The id Selector

The id selector is used to specify a style for a single, unique element.

```
<html>
<head>
<style type="text/css">
#para1
{   text-align:center;
    color:red;   }
#para2
{  text-align:right;
   color:blue;  }
</style> </head>
<body>
<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the
  style.</p>
<p id="para2"> The id selector uses the
  id attribute of the HTML element, and
  is defined with a "#".The style rule
  below will be applied to the element
  with id="para2" </p>
</body>
</html>
```

The class Selector

- It is used to specify a style for a group of elements.
- It uses the HTML class attribute, and is defined with a ".“
- **Eg:** .center {text-align:center;}
- You can also specify that only specific HTML elements should be affected by a class.
- **Eg:** p.center {text-align:center;}

```
<html>
<head>
<style type="text/css">
.redcenter
{   text-align:center;
    color:red;  }
</style></head>
<body>
<h1 class="redcenter">Center-
  aligned heading</h1>
<p class="redcenter">Center-
  aligned paragraph.</p>
</body></html>
```

CSS - Background Properties

- CSS background properties are used to define the background effects of an element.
- CSS properties used for background effects:
  - background-color
  - background-image
  - background-repeat
  - background-attachment
  - background-position

background-color

- body {background-color:#b0c4de;}
- p {background-color:#e0ffff;}
- div {background-color:#b0c4de;}
- h4 { background-color: white; }
- ul { background-color: rgb(149, 206, 145); }

background-image

- By default, the image is repeated so it covers the entire element

```
body {background-image:url("paper.gif");}
```

- You can have a background image repeat vertically (y-axis), horizontally (x-axis), in both directions, or in neither direction.

```
p {   background-image: url("smallPic.jpg");
      background-repeat: repeat; }
h4 {  background-image: url("../smallPic.jpg");
      background-repeat: repeat-y;}
ol {  background-image: url("../image/smallPic.jpg");
      background-repeat: repeat-x;}
ul {  background-image: url("c:/IWP/image/smallPic.jpg");
      background-repeat: no-repeat;}
```

Background-attachment

- You may choose to have your background scroll naturally, or to have it in a fixed position.
- body {

  background-image: url(smallPic.jpg);

  background-attachment: fixed; }
- body {

  background-image: url(smallPic.jpg);

  background-attachment: scroll;}

background-position

- If you would like to define where exactly an image appears within an HTML element, you may use CSS's background-position.
- Three different ways of defining position:
  - length, percentages, and keywords.
- p { background-image: url(smallPic.jpg);
  background-position: 20px 10px; }
  h4 { background-image: url(smallPic.jpg);
  background-position: 30% 30%; }
  ol { background-image: url(smallPic.jpg);
  background-position: top center; }
- The location of the image will be (A)px from the left of the screen and (B)px from the top of the screen.

Background - Shorthand property

- To shorten the code, it is also possible to specify all the properties in one single property. This is called a shorthand property.

  body {background:#ffffff url("img_tree.png") no-repeat right top;}

- When using the shorthand property the order of the property values are:
  - background-color
  - background-image
  - background-repeat
  - background-attachment
  - background-position
- It does not matter if one of the property values is missing, as long as the ones that are present are in this order.

CSS – Text Properties

Text Color

- The color property is used to set the color of the text.

```
body{color:blue;}
h1{color:#00ff00;}
h2 {color:rgb(255,0,0);}
```

Text Alignment

- The text-align property is used to set the horizontal alignment of a text.
- Text can be centered, or aligned to the left or right, or justified.
- When text-align is set to "justify", each line is stretched so that every line has equal width, and the left and right margins are straight (like in magazines and newspapers).

```
h1 {text-align:center;}
p.main {text-align:justify;}
```

Text Decoration

- The text-decoration property is used to set or remove decorations from text.

```
h1 {text-decoration:overline;}
h2 {text-decoration:line-through;}
h3 {text-decoration:underline;}
h4 {text-decoration:blink;}
```

a {text-decoration:none;} → remove underlines from links

- **Note:** The "blink" value is not supported in IE, Chrome, or Safari.

