Ex-5

CSS contd.

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

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

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
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;}
p.ridge {border-style: ridge;}
p.inset {border-style: inset;}
p.outset {border-style: outset;}
p.none {border-style: none;}
p.hidden {border-style: hidden;}
p.mix {border-style: dotted dashed solid double;}
</style>
</head>
```

Example-contd.

```
<body>
<h2>The border-style Property</h2>
<p>This property specifies what kind of border to display:</p>
<p class="dotted">A dotted border.</p>
<p class="dashed">A dashed border.</p>
<p class="solid">A solid border.</p>
<p class="double">A double border.</p>
<p class="groove">A groove border.</p>
<p class="ridge">A ridge border.</p>
<p class="inset">An inset border.</p>
<p class="outset">An outset border.</p>
<p class="none">No border.</p>
<p class="hidden">A hidden border.</p>
<p class="mix">A mixed border.</p>
</body>

</html>
```

CSS Margins

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

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

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

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    margin-top: 100px;
    margin-bottom: 100px;
    margin-right: 150px;
    margin-left: 80px;
    background-color: lightblue;
}
</style>
</head>
<body>

<h2>Using individual margin properties</h2>

<div>This div element has a top margin of 100px, a right margin of 150px, a bottom margin of 100px, and a left margin of 80px.</
div>

</body>
</html>
```

CSS Margin: shorthand

If the `margin` property has four values:

- **margin: 25px 50px 75px 100px;**
  - top margin is 25px
  - right margin is 50px
  - bottom margin is 75px
  - left margin is 100px

If the `margin` property has three values:

- **margin: 25px 50px 75px;**
  - top margin is 25px
  - right and left margins are 50px
  - bottom margin is 75px

If the `margin` property has two values:

- **margin: 25px 50px;**
  - top and bottom margins are 25px
  - right and left margins are 50px

If the `margin` property has one value:

- **margin: 25px;**
  - all four margins are 25px

The auto Value

You can set the margin property to `auto` to horizontally center the element within its container. The element will then take up the specified width, and the remaining space will be split equally between the left and right margins.

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    width:300px;
    margin: auto;
    border: 1px solid red;
}
</style>
</head>
<body>
<h2>Use of margin:auto</h2>
<p>You can set the margin property to auto to horizontally center the element within its container. The element will then take up the specified width, and the remaining space will be split equally between the left and right margins:</p>
<div>
This div will be horizontally centered because it has margin: auto;
</div>
</body>
</html>
```

The inherit Value

This example lets the left margin of the <p class="ex1"> element be inherited from the parent element ( ):

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
   border: 1px solid red;
   margin-left: 100px;
}

p.ex1 {
   margin-left: inherit;
}
</style>
</head>
<body>

<h2>Use of the inherit value</h2>
<p>Let the left margin be inherited from the parent element:</p>
<div>
<p class="ex1">This paragraph has an inherited left margin (from the div element).</p>
</div>
</body>
</html>
```

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).

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

Note: Negative values are not allowed.

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    border: 1px solid black;
    background-color: lightblue;
    padding-top: 50px;
    padding-right: 30px;
    padding-bottom: 50px;
    padding-left: 80px;
}
</style>
</head>
<body>
<h2>Using individual padding properties</h2>
<div>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.</div>
</body>
</html>
```

CSS Padding: shorthand

- If the `padding` property has four values: padding: 25px 50px 75px 100px;
  - top padding is 25px
  - right padding is 50px
  - bottom padding is 75px
  - left padding is 100px
- If the `padding` property has three values: padding: 25px 50px 75px;
  - top padding is 25px
  - right and left paddings are 50px
  - bottom padding is 75px
- if the `padding` property has two values: padding: 25px 50px;
  - top and bottom paddings are 25px
  - right and left paddings are 50px
- If the `padding` property has one value: padding: 25px;
  - all four paddings are 25px

Padding and Element Width

The CSS `width` property specifies the width of the element's content area. The content area is the portion inside the padding, border, and margin of an element (the box model).

So, if an element has a specified width, the padding added to that element will be added to the total width of the element. This is often an undesirable result.

In the following example, the element is given a width of 300px. However, the actual rendered width of the element will be 350px (300px + 25px of left padding + 25px of right padding).

Note: To keep the width at 300px, no matter the amount of padding, you can use the `box-sizing` property. This causes the element to maintain its width; if you increase the padding, the available content space will decrease.

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div.ex1 {
   width: 300px;
   background-color: yellow;
}

div.ex2 {
   width: 300px;
   padding: 25px;
   background-color: lightblue;
}
</style>
</head>
<body>

<h2>Padding and element width</h2>

<div class="ex1">This div is 300px wide.</div>
<br>

<div class="ex2">The width of this div is 350px, even though it is defined as 300px in the CSS.</div>

</body>
```

CSS Height and Width

The `height` and `width` properties are used to set the height and width of an element.

