

Web Technologies 1

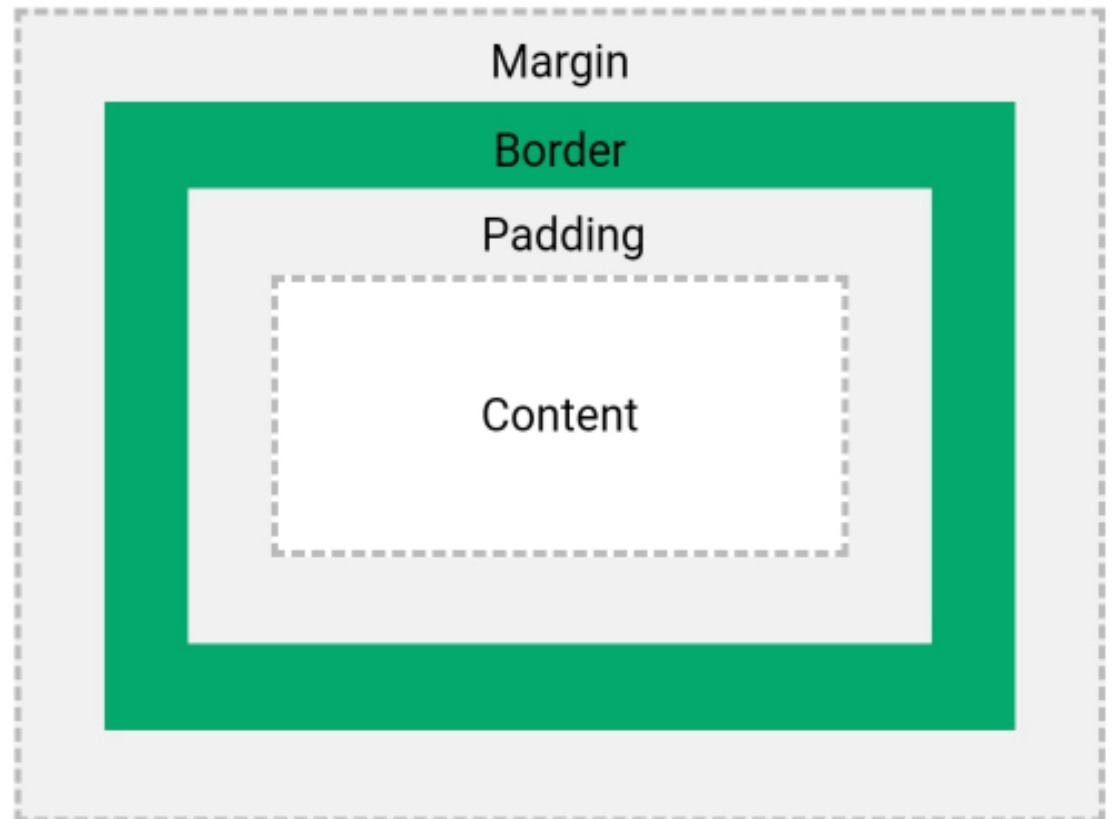
Box Model

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CSS box model

- All HTML elements can be considered as boxes.
- The CSS box model is essentially a box that wraps around every HTML element.
- It consists of:
 - margins
 - borders
 - padding
 - the actual content.



Width and Height of an Element

- In order to set the width and height of an element correctly in all browsers, you need to know how the box model works.
- the width and height properties of an element with CSS, you just set the width and height of the content area. To calculate the full size of an element, you must also add padding, borders and margins.