- **Text Transformation**

  It can be used to turn everything into uppercase or lowercase letters, or capitalize the first letter of each word.

  p {text-transform:uppercase;} → lowercase or capitalize

- **Text Indentation**

  It is used to specify the indentation of the first line of a text.

  p {text-indent:50px;}

- **Word Spacing**

  It is used to specify the exact value of the spacing between your words.

  p { word-spacing: 10px; }

- **Letter Spacing**

  It is used to specify the exact value of the spacing between your letters.

  p { letter-spacing: 3px; }

- **Line Height**

  The line-height property is used to specify the space between lines:

  ```
  p {line-height:1.8}
  ```

- **Text direction**

  The direction property is used to change the text direction of an element:

  ```
  p {direction:rtl;}
  ```

Font Properties

Order must be: style, variant weight, size, line height,font family(s)

p{font:font-style font-variant font-weight font-size font-family}

Font Family

- If the name of a font family is more than one word, it must be in quotation marks, like font-family: "Times New Roman".
- More than one font family is specified in a comma-separated list:

p{font-family:"Times New Roman";}

Font Style

- This property has three values:
  - normal - The text is shown normally
  - italic - The text is shown in italics
  - oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

p{font-style:normal;}

Font Size - sets the size of the text.

```
p {font-size:14px;}
p {font-size:0.875em;} /* 14px/16=0.875em */
p { font-size: 20%; }
```

- The default text size in browsers is 16px. So, the default size of 1em is 16px.

Font Color

```
h4 { color: red; }
```

Font Weight

- If you want to control the weight of your font (its thickness), using font weight is the best way to go about it.
- You only use font-weight in multiples of 100 (e.g. 200, 300, etc) .The values range from 100 (thin)-900 (thick).

```
p { font-weight: 100; }
ul{ font-weight: bolder; }
```

- Available key terms for font-weight: ***bold or bolder, lighter and normal.***

Font Variant - allows you to convert your font to all small caps to upper case with small size font.

```
p { font-variant: small-caps; }
p { font-variant: normal; }
```

List Properties

PropertyDescription

- list-style-image → Specifies an image as the list-item marker
- list-style-position → Specifies if the list-item markers should appear ***inside*** or ***outside*** the content flow
- list-style-type → Specifies the type of list-item marker
- list-style → Sets all the properties for a list in one declaration

list-style: *list-style-type* | *list-style-position* | *list-style-image*

```
<html> <head>
<style type="text/css">
ul.a {list-style-type:circle;}
ul.b {list-style-type:disc;}
ul.c {list-style-type:square;}
ol.f {list-style-type:decimal;}
ol.g {list-style-type:decimal-leading-
   zero;}
ol.n {list-style-type:lower-alpha;}
ol.q {list-style-type:lower-roman;}
ol.r {list-style-type:upper-alpha;}
ol.t {list-style-type:upper-roman;}
ol.u {list-style-type:none;}
ol.v {list-style-image:
   url("sqpurple.gif");}
</style> </head>
<body>
<ul class="a">
<li>Circle type</li> </ul>
<ul class="b">
<li>Disc type</li> </ul>
```

```
<ul class="c">
<li>Square type</li></ul>
<ol class="f">
<li>Decimal type</li></ol>
<ol class="g">
<li>Decimal-leading-zero type</li>
</ol>
<ol class="n">
<li>Lower-alpha type</li> </ol>
<ol class="q">
<li>Lower-roman type</li>
</ol>
<ol class="r">
<li>Upper-alpha type</li>
</ol>
<ol class="t">
<li>Upper-roman type</li>
</ol>
<ol class="u">
<li>None type</li>
</ol>
<ol class="v">
<li>Image type</li>
</ol>
</body> </html>
```

width and height property

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

```
<style>
div {
   height: 100px;
   width: 500px;
   background-color: powderblue;
}
</style>
<body>
<h2>Set the height and width of an element</h2>
<p>This div element has a height of 100px and a width of 500px:</p>
<div></div>
</body>
</html>
```

Table Properties

Table Borders

```
table, th, td
{
border: 1px  solid  red;
}
```

- Notice that the table in the example above has double borders. This is because both the table and the th/td elements have separate borders.
- To display a single border for the table, use the border-collapse property.

