a shorthand property for the following individual border properties:

* border-width
* border-style (required)
* border-color

Ex: border-left: 6px solid red;

You can also specify all the individual border properties for just one side:

Ex: border-left: 6px solid red;

Rounded Borders

The border-radius property is used to add rounded borders to an element.

Ex: p {

border: 2px solid red;

border-radius: 5px;

}

CSS Margins

The CSS margin properties are used to create space around elements, outside of any defined borders.

Margin - Individual Sides

CSS has properties for specifying the margin for each side of an element:

* margin-top
* margin-right
* margin-bottom
* margin-left

All the margin properties can have the following values:

* auto - the browser calculates the margin
* length - specifies a margin in px, pt, cm, etc.
* % - specifies a margin in % of the width of the containing element
* inherit - specifies that the margin should be inherited from the parent element.

Ex: p {

margin-top: 100px;

margin-bottom: 100px;

margin-right: 150px;

margin-left: 80px;

}

* Margin - Shorthand Property

To shorten the code, it is possible to specify all the margin properties in one property.

The margin property is a shorthand property for the following individual margin properties:

* margin-top
* margin-right
* margin-bottom
* margin-left

Ex:

margin: 25px 50px 75px 100px; (top, right, bottom, left)

margin: 25px 50px 75px; (top, right/ left, bottom)

margin: 25px 50px; (top and bottom, right and left)

margin: 25px; (all four sides)

CSS Padding

The CSS padding properties are used to generate space around an element's content, inside of any defined borders.

With CSS, you have full control over the padding. There are properties for setting the padding for each side of an element (top, right, bottom, and left).

Padding - Individual Sides

CSS has properties for specifying the padding for each side of an element:

* padding-top
* padding-right
* padding-bottom
* padding-left

All the padding properties can have the following values:

* length - specifies a padding in px, pt, cm, etc.
* % - specifies a padding in % of the width of the containing element
* inherit - specifies that the padding should be inherited from the parent element

Ex: div {

padding-top: 50px;

padding-right: 30px;

padding-bottom: 50px;

padding-left: 80px;

}

Padding - Shorthand Property

To shorten the code, it is possible to specify all the padding properties in one property.

The padding property is a shorthand property for the following individual padding properties:

* + - padding-top
    - padding-right
    - padding-bottom
    - padding-left

Ex: padding: 25px 50px 75px 100px; (top, right, bottom, left)

padding: 25px 50px 75px; (top, right/ left, bottom)

padding: 25px 50px; (top and bottom, right and left)

padding: 25px; (all four sides)