CSS Padding

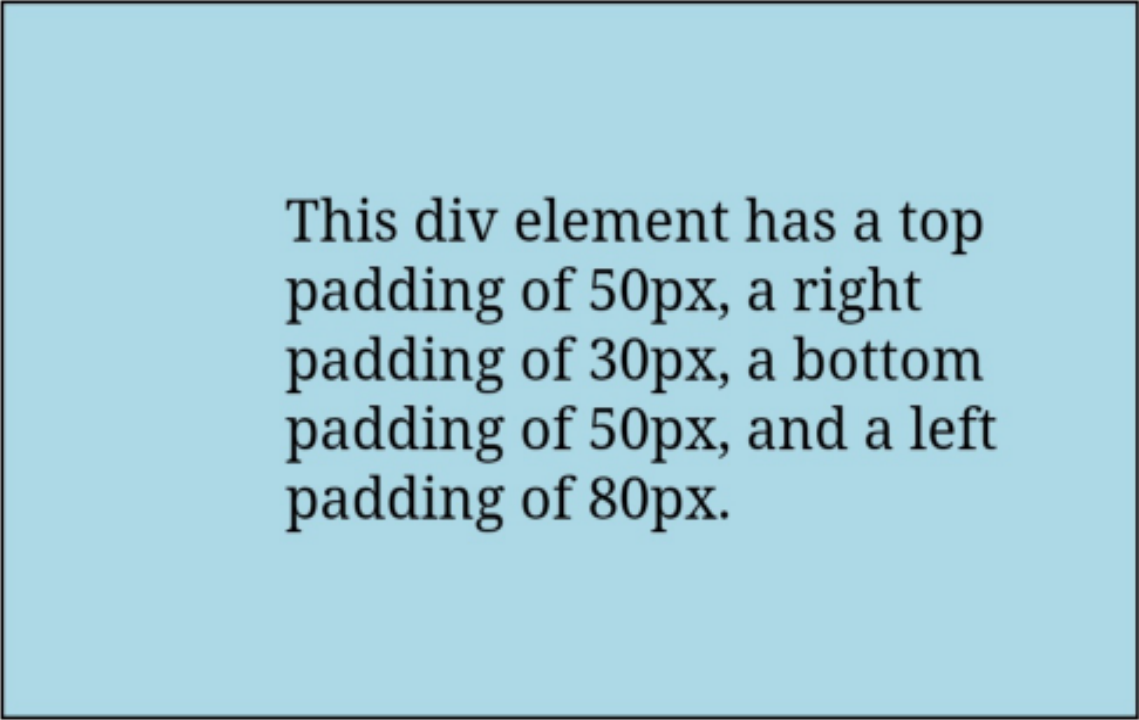
- Padding is used to create space around an element's content, inside of any defined borders.
- The CSS padding properties are used inside of any defined borders.
- There are properties for setting the padding for each side of an element (top, right, bottom, and left).

CSS Padding

- CSS has properties for specifying the padding for each side of an element:
 - padding-top
 - padding-right
 - padding-bottom
 - padding-left
- The shorten way, used to specify all the padding properties in one property.
 - padding: 25px 50px 75px 100px;
 - top padding is 25px
 - right padding is 50px
 - bottom padding is 75px
 - left padding is 100px

Note: Negative values are not allowed.

```
<style>
div {
  border: 1px solid black;
  background-color: lightblue;
  padding-top: 50px;
  padding-right: 30px;
  padding-bottom: 50px;
  padding-left: 80px;
}
</style>
</head>
```



This div element has a top padding of 50px, a right padding of 30px, a bottom padding of 50px, and a left padding of 80px.

CSS Borders

- The CSS border properties allow to specify the style, width, and color of an element's border.
- CSS has properties for specifying the border for each side of an element:
 - border-top
 - border-right
 - border-bottom
 - border-left



I have borders on all sides.



I have a red bottom border.



I have rounded borders.



I have a blue left border.

CSS Border Style

- The border-style property specifies what kind of border to display.
- The following values are allowed:
 - 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

Border color and shorthand

- The border property is a shorthand property for the following individual border properties:
 - border-width
 - border-style (required)
 - border-color

CSS Margins

- Margins are used to create space around elements, outside of any defined borders.
- There are properties for setting the margin for each side of an element (top, right, bottom, and 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
- The shorten way `:margin: 25px 50px 75px 100px;`

Note :Negative values are allowed.

```
<style>
div {
  margin: 70px;
  border: 1px solid #4CAF50;
}
</style>
</head>
<body>
<h2>CSS Margins</h2>
<div>This element has a margin of
70px.</div>
```

CSS Margins

This element has a
margin of 70px.