Collapse Borders

- The border-collapse property sets whether the table borders are ***collapse*** into a single border or ***separated or intial***:

border-collapse: separate | collapse | initial

```
table
{
border-collapse:collapse;
}
table, td, th
{
        border:1px solid red;
}
```

Table Width and Height

- Width and height of a table is defined by the width and height properties.

```
table
{
width:100%;
}
th
{
height:50px;
}
```

Table Text Alignment

- The text in a table is aligned with the text-align and vertical-align properties.
- The text-align property sets the horizontal alignment, like left, right, or center

```
td
{
text-align:right;
}
```

- The vertical-align property sets the vertical alignment, like top, bottom, or middle:

```
td
{
height:50px;
vertical-align:bottom;
}
```

Table Padding

- To control the space between the border and content in a table, use the padding property on td and th elements:

```
td
{
padding:15px;
}
```

Table Color

- The example below specifies the color of the borders, and the text and background color of th elements:

```
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
```

Table border-spacing

- The distance between the borders of adjacent cells: **border-spacing: *length* | initial**

```
table.ex1 {
border-collapse: separate;
border-spacing: 10px;}
table.ex2 {
border-collapse: separate;
border-spacing: 10px 50px;
}
```

Table caption-side

- The **caption-side** property specifies the placement of a table caption.

  caption-side: top | bottom | initial

-
```
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
```

Table empy-cells

- Sets whether or not to display borders and background on empty cells in a table

empty-cells: show | hide | initial

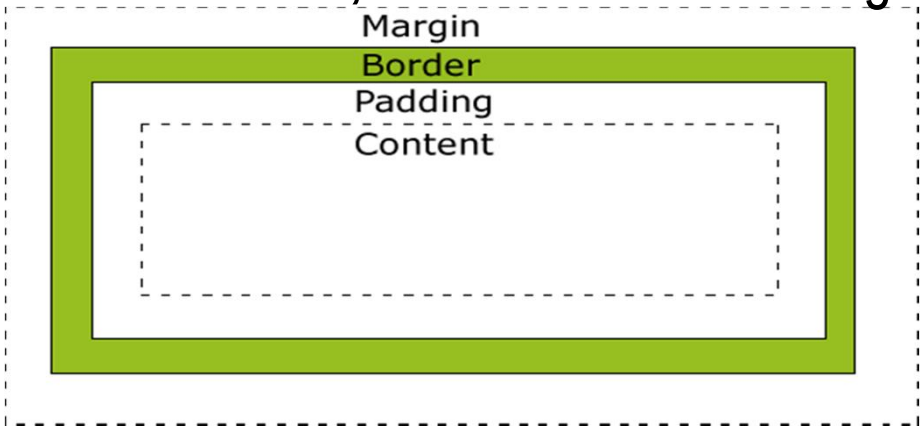
```
table {
    border-collapse: separate;
    empty-cells: hide;
}
```

```
<html> <head>
<style type="text/css">
table
{       border-collapse:collapse;
        width:50%;   }
th
{       height:50px;
        vertical-align:center; }
td
{       text-align:right;          }
table,th,td
{
        border:1px solid red;
}
</style> </head>
<body>
<table>
<tr>
   <th>Student Name</th>
   <th>Seminar Topic</th>
</tr>
<tr>
   <td>Madhusuthanan P</td>
   <td>Internet, Intranet and
        WWW</td>
</tr>
<tr>
   <td>Roopa S</td>
   <td>Internet Protocols</td>
</tr>
</table> </body> </html>
```

BOX MODEL

In CSS, the term "box model" is used when talking about design and layout. It is essentially a box that wraps around HTML elements.