The `height` and `width` can be set to auto (this is default. Means that the browser calculates the height and width), or be specified in *length values*, like px, cm, etc., or in percent (%) of the containing block.

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    height: 200px;
    width: 50%;
    background-color: powderblue;
}
</style>
</head>
<body>
<h2>Set the height and width of an element</h2>
<p>This div element has a height of 200px and a width of 50%:</p>
<div></div>
</body>
</html>
```

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.

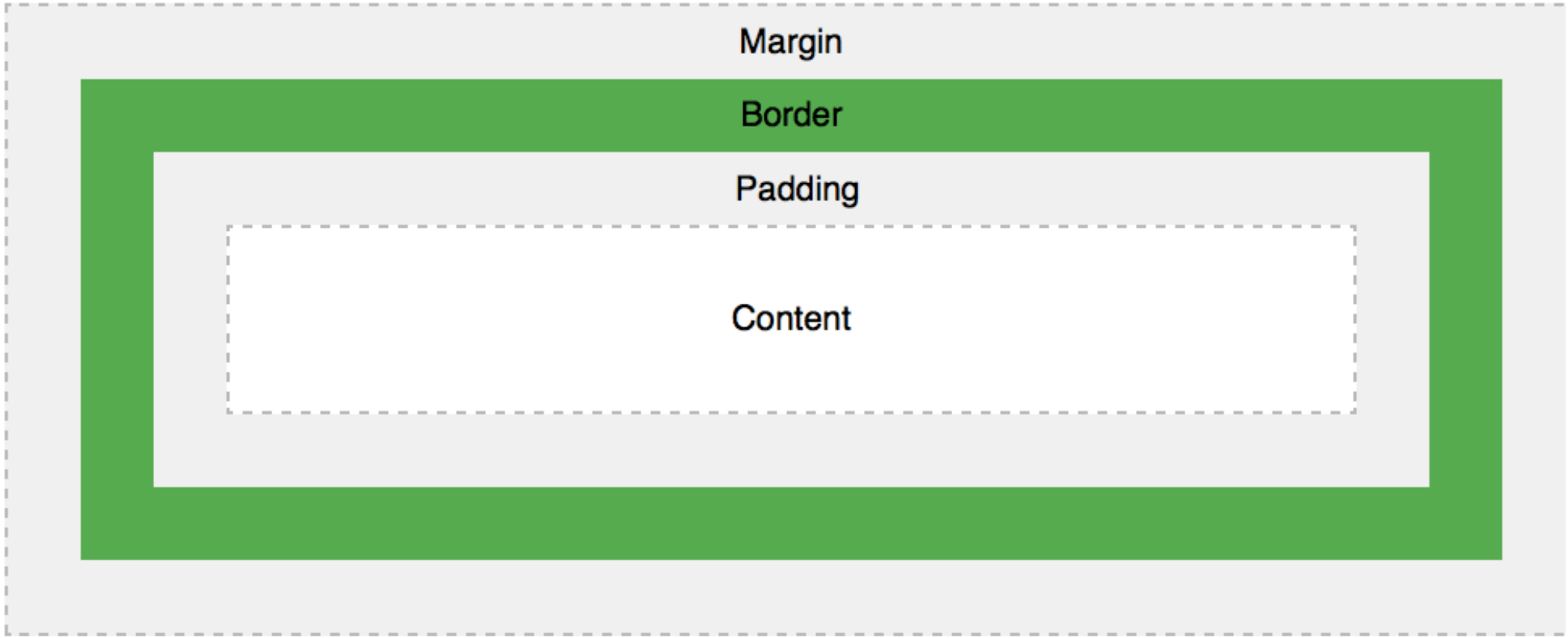
The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

Explanation of the different parts:

- **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

The box model allows us to add a border around elements, and to define space between elements.

The Box Model



Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    background-color: lightgrey;
    width: 300px;
    border: 25px solid green;
    padding: 25px;
    margin: 25px;
}
</style>
</head>
<body>
<h2>Demonstrating the Box Model</h2>
<p>The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.</p>
<div>This text is the actual content of the box. We have added a 25px padding, 25px margin and a 25px 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.</div>
</body>
</html>
```

Do it yourself

- Margin collapse