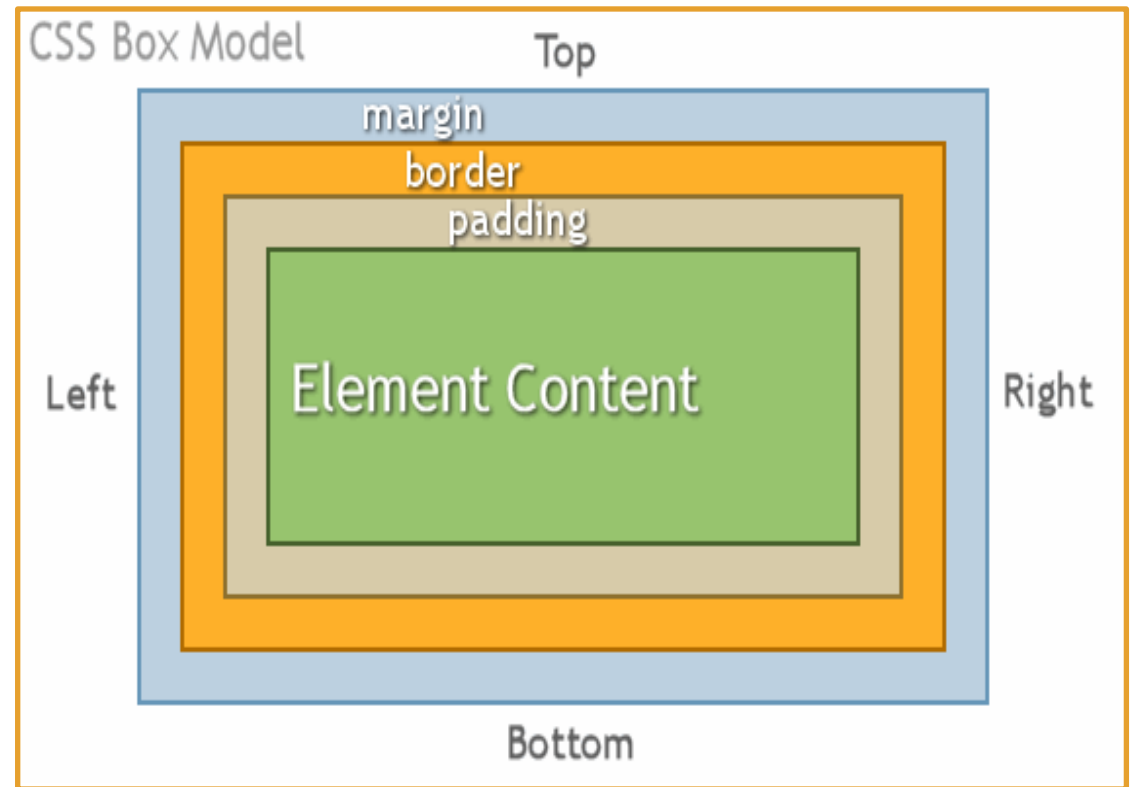# Box Model

.NET

A browser's rendering engine represents each element as a rectangular box according to the standard **CSS basic box model**. *CSS determines the size, position, and properties of these boxes.*

CSS - Box Model

The CSS *'Box Model'* is the way that all HTML *elements* are defined. The *Box Model* is made up of 4 different concentric <u>boxes</u>.

- *Content* - this is the actual text or image
- *Padding* - space between content and border
- *Border* - space between the padding and the margin. The border width, style, and color properties may be set
- *Margin* – the invisible space between the end of one element and the start of another
- Remember:
  - C.P.B.M. => Create a Pretty Box Model!