- **Margin** - Clears an area around the border. The margin does not have a background color, it is completely transparent .
- **Border** - A border that goes around the padding and content. The border is affected by the background color of the box.
- **Padding** - Clears an area around the content. The padding is affected by the background color of the box.
- **Content** - The content of the box, where text and images appear.



Width and Height of an Element

- When you set the width and height properties of an element with CSS, you just set the width and height of the **content area**.
- The total width of an element should be calculated like this:

  Total element width = width + left padding + right padding + left border + right border + left margin + right margin
- The total height of an element should be calculated like this:

  Total element height = height + top padding + bottom padding + top border + bottom border + top margin + bottom margin
- Example:

```
width:250px;
padding:10px;
border:5px solid gray;
margin:10px;
```

Font Properties

Order must be: style, variant weight, size, line height,font family(s)

p{font:font-style font-variant font-weight font-size font-family}

Font Family

- If the name of a font family is more than one word, it must be in quotation marks, like font-family: "Times New Roman".
- More than one font family is specified in a comma-separated list:

p{font-family:"Times New Roman";}

Font Style

- This property has three values:
  - normal - The text is shown normally
  - italic - The text is shown in italics
  - oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

p{font-style:normal;}

Font Size - sets the size of the text.

```
p {font-size:14px;}
p {font-size:0.875em;} /* 14px/16=0.875em */
p { font-size: 20%; }
```

- The default text size in browsers is 16px. So, the default size of 1em is 16px.

Font Color

```
h4 { color: red; }
```

Font Weight

- If you want to control the weight of your font (its thickness), using font weight is the best way to go about it.
- You only use font-weight in multiples of 100 (e.g. 200, 300, etc) .The values range from 100 (thin)-900 (thick).

```
p { font-weight: 100; }
ul{ font-weight: bolder; }
```

- Available key terms for font-weight: ***bold or bolder, lighter and normal.***

Font Variant - allows you to convert your font to all small caps to upper case with small size font.

```
p { font-variant: small-caps; }
p { font-variant: normal; }
```

List Properties

PropertyDescription

- list-style-image → Specifies an image as the list-item marker
- list-style-position → Specifies if the list-item markers should appear ***inside*** or ***outside*** the content flow
- list-style-type → Specifies the type of list-item marker
- list-style → Sets all the properties for a list in one declaration

list-style: *list-style-type* | *list-style-position* | *list-style-image*

```
<html> <head>
<style type="text/css">
ul.a {list-style-type:circle;}
ul.b {list-style-type:disc;}
ul.c {list-style-type:square;}
ol.f {list-style-type:decimal;}
ol.g {list-style-type:decimal-leading-
   zero;}
ol.n {list-style-type:lower-alpha;}
ol.q {list-style-type:lower-roman;}
ol.r {list-style-type:upper-alpha;}
ol.t {list-style-type:upper-roman;}
ol.u {list-style-type:none;}
ol.v {list-style-image:
   url("sqpurple.gif");}
</style> </head>
<body>
<ul class="a">
<li>Circle type</li> </ul>
<ul class="b">
<li>Disc type</li> </ul>
```

```
<ul class="c">
<li>Square type</li></ul>
<ol class="f">
<li>Decimal type</li></ol>
<ol class="g">
<li>Decimal-leading-zero type</li>
</ol>
<ol class="n">
<li>Lower-alpha type</li> </ol>
<ol class="q">
<li>Lower-roman type</li>
</ol>
<ol class="r">
<li>Upper-alpha type</li>
</ol>
<ol class="t">
<li>Upper-roman type</li>
</ol>
<ol class="u">
<li>None type</li>
</ol>
<ol class="v">
<li>Image type</li>
</ol>
</body> </html>
```

width and height property

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

```
<style>
div {
   height: 100px;
   width: 500px;
   background-color: powderblue;
}
</style>
<body>
<h2>Set the height and width of an element</h2>
<p>This div element has a height of 100px and a width of 500px:</p>
<div></div>
</body>
</html>
```

Table Properties

Table Borders

```
table, th, td
{
border: 1px  solid  red;
}
```

- Notice that the table in the example above has double borders. This is because both the table and the th/td elements have separate borders.
- To display a single border for the table, use the border-collapse property.

