



AN INTRODUCTION TO WEB PROGRAMMING

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CSS
A



CONTENTS

- A bit of history
- Inline vs. Embedded vs. External Style Sheets
- Conflicting Styles (C in CSS stands for Cascading)
- Text: (font, size, shadow, color, etc.)
- Borders and Boxes: (Rounded corners, shadow, Color, Linear and Radial Gradients)
- Image (borders, opacity, transition, etc.)
- Multiple column layout
- Positioning (Absolute, z-index, Relative, span)
- Background
- Box model and flow of elements

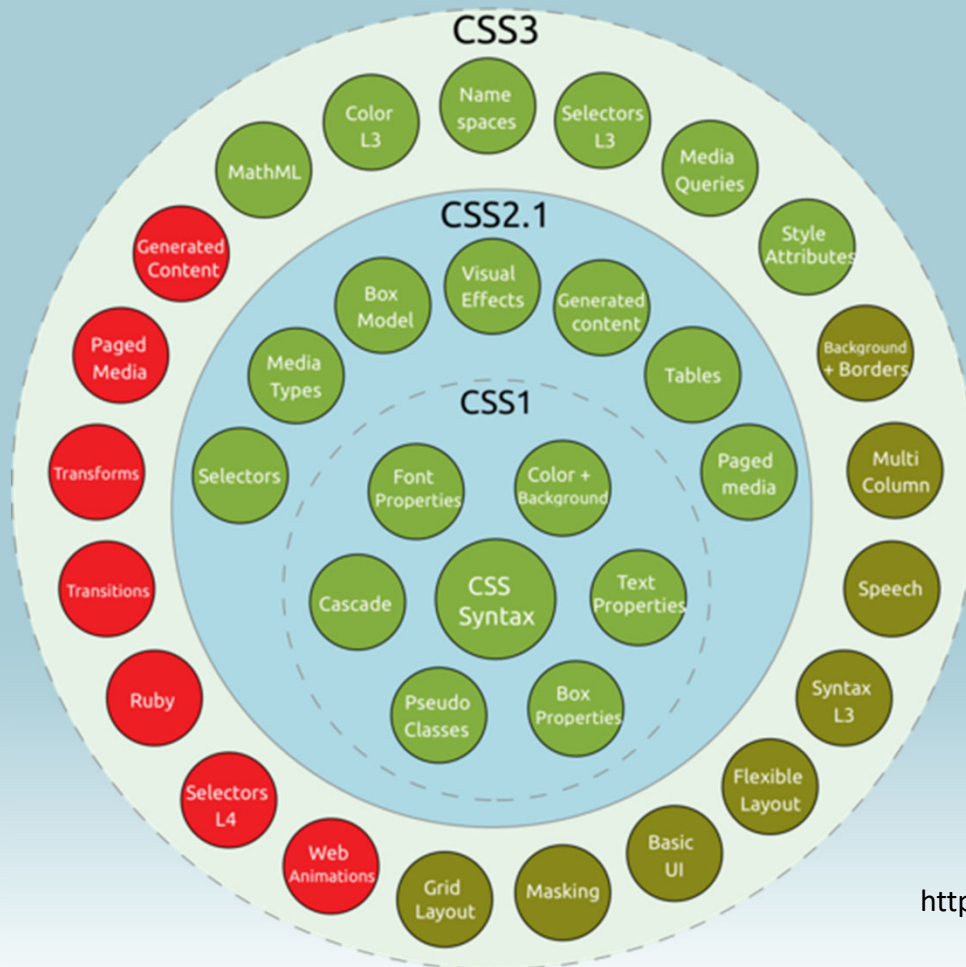
HISTORY

- CSS was developed by a World Wide Web Consortium (W3C) team headed by Bert Bos and Håkon Lie.
- The goal was to develop a styling language that could be integrated with HTML and complement its structuring capabilities with styling rules.
- **CSS1** was released in 1996 and includes basic styling functions such as font, color, and background images. By that time many browsers had already implemented many style capabilities into their HTML parsers, but they started to adopt the new CSS standard.
- **CSS2** was released in 1998, and it added some advanced features to CSS. (e.g., absolute and relative positioning of elements on the page, z-index (i.e., layering) and allowing pages to be formatted for printing. Additional font properties (e.g., shadow, etc) Reducing the need for tables as a page layout tool.
- **CSS3** standard was published in 1999, however as of this writing, it is not a completed standard yet.
- Some of the most important CSS3 modules are:
 - Selectors
 - Box Model
 - Backgrounds and Borders
 - Text Effects
 - 2D/3D Transformations
 - Animations
 - Multiple Column Layout
 - User Interface

