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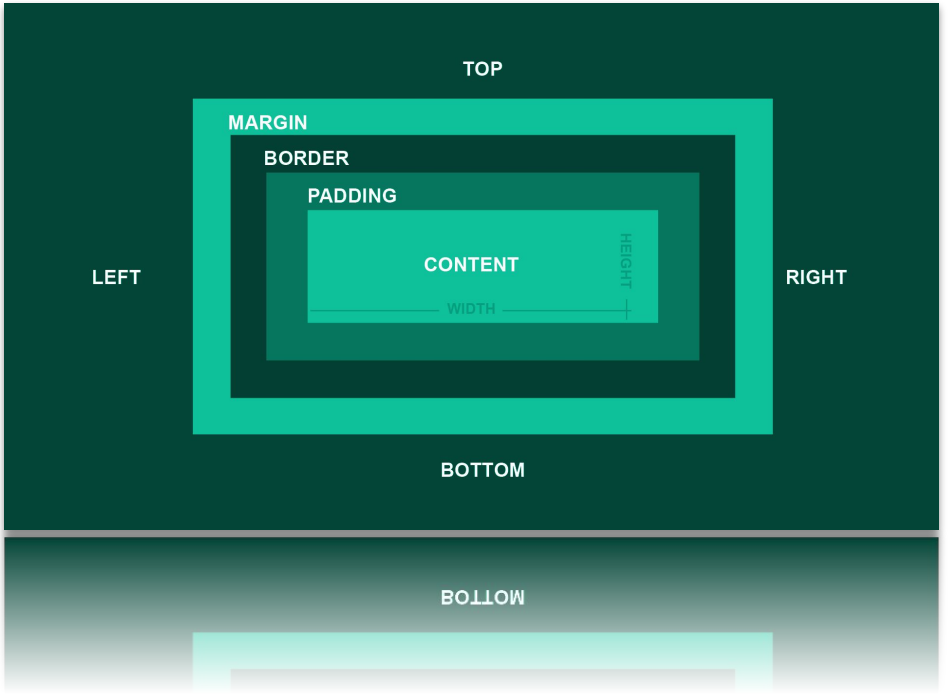
CSS Box Model



By Anubhav

Box Model

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- Box model helps you to understand how elements are positioned and displayed on a website.
- All elements on a web page are interpreted by the browser as “living” inside of a box. This is what is meant by the box model.
- The box model includes:
  - The dimensions of an element’s box.
  - The borders of an element’s box. (border of element box is already learnt in the last topic)
  - The paddings of an element’s box.
  - The margins of an element’s box.

Box Model Properties

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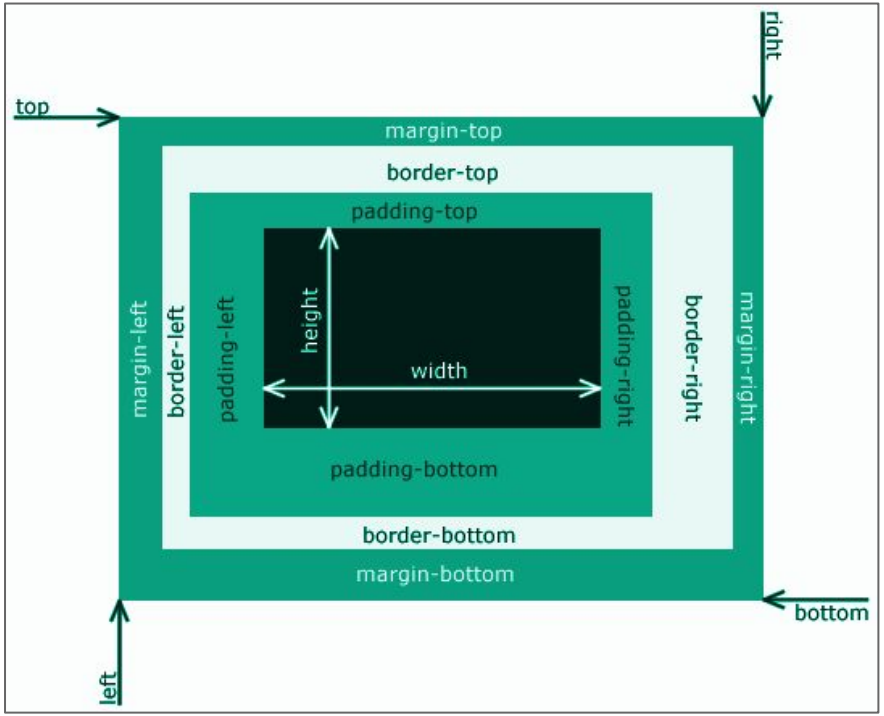

Box Model Properties

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- The content of any HTML element has two dimensions width and height.
- The dimension of the element can be modified with the properties width and height.
- Example:

```
#main {
 width: 400px;
 height: 1000px;
}
```

Borders

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- A *border* is a line that surrounds an element, like a frame around a painting.

- Different styles, width, color, radius can be kept for HTML elements with help of border properties.

    - border-style.
    - border-width.
    - border-color.
    - border-radius.