Collapse Borders

- The border-collapse property sets whether the table borders are ***collapse*** into a single border or ***separated or intial***:

border-collapse: separate | collapse | initial

```
table
{
border-collapse:collapse;
}
table, td, th
{
        border:1px solid red;
}
```

Table Width and Height

- Width and height of a table is defined by the width and height properties.

```
table
{
width:100%;
}
th
{
height:50px;
}
```

Table Text Alignment

- The text in a table is aligned with the text-align and vertical-align properties.
- The text-align property sets the horizontal alignment, like left, right, or center

```
td
{
text-align:right;
}
```

- The vertical-align property sets the vertical alignment, like top, bottom, or middle:

```
td
{
height:50px;
vertical-align:bottom;
}
```

Table Padding

- To control the space between the border and content in a table, use the padding property on td and th elements:

```
td
{
padding:15px;
}
```

Table Color

- The example below specifies the color of the borders, and the text and background color of th elements:

```
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
```

Table border-spacing

- The distance between the borders of adjacent cells: **border-spacing: *length* | initial**

```
table.ex1 {
border-collapse: separate;
border-spacing: 10px;}
table.ex2 {
border-collapse: separate;
border-spacing: 10px 50px;
}
```

Table caption-side

- The **caption-side** property specifies the placement of a table caption.

  caption-side: top | bottom | initial

-
```
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
```

Table empy-cells

- Sets whether or not to display borders and background on empty cells in a table

empty-cells: show | hide | initial

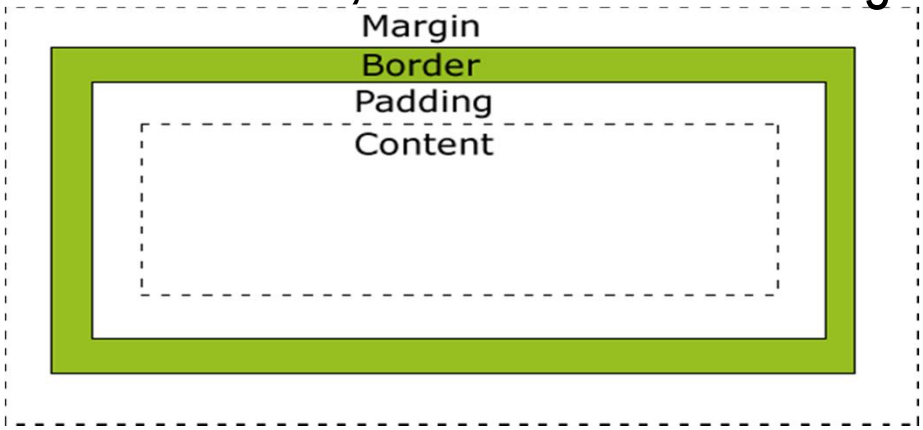
```
table {
    border-collapse: separate;
    empty-cells: hide;
}
```

```
<html> <head>
<style type="text/css">
table
{       border-collapse:collapse;
        width:50%;   }
th
{       height:50px;
        vertical-align:center; }
td
{       text-align:right;          }
table,th,td
{
        border:1px solid red;
}
</style> </head>
<body>
<table>
<tr>
   <th>Student Name</th>
   <th>Seminar Topic</th>
</tr>
<tr>
   <td>Madhusuthanan P</td>
   <td>Internet, Intranet and
        WWW</td>
</tr>
<tr>
   <td>Roopa S</td>
   <td>Internet Protocols</td>
</tr>
</table> </body> </html>
```

BOX MODEL

In CSS, the term "box model" is used when talking about design and layout. It is essentially a box that wraps around HTML elements.

- **Margin** - Clears an area around the border. The margin does not have a background color, it is completely transparent .
- **Border** - A border that goes around the padding and content. The border is affected by the background color of the box.
- **Padding** - Clears an area around the content. The padding is affected by the background color of the box.
- **Content** - The content of the box, where text and images appear.



Width and Height of an Element

- When you set the width and height properties of an element with CSS, you just set the width and height of the **content area**.
- The total width of an element should be calculated like this:

  Total element width = width + left padding + right padding + left border + right border + left margin + right margin
- The total height of an element should be calculated like this:

  Total element height = height + top padding + bottom padding + top border + bottom border + top margin + bottom margin
- Example:

```
width:250px;
padding:10px;
border:5px solid gray;
margin:10px;
```

Browsers Compatibility Issue

- The example above does not display properly in IE8 and earlier versions.
- IE8 and earlier versions includes padding and border in the width, if a **DOCTYPE is NOT declared**.
- To fix this problem, just add a DOCTYPE to the first line of HTML page:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

Border Width

- The border-width property specifies the width of the four borders.(in px, pt, cm, em, etc) or by using one of the three pre-defined values: thin, medium, or thick.
- The border-width property can have from one to four values (for the top border, right border, bottom border, and the left border).

```
border-style: solid;
border-width: 5px;
```

The border property is a **shorthand property** for the following individual border properties:

- border-width
- border-style (required)
- border-color

Border Properties

It allows you to specify the style and color of an element's border.

Border Style

- The border-style property specifies what kind of border to display.
  - dotted
  - dashed
  - solid
  - double
  - groove
  - eidge
  - inset
  - outset

Border Color

- The border-color property is used to set the color of the border. The color can be set by:
- You can also set the border color to "transparent".
- **Note:** The "border-color" property does not work if it is used alone. Use the "border-style" property to set the borders first.

Border - Individual sides

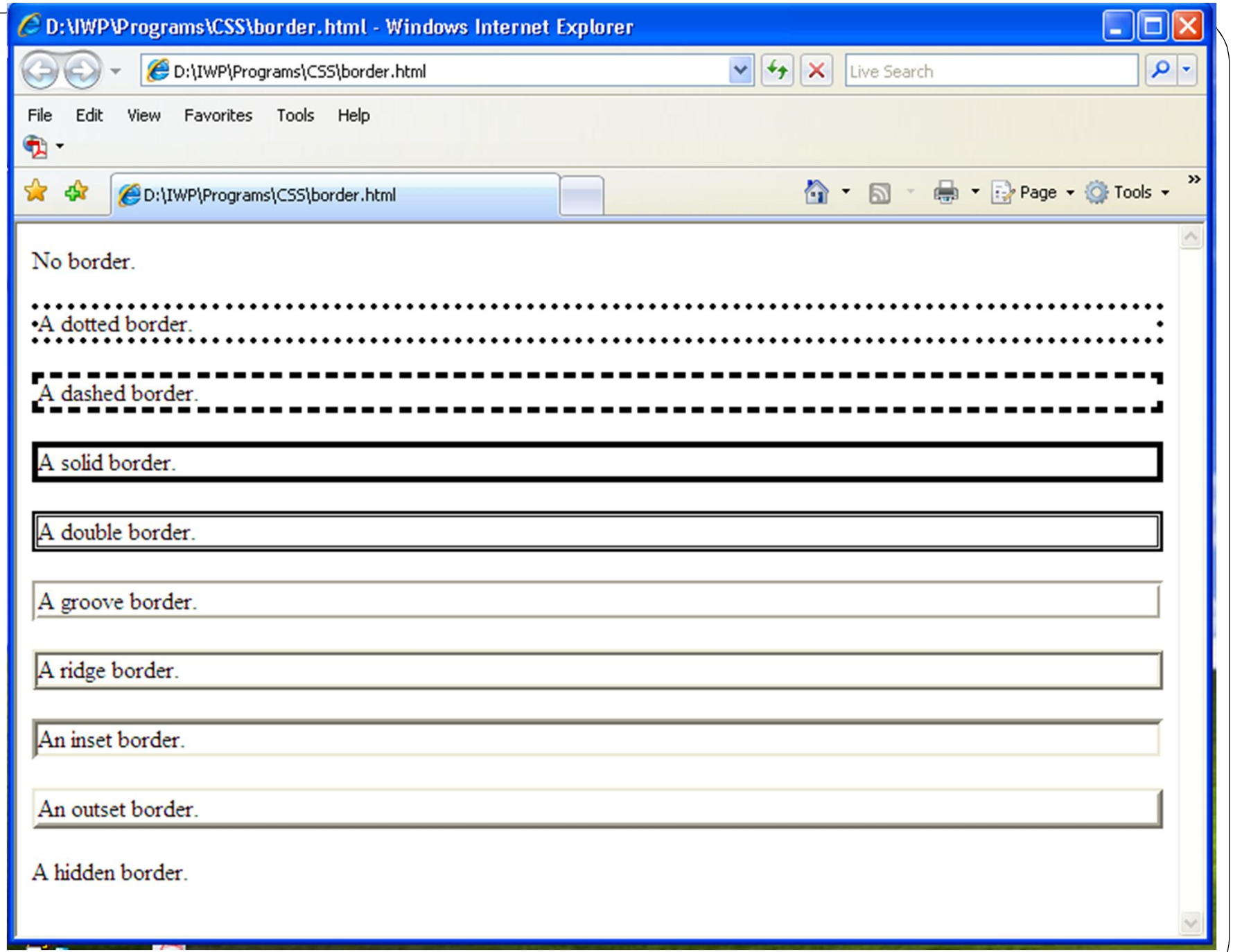
- In CSS it is possible to specify different borders for different sides.

```
p
{
border-top-style:dotted;
border-right-style:solid;
border-bottom-
style:dotted;
border-left-style:solid;
}
```