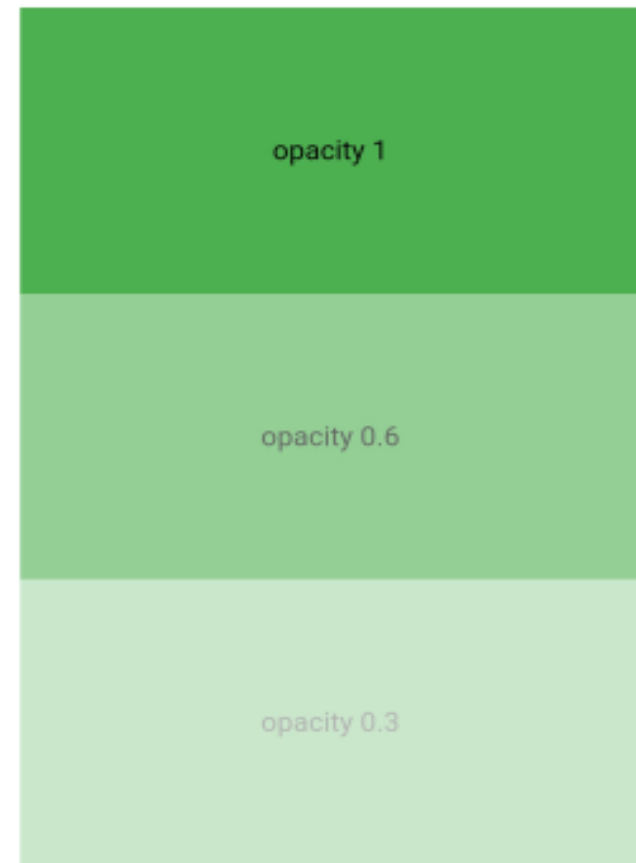
CSS Backgrounds

- The CSS background properties are used to add background effects for elements.
- CSS background properties:
 - background-color
 - background-image
 - background-repeat
 - background-attachment
 - background-position
 - background (shorthand property)

Opacity / Transparency

- The opacity property specifies the opacity/transparency of an element. It can take a value from 0.0 - 1.0. The lower value, the more transparent.

```
div {  
  background-color:  
green;  
  opacity: 0.3;  
}
```



CSS background-image

- The background-image property specifies an image to use as the background of an element.

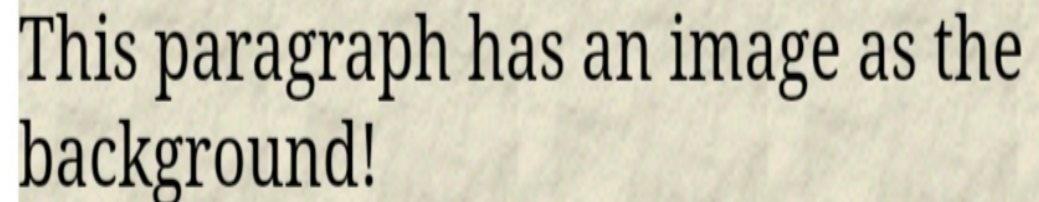
```
<style>  
p {  
  background-image: url("paper.gif");  
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<p>This paragraph has an image as the  
background!</p>
```



This paragraph has an image as the background!

CSS Background Attachment

- The background-attachment property specifies whether the background image should scroll or be fixed (will not scroll with the rest of the page)

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.

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).
- Examples of block-level elements:
 - `<div>`
 - `<h1>` - `<h6>`
 - `<p>`
 - `<form>`

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

Inline Elements

- An inline element does not start on a new line and only takes up as much width as necessary
- Examples of inline elements:
 - ``
 - `<a>`
 - ``

This is an inline `` element inside a paragraph.

```
<style>
li {
    display: inline;
}
</style>
</head>
<body>
<ul>
    <li><a href="delt.asp">HTML</a></li>
    <li><a href="/css/default.asp"
target="_blank">CSS</a></li>
    <li><a href="/js/default.asp"
target="_blank">JavaScript</a></li>
</ul>
```

[HTML](#) [CSS](#) [JavaScript](#)

Display: none;

```
h1.hidden {  
  display: none;  
}  
</style>  
</head>  
<body>
```

```
<h1>This is a visible heading</h1>  
<h1 class="hidden">This is a hidden  
heading</h1>  
<p>Notice that the h1 element with  
display: none; does not take up any  
space.</p>
```

This is a visible heading

Notice that the h1 element with display: none; does not take up any space.

Any Questions?