Padding

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- The space between the content and the border of the box is known as the padding.
- For example, padding is a space between the picture and it’s frame.
- The space can be modified by using the padding property in CSS.
- Example:

```
#main {
 padding: 40px;
}
```

Padding

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- The padding property is often used to expand the background color and make the content look spacious.

- The padding property can be specifically used to all four sides:

    - padding-top: 40px;
    - padding-right: 30px;
    - padding-bottom: 20px;
    - padding-left: 10px;

Padding

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- Padding shorthand property let's you specify all the padding properties as values on a single line.

- 4 values- Example: padding: 6px 11px 4px 9px;

    - padding-top: 6px;
    - padding-right: 11px;
    - padding-bottom: 4px;
    - padding-left: 9px;

Padding

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- 3 values - Example: padding: 5px 10px 20px;
    - padding-top: 5px;
    - padding-right: 10px; and padding-left: 10px;
    - padding-bottom: 20px;
- 2 values - Example: padding: 5px 10px;
    - padding-top: 5px; and padding-bottom: 5px;
    - padding-right: 10px; and padding-left: 10px;

Margin

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- Margin refers to the space directly outside the box, or margin can be referred to the space between the border of two elements.

- The margin property of the CSS is used to specify the size of the space between the borders of two elements.

- Example:

```
P{
margin: 20px;
}
```

Margin Shorthand Property

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- 4 values- Example: padding: 6px 11px 4px 9px;
  - where, margin-top: 6px; margin-right: 11px; margin-bottom: 4px; margin-left: 9px;
- 3 values - Example: margin: 5px 10px 20px; where,
  - margin-top: 5px;
  - margin-right: 10px; and margin-left: 10px;
  - margin-bottom: 20px;
- 2 values - Example: margin: 5px 10px;
  - margin-top: 5px; and margin-bottom: 5px;
  - margin-right: 10px; and margin-left: 10px;

Margin (margin: auto;)

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- The margin property also allows you to center content, with help of the value “auto”.
- Example:

```
div.headline {
  width: 400px;
  margin: 0 auto;
}
```

- The top and bottom margin of the div element will be set to 0.

- The auto value instructs the browser to adjust the left and right margins until the element is centered within its containing element.

Margin Collapse

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- padding is space added inside an element's border, while margin is space added outside an element's border.

- One additional difference is that top and bottom margins, also called vertical margins, **collapse**, while top and bottom padding does not.

- Horizontal margins (left and right), like padding, are always displayed and added together.

Margin Collapse

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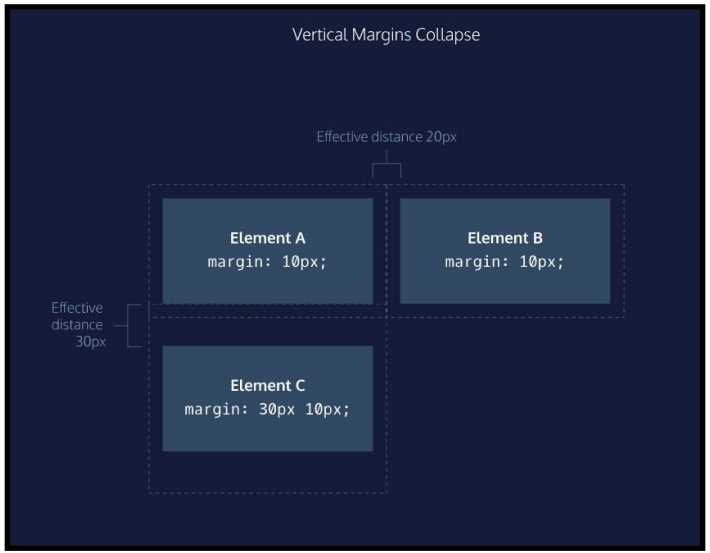
- Example:

```
#elementa {
  margin: 10px;
}

#elementb {
  margin: 10px;
}

#elementc {
  margin: 30px 10px;
}
```



Maximum and Minimum Width and Height

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- The web page can be viewed through displays of differing screen size, the content on the web page can suffer from those changes in size.
- To avoid this problem, CSS offers two properties that can limit how narrow or how wide an element's box can be sized to:
  - min-width—this property ensures a minimum width of an element's box.
  - max-width—this property ensures a maximum width of an element's box.

- Example:

```
p
{min-width: 300px;
 max-width: 600px;
}
```

Maximum and Minimum Width and Height

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- Similar to width, You can also limit the minimum and maximum *height* of an element:
  - min-height — this property ensures a minimum height for an element's box.
  - max-height — this property ensures a maximum height of an element's box.
  - Example:

```
p {
  min-height: 150px;
  max-height: 300px;
}
```

Overflow

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The overflow property controls what happens to content that spills, or overflows, outside its box. The most commonly used values are:

- hidden—when set to this value, any content that overflows will be hidden from view.
- scroll—when set to this value, a scrollbar will be added to the element's box so that the rest of the content can be viewed by scrolling.
- visible—when set to this value, the overflow content will be displayed outside of the containing element. Note, this is the default value.

Overflow

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- Example:

```
p {
  overflow: scroll;
}
```