http://www.w3schools.com/css3/css3_intro.asp

http://en.wikipedia.org/wiki/Cascading_Style_Sheets

STATUS OF CSS-3



Taxonomy and status of CSS3 **modules**.

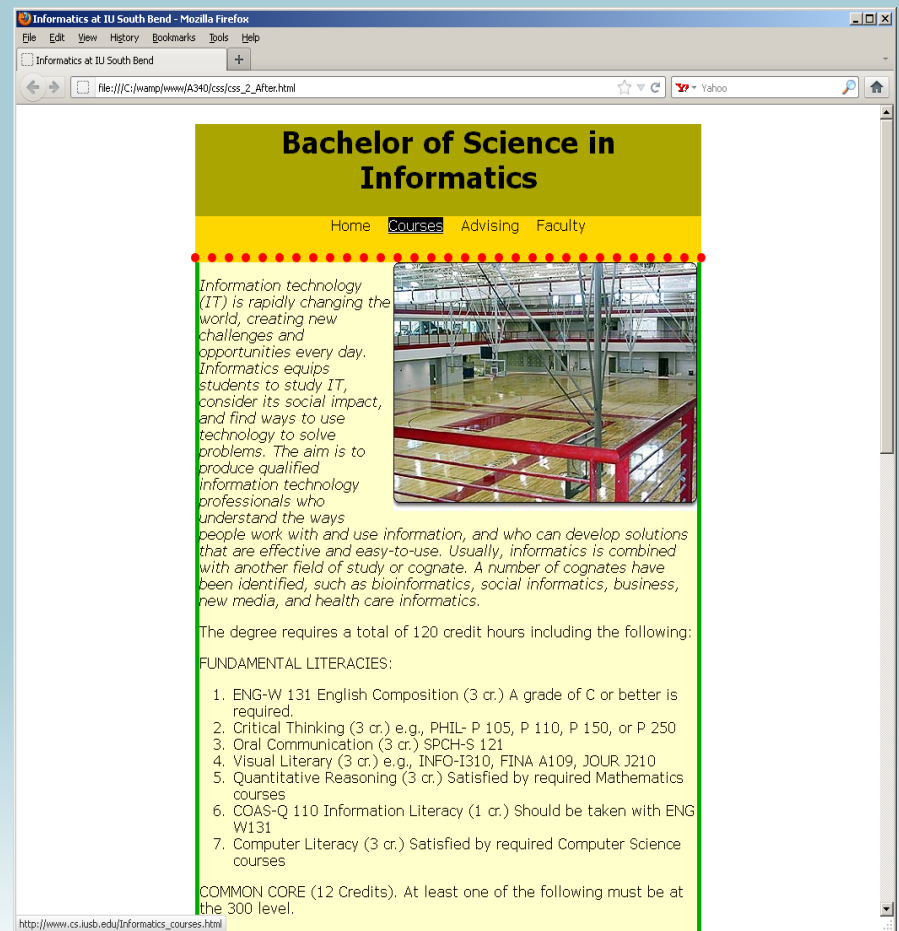
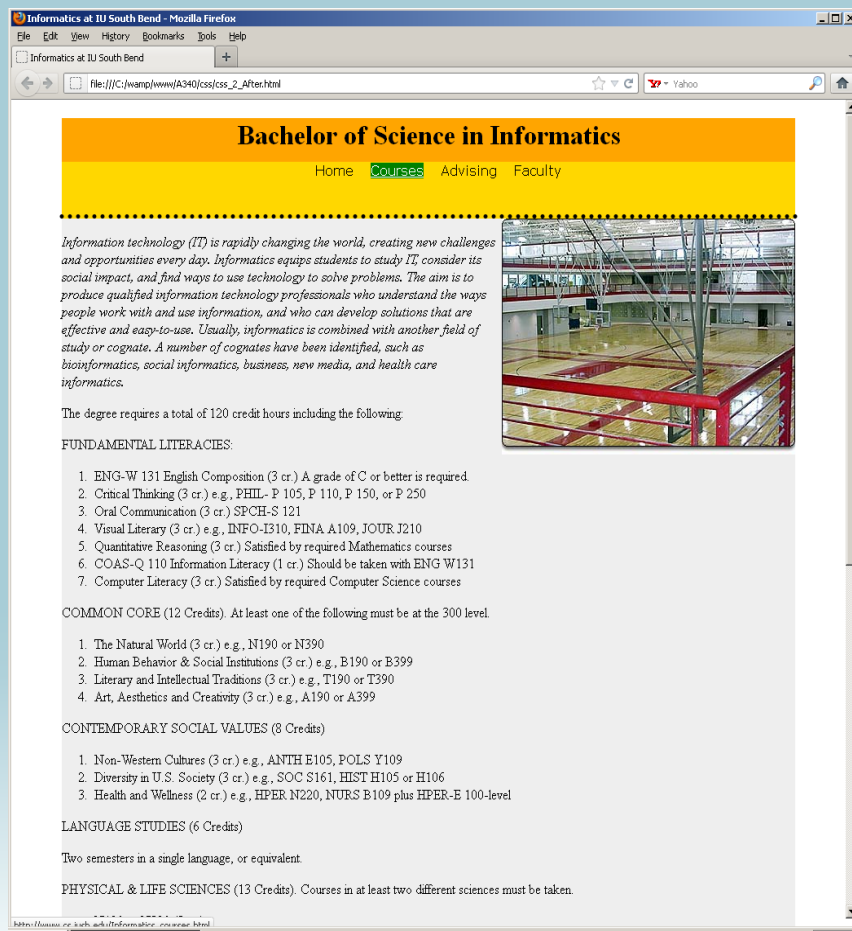
- Recommendation
- Candidate Recommendation
- Last Call
- Working Draft.