- The border-style property can have from one to four values.

Example:

- **border-style:dotted solid double dashed;**
  - top border is dotted
  - right border is solid
  - bottom border is double
  - left border is dashed
- **border-style:dotted solid double;**
  - top border is dotted
  - right and left borders are solid
  - bottom border is double
- **border-style:dotted solid;**
  - top and bottom borders are dotted
  - right and left borders are solid
- **border-style:dotted;**
  - all four borders are dotted


D:\IWP\Programs\CSS\border.html - Windows Internet Explorer
D:\IWP\Programs\CSS\border.html
Live Search
File Edit View Favorites Tools Help
D:\IWP\Programs\CSS\border.html
Page Tools
No border.
A dotted border.
A dashed border.
A solid border.
A double border.
A groove border.
A ridge border.
An inset border.
An outset border.
A hidden border.

Border

- border-top
  - border-top-width,border-top-style,border-top-color
- border-right
  - border-right-width,border-right-style,border-right-color
- border-bottom
  - border-bottom-width,border-bottom-style,border-bottom-color
- border-left
  - border-left-width,border-left-style,border-left-color

border-radius - > to add rounded borders to an element

```
p {
   border: 2px solid red;
   border-radius: 5px;
}
```

Margin

- The margin clears an area around an element (outside the border). The margin does not have a background color, and is completely transparent.
- The top, right, bottom, and left margin can be changed independently using separate properties. A shorthand margin property can also be used, to change all margins at once.

```
margin-top:100px;
margin-bottom:100px;
margin-right:50px;
margin-left:50px;
```

Margin - Shorthand property

Example:

- **margin:25px 50px 75px 100px;**
  - top margin is 25px
  - right margin is 50px
  - bottom margin is 75px
  - left margin is 100px
- **margin:25px 50px 75px;**
  - top margin is 25px
  - right and left margins are 50px
  - bottom margin is 75px
- **margin:25px 50px;**
  - top and bottom margins are 25px
  - right and left margins are 50px
- **margin:25px;**
  - all four margins are 25px

Padding

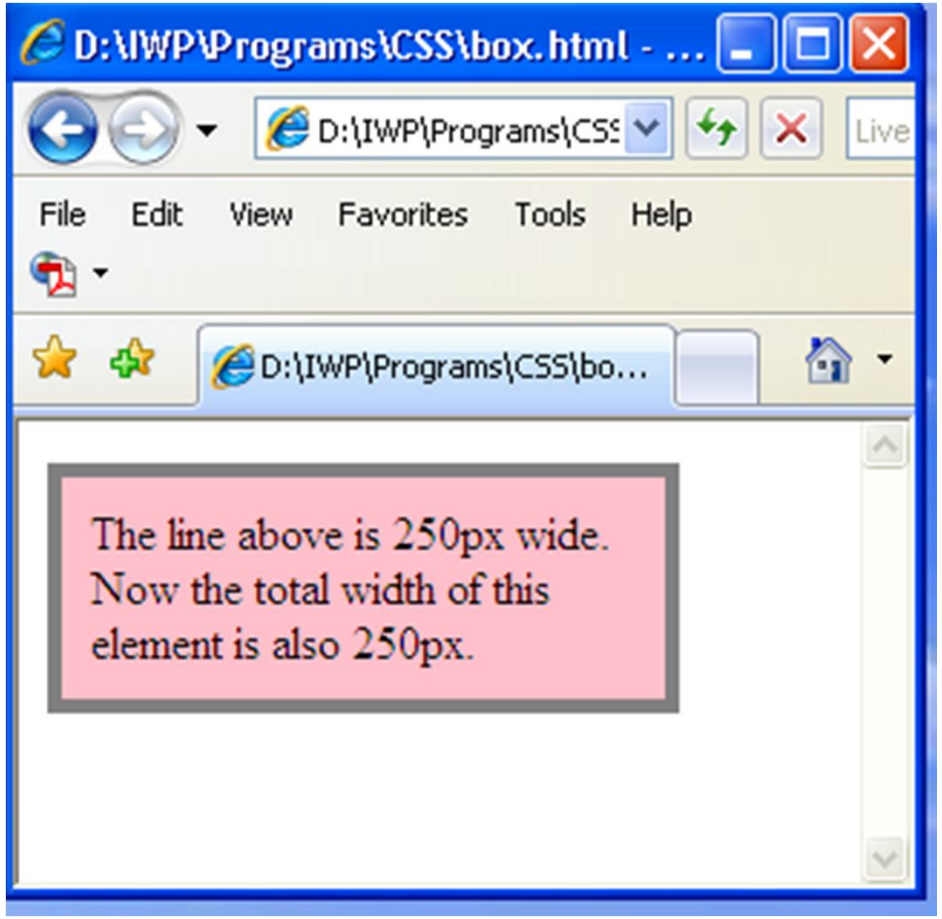
- The padding clears an area around the content (inside the border) of an element. The padding is affected by the background color of the element.
- The top, right, bottom, and left padding can be changed independently using separate properties. A shorthand padding property can also be used, to change all paddings at once.

```
padding-top:25px;
padding-bottom:25px;
padding-right:50px;
padding-left:50px;
```

Padding - Shorthand property

Example:

- **padding:25px 50px 75px 100px;**
  - top padding is 25px
  - right padding is 50px
  - bottom padding is 75px
  - left padding is 100px
- **padding:25px 50px 75px;**
  - top padding is 25px
  - right and left paddings are 50px
  - bottom padding is 75px
- **padding:25px 50px;**
  - top and bottom paddings are 25px
  - right and left paddings are 50px
- **padding:25px;**
  - all four paddings are 25px




```
<html> <head>
<style type="text/css">
div.ex
{       width:220px;
        padding:10px;
        border:5px solid gray;
        margin:0px;
        background-color:pink;
}
</style> </head><body>
<div class="ex">The line above is
   250px wide.<br />
Now the total width of this element is
   also 250px.</div>
</body> </html>
```