CSS Box Model

Top

margin

border

padding

Left

Element Content

Right

Bottom

CSS - Box Model Example

```html
<!DOCTYPE html>
<html>
<head>
<style>
div {
  background-color: lightgrey;
  width: 300px;
  border: 15px solid green;
  padding: 50px;
  margin: 20px;
}
</style>
</head>
<body>

<h2>Demonstrating the Box Model</h2>

<p>The CSS box model is essentially a box that wraps around ev
consists of: borders, padding, margins, and the actual conten

<div>This text is the content of the box. We have added a 50px
15px green border. Ut enim ad minim veniam, quis nostrud exerc
nisi ut aliquip ex ea commodo consequat. Duis aute irure dolo
voluptate velit esse cillum dolore eu fugiat nulla pariatur. I
cupidatat non proident, sunt in culpa qui officia deserunt mol
</div>


</body>
</html>
```
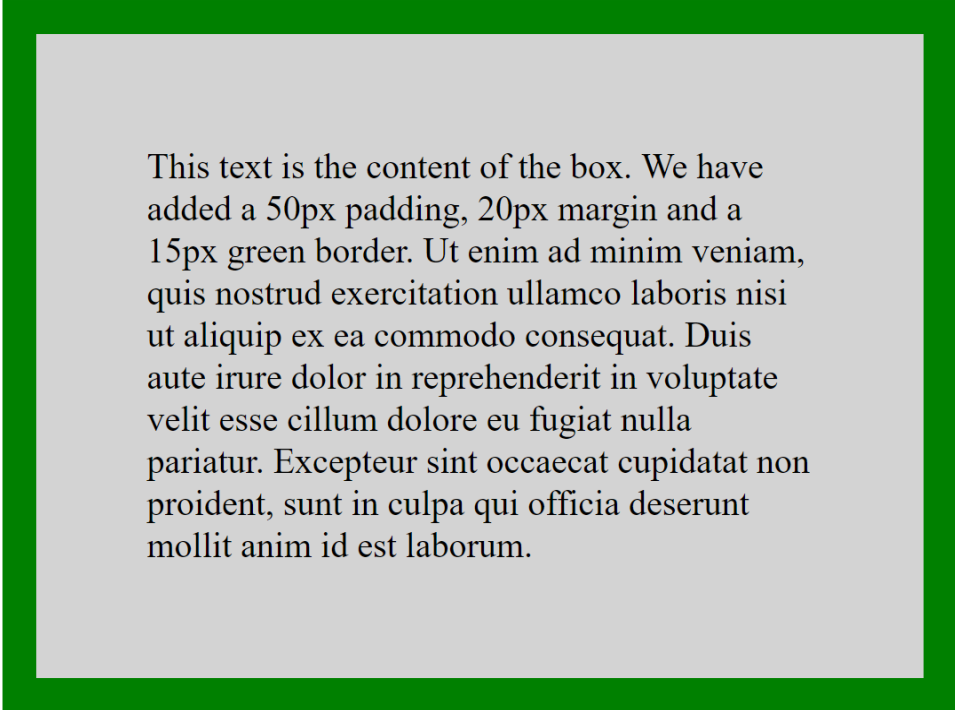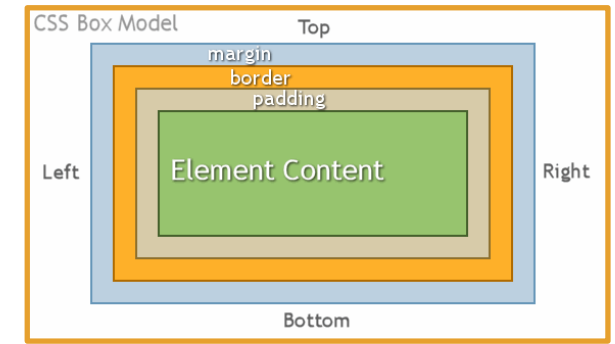
Demonstrating the Box Model

The CSS box model is essentially a box that wraps around every HTML elemen
margins, and the actual content.

This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

CSS Box Model – Example

In order to correctly set the width and height of an element, you must know how the box model works.

```
div {
    background-color: lightgrey;
    width: 300px;
    border: 15px solid green;
    padding: 50px;
    margin: 20px;
}
```

300px (width)
+ 30px (left + right border)
+ 100px (left + right padding)
+ 40px (left + right margin)
= 470px total element width

Margin is the only part if the Box Model that can have a negative value.

margins, and the actual content.

margin

border

padding

This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

width

CSS Box Model
Top
margin
border
padding
Element Content
Left
Right
Bottom

CSS Box Model – Sizing Explained

In CSS, the sides of an element can be sized and styled individually.

- If there is only <u>one</u> component value, that value applies to all sides.

```
.cssdemo{
  width: 150; /*overall width of element*/
  background-color:  pink; /*content background*/
  border: 50px solid  red;/**/
  margin: 0px;
}
```

this is h1

- If there are <u>two</u> values, the top and bottom margins are set to the first value and the right and left margins are set to the second.

```
.cssdemo{
  width: 150;
  border-style: solid;
  border-color:  red;
  border-width: 100px 25px;
}
```

this is h1

CSS Box Model – Sizing Explained

https://developer.mozilla.org/en-US/docs/Web/CSS/Shorthand_properties

- If there are <u>three</u> values, the top is set to the first value, the left and right are set to the second, and the bottom is set to the third.

```
.cssdemo{
  width: 150;
  border-style: solid;
  border-color:  ▢red;
  border-width: 100px 75px 25px;
}
```

this is h1

- If there are <u>four</u> values, they apply to the top, right, bottom, and left, respectively.

```
.cssdemo{
  width: 150;
  border-style: solid;
  border-color:  ▢red;
  border-width: 100px 75px 50px 25px;
}
```

this is h1