https://en.wikipedia.org/wiki/Cascading_Style_Sheets#CSS_4

CSS

- CSS stands for **Cascading Style Sheets**.
- CSS is used to control the “style and layout” of our web documents.
- **Style information can be defined:**
 1. **Inline:** As attributes of a tag
 2. **Embedded:** As part of the a HTML document. Within `<style> ... </style>` tags and inside the `<head>` tag.
 3. **External CSS File:** In a separate file which can be loaded (linked to) within the HTML document.

EXAMPLE OF STYLE SHEETS



INLINE STYLE (EXAMPLE)

- When creating a tag, we can include some **inline** style information by simply using the “**style**” attribute and then list a few style information for the tag.

Example:

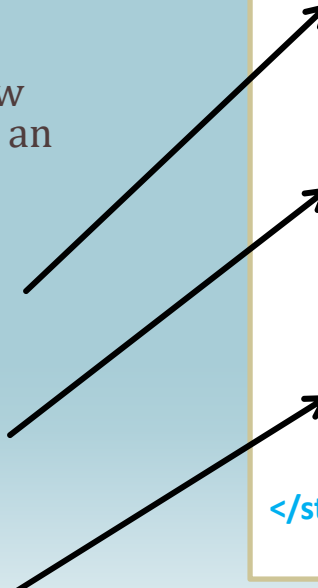
```
<p style='font-size:20pt '>  
this is a test  
</p>
```

EMBEDDED STYLE (EXAMPLE)

- Embedded style information can be placed in the <HEAD> section of a HTML document.
- Embedded style information should be inside the <style>.....</style> tags.
- In the example, we are creating a new “Style sheet” which can be applied to an existing HTML document.
- We are setting the background of the body to light-blue.
- Any header1 elements (H1) will be centered and displayed in red.
- Any paragraph elements (P) will be displayed using “Times Roman” font.

