

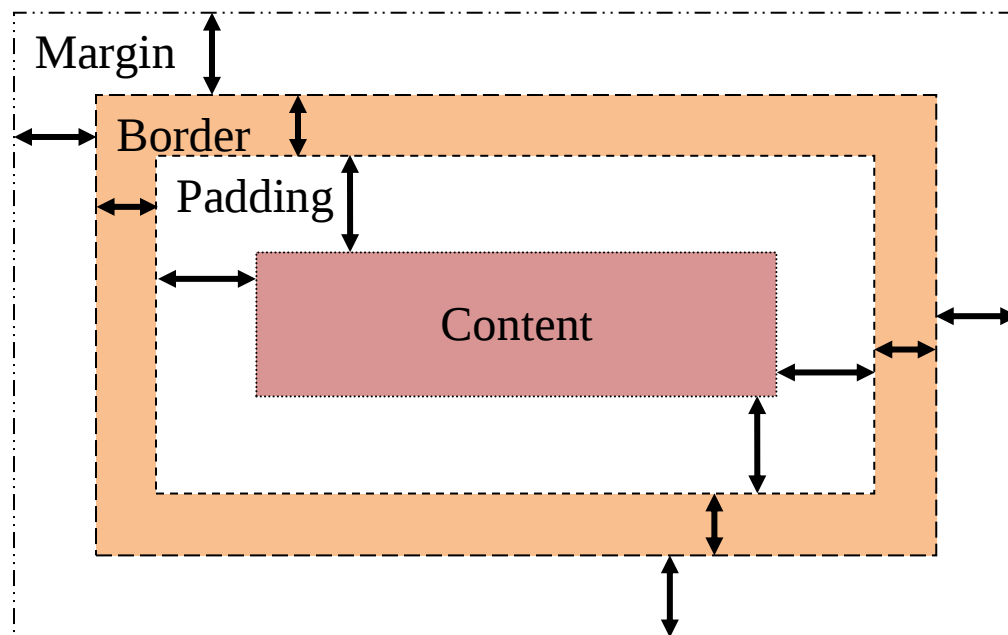
Course Name: **O Level (1stSem)**
Topic: **CSS – Box Model (Part 13)**

Subject **Web Designing & Publishing (WDP)**
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CSS – Box Model

The box model is concerned with the height and width of an element that is rendered by the browser on the screen. An html element wraps some space around it other than its actual width and height.

The HTML element has its own actual height and width, and then wraps padding area, then wraps border area, then wraps margin area. That's why the visible height and width of element is just bigger than its actual height and width. It can be understood by following figure:



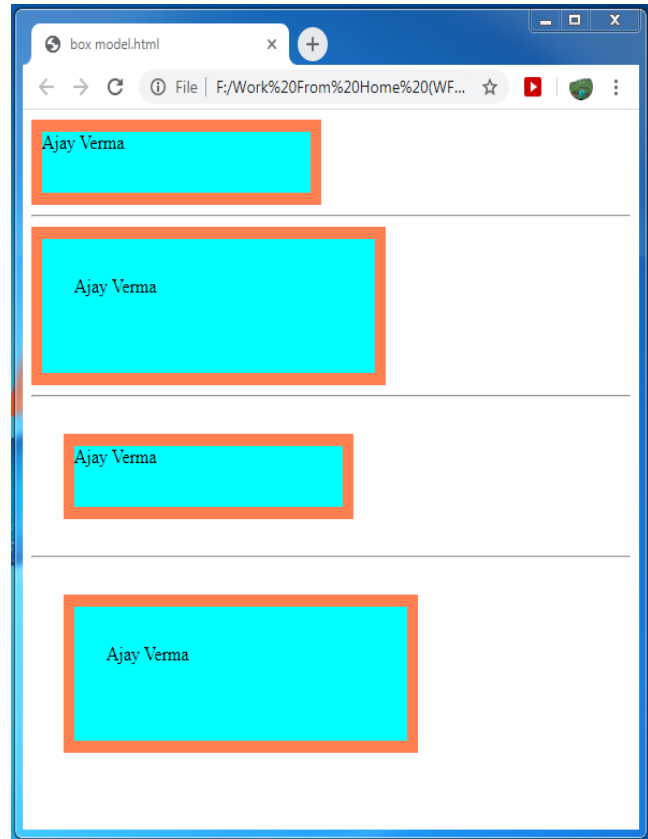
Visible Width= Content's Width + left and right border + left and right padding + left and right margin

Visible Height= Content's height + top and bottom border + top and bottom padding + top and bottom margin

Example – Box model

```
<html>
<head>
<style>
#div1{
    height:80px;
    width:250px;
    border: 10px solid coral;
    background-color:aqua;
}
#div2{
    height:80px;
    width:250px;
    padding:30px;
    border: 10px solid coral;
    background-color:aqua;
}
#div3{
    height:80px;
    width:250px;
    margin:30px;
    border: 10px solid coral;
    background-color:aqua;
}
#div4{
    height:80px;
    width:250px;
    padding:30px;
    margin:30px;
    border: 10px solid coral;
    background-color:aqua;
}
</style>
</head>
<body>
<div id="div1"> Ajay Verma </div><hr>
<div id="div2"> Ajay Verma </div><hr>
<div id="div3"> Ajay Verma </div><hr>
<div id="div4"> Ajay Verma </div>
</body>/html>
```

Output:



Explanation:

All four <div> has equal height (80px) and width (250px), but its visible height and width in browser looks different due to border, padding and margin area.

In div1:

width: 250px(element) +10px(left border) +10px(right border)

height: 80px (element) + 10px(top border) + 10px (bottom border)

In div2:

width: $250\text{px}(\text{element}) + 10\text{px}(\text{left border}) + 10\text{px}(\text{right border}) + 30\text{px}(\text{left padding}) + 30\text{px}(\text{right padding})$

height: $80\text{px}(\text{element}) + 10\text{px}(\text{top border}) + 10\text{px}(\text{bottom border}) + 30\text{px}(\text{top padding}) + 30\text{px}(\text{bottom padding})$

In div3:

width: $250\text{px}(\text{element}) + 10\text{px}(\text{left border}) + 10\text{px}(\text{right border}) + 30\text{px}(\text{left margin}) + 30\text{px}(\text{right margin})$

height: $80\text{px}(\text{element}) + 10\text{px}(\text{top border}) + 10\text{px}(\text{bottom border}) + 30\text{px}(\text{top margin}) + 30\text{px}(\text{bottom margin})$

In div4:

width: $250\text{px}(\text{element}) + 10\text{px}(\text{left border}) + 10\text{px}(\text{right border}) + 30\text{px}(\text{left padding}) + 30\text{px}(\text{right padding}) + 30\text{px}(\text{left margin}) + 30\text{px}(\text{right margin})$

height: $80\text{px}(\text{element}) + 10\text{px}(\text{top border}) + 10\text{px}(\text{bottom border}) + 30\text{px}(\text{top padding}) + 30\text{px}(\text{bottom padding}) + 30\text{px}(\text{top margin}) + 30\text{px}(\text{bottom margin})$



box-sizing property

This property is used to define how to calculate height and width property. It can have values:

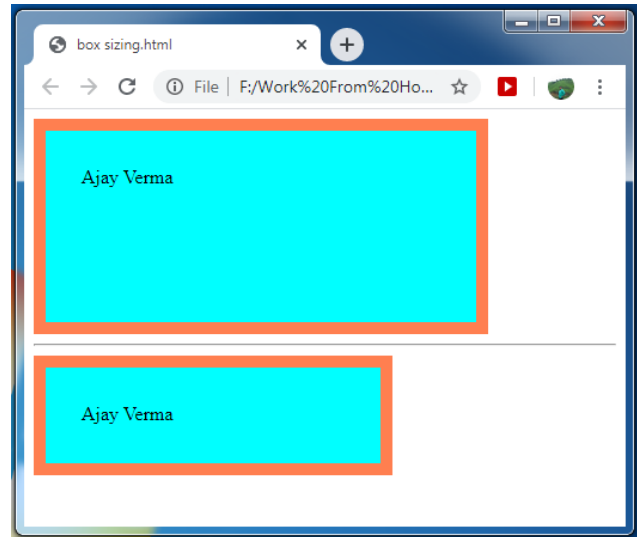
border-box: While calculating height and width, the content, padding and border's height and width are included.

content-box: It is default value. Only content's height and width are included. It does not include padding and border height and width.

Example : box-sizing

```
<html>
<head>
<style>
#div1{
    height:100px;
    width:300px;
    padding:30px;
    border: 10px solid coral;
    background-color:aqua;
    box-sizing: content-box;
}
#div2{
    height:100px;
    width:300px;
    padding:30px;
    border: 10px solid coral;
    background-color:aqua;
    box-sizing: border-box;
}
</style>
</head>
<body>
<div id="div1"> Ajay Verma </div><hr>
<div id="div2"> Ajay Verma </div>
</body>
</html>
```

Output:



Explanation:

In div1:

Height and width is calculated using only content's height and width. Border, padding's height and width are other than this.

In div2:

Height and width is calculated including content, border and padding's height and width.

Exercise:

1. What is the use of box-sizing property of CSS? Explain with example.