Example:

```
<style>  
  body  
  {  
    background-color:lightblue;  
  }  
  
  h1  
  {  
    color:red;  
    text-align:center;  
  }  
  
  p  
  {  
    font-family:"Times New Roman";  
    font-size:20px;  
  }  
</style>
```



ADDING THE STYLE SHEET TO OUR WEB PAGE

Example:

```
<!DOCTYPE html>
<html>
<head>
  .....
</head>
<body>
  <center>
    <h1>CSCI-A340 Introduction to Web Programming</h1>
  </center>

  <p>P: CSCI-A 201 or CSCI-C 101 or INFO-I210. An introduction to
    programming web documents, including HTML, JavaScript, and PHP.
    Creation of a simple website, including a home page with dynamic
    elements, using both client-side and server-side techniques.</p>

</body>
</html>
```

```
<style>
  body
  {
    background-color:lightblue;
  }

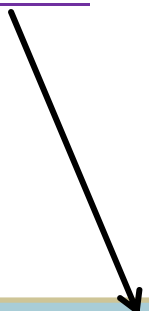
  h1
  {
    color:red;
    text-align:center;
  }

  p
  {
    font-family:"Times New Roman";
    font-size:20px;
  }
</style>
```

EXTERNAL CSS (EXAMPLE)

- External style sheet should be stored in a file with the extension of *.CSS
- External CSS are included in the HTML document by placing a <link> to the file in the <head> tag of the document.
- The **rel** attribute specifies the relationship of the link.
- The **type** attribute specifies the document's MIME type as "text/css"
- Finally the **href** attribute specifies the URL of the style sheet.

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet"
        type="text/css"
        href="styles.css">
</head>
<body>
</body>
</html>
```

A black arrow originates from the href attribute value "styles.css" in the HTML code and points down to the "styles.css" file name in the code block below.

```
styles.css

Body {
  background-color:lightblue;
}

H1 {
  color:red;
  text-align:center;
}

P {
  font-family:"Times New Roman";
  font-size:20px;
}
```



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CSS
B



CSS SYNTAX

- CSS documents are simply a series of rules that govern how various HTML elements are displayed. Each rule has two main parts:
- Selector {Declaration; ...}
- The **selector** is typically an HTML element (such as Body, h1, p, div, etc.)
- The **{Declaration}** block is typically one or more style attributes (such as color, font, text-alignment, etc) that we want to apply a selector.
- Each **declaration** consists of a pair of “**attribute:value**” and is terminated with a “;”

Example

<style>

h1

```
{  
  color:red;  
  text-align:center;  
}
```

</style>

CSS COMMENTS

- Comments can be added to CSS to explain the code:
- `/* .....comment ..... */`

Example

<style>

/*This is a comment*/

h1

{

color:red;

text-align:center;

}

</style>

THE ID SELECTOR

- Typically CSS selectors are HTML tags, however they don't have to be! The user can create user-defined selectors.
- The **id selector** is used to specify a style for a **single, unique element**.
- The id selector uses the **id attribute of the HTML element**, and is defined with a "#".
- Example creates a new style called "style1" and it is only applied to an element with id="style1".

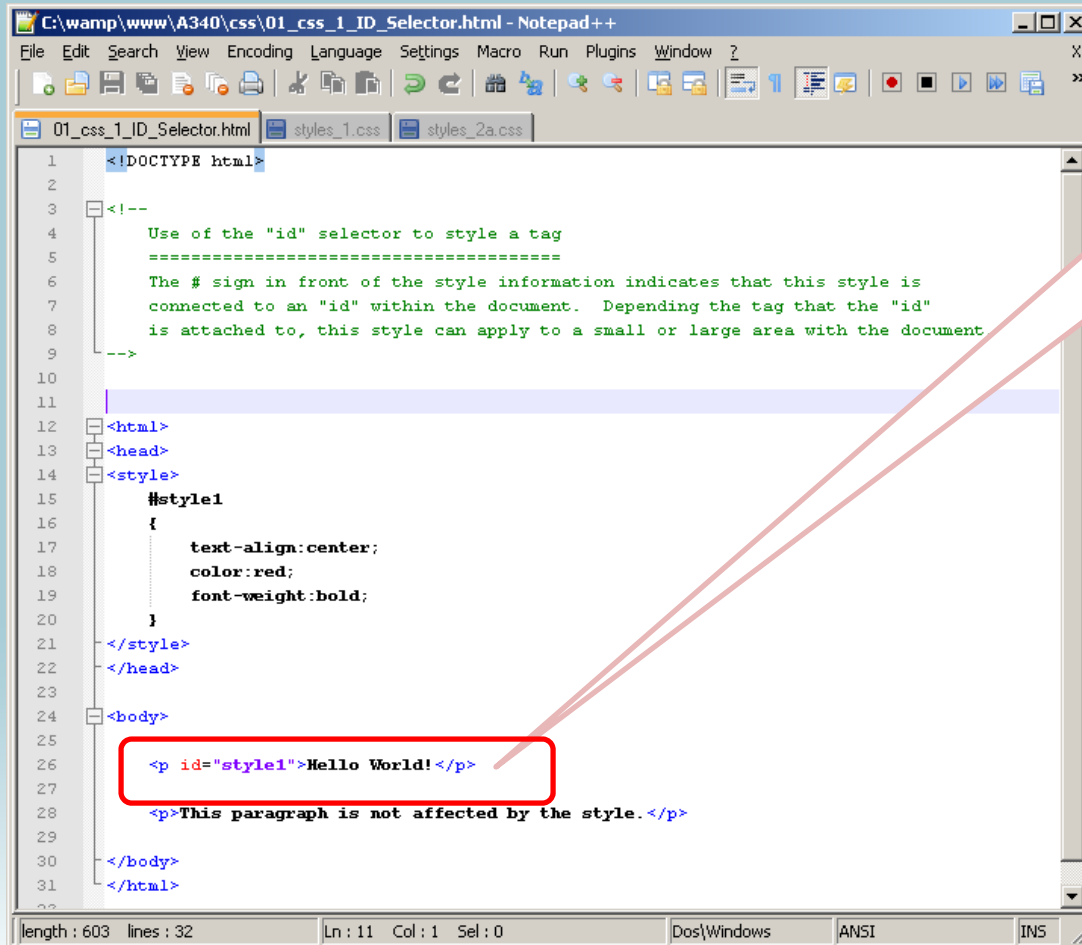
Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
  #style1
  {
    text-align:center;
    color:red;
    font-weight:bold;
  }
</style>
</head>

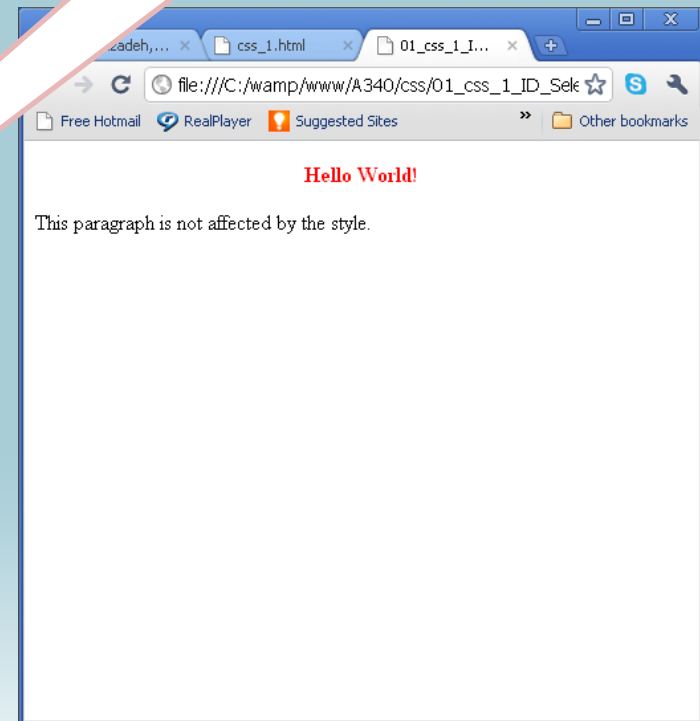
<body>
  <p id="style1">Hello World!</p>
  <p>This paragraph is not affected by the style.</p>
</body>
</html>
```

OUTPUT

Only the paragraph
with the **id=style1**
is affected.



```
1 <!DOCTYPE html>
2
3 <!--
4   Use of the "id" selector to style a tag
5   =====
6   The # sign in front of the style information indicates that this style is
7   connected to an "id" within the document. Depending the tag that the "id"
8   is attached to, this style can apply to a small or large area with the document
9 -->
10
11
12 <html>
13 <head>
14 <style>
15   #style1
16   {
17     text-align:center;
18     color:red;
19     font-weight:bold;
20   }
21 </style>
22 </head>
23
24 <body>
25
26   <p id="style1">Hello World!</p>
27
28   <p>This paragraph is not affected by the style.</p>
29
30 </body>
31 </html>
```



THE **CLASS** SELECTOR

- The class selector is **used to specify a style for a group of elements**.
- This allows the user to set a particular style for many HTML elements with the same class.
- The class selector uses the HTML class attribute, and is defined with a "." in front of the selector.
- Example shows a case where all HTML elements with **class="center"** will be center-aligned:

Example:

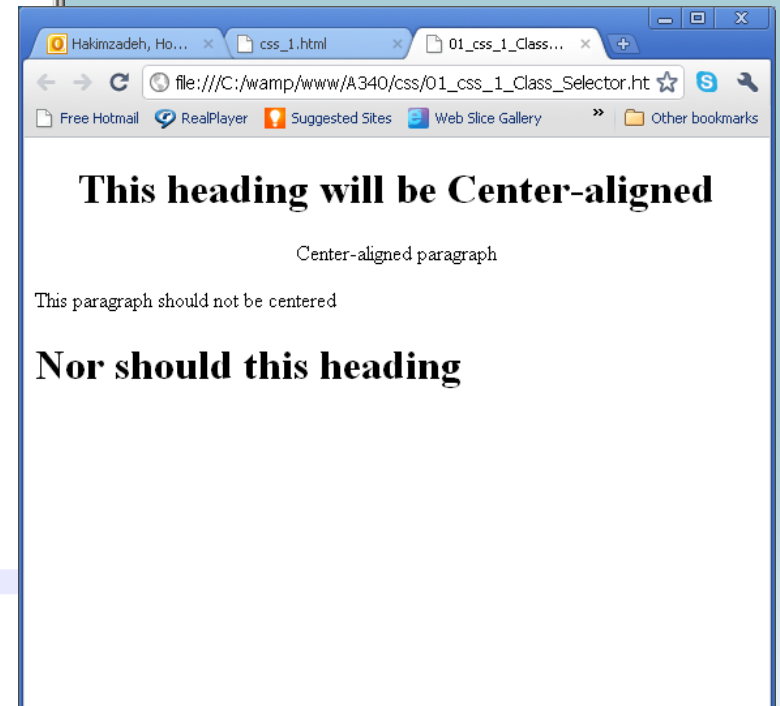
```
<!DOCTYPE html>
<html>
<head>
<style>
  .center
  {
    text-align:center;
  }
</style>
</head>

<body>
  <h1 class="center">Center-aligned heading</h1>
  <p class="center">Center-aligned paragraph</p>
  <p> This paragraph should not be centered </p>
  <h1> Nor should this heading </h1>
</body>

</html>
```

OUTPUT

```
*C:\wamp\www\A340\css\01_css_1_Class_Selector.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
01_css_1_Class_Selector.html styles_1.css styles_2a.css
1 <!DOCTYPE html>
2
3 <!--
4 Use of the "class" selector to style a tag
5 =====
6 The "." (period) in front of the style selector indicates that this style
7 should be applied to all the elements belonging to a given CLASS. Each tag
8 within the document can specify that they are styled by a given style class
9 by using the class="classname" designation. Depending the tag that the "class"
10 is attached to, this style can apply to a small or large area within the document.
11 -->
12
13 <html>
14 <head>
15
16 <style>
17 .center
18 {
19     text-align:center;
20 }
21 </style>
22
23 </head>
24
25 <body>
26
27 <h1 class="center">This heading will be Center-aligned</h1>
28 <p class="center">Center-aligned paragraph</p>
29
30 <p> This paragraph should not be centered </p>
31 <h1> Nor should this heading </h1>
32
33 </body>
34 </html>
35
length : 846 lines : 35 Ln : 28 Col : 47 Sel : 0 Dos\Windows ANSI INS
```



THE **CLASS** SELECTOR

- A class selector can also specify that **only specific HTML elements should be affected** by a class. (In this case the “p” element) 
- This example only the “p” elements with class="center" declarations will be center-aligned. (note the “h1” element will not be affected) 

Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
  p.center
  {
    text-align:center;
  }
</style>
</head>

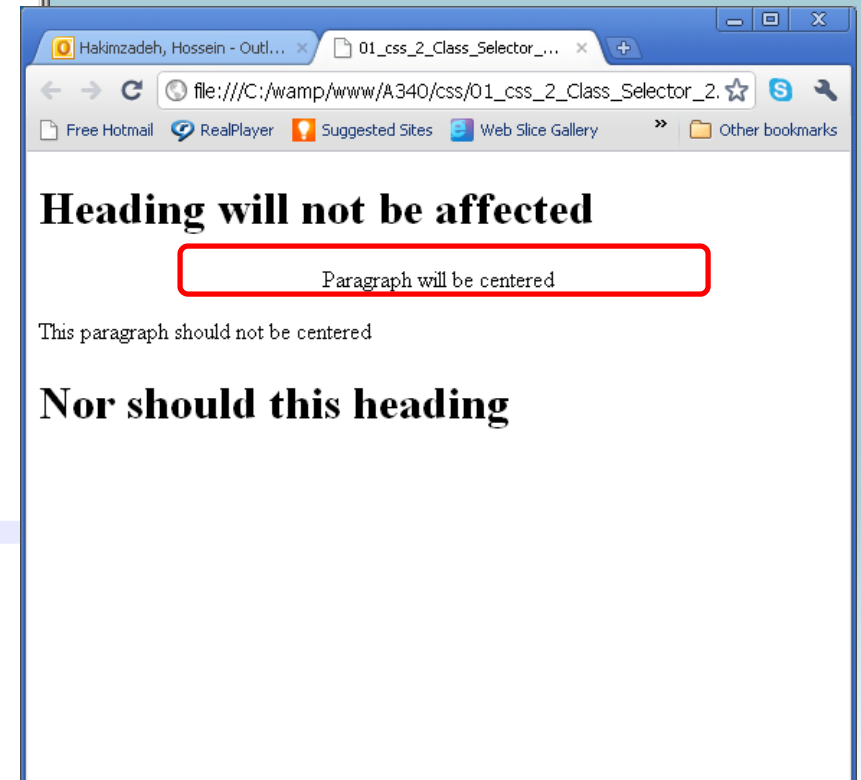
<body>
  <h1 class="center">Heading will not be affected</h1>
  <p class="center">Paragraph will be centered</p>
  <p> This paragraph should not be centered </p>
  <h1> Nor should this heading </h1>
</body>
</html>
```

OUTPUT

```
C:\wamp\www\A340\css\01_css_2_Class_Selector_2.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
styles_1.css styles_2a.css 01_css_2_Class_Selector_1.html 01_css_2_Class_Selector_2.html

1 <!DOCTYPE html>
2
3 <!--
4 Use of the "class" selector to style a SPECIFIC tag
5 =====
6 If you first identify a selector (e.g. p for the paragraph) and then use the "."
7 (period) in front of the style selector, followed by a classname, that indicates
8 that this style should be applied to all paragraph tags which have the
9 proper class id:
10
11     p.center
12
13 This means that ONLY paragraph tags that have a "center" id are effected by this
14 style.
15
16 -->
17
18 <html>
19 <head>
20 <style>
21     p.center
22     {
23         text-align:center;
24     }
25 </style>
26 </head>
27
28 <body>
29     <h1 class="center">Heading will not be affected</h1>
30
31     <p class="center">Paragraph will be centered</p>
32
33     <p> This paragraph should not be centered </p>
34
35     <h1> Nor should this heading </h1>
36 </body>
37 </html>
38

length : 829 lines : 38 Ln : 28 Col : 7 Sel : 0 Dos\Windows ANSI INS
```



WAYS OF INSERTING CSS IN TO HTML DOCUMENTS

- **Embedded** or (Internal) style sheet (what we have been showing in some of the previous examples)
- **External** style sheet (place the styles in a separate file and include it in your HTML document)
- **Inline** style (include it with the HTML tag.)

An internal style sheet should be used when a single document has a unique style. You define internal styles in the head section of an HTML page, by using the `<style>` tag,

An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the `<link>` tag. The `<link>` tag goes inside the head section

An inline style loses many of the advantages of style sheets by mixing content with presentation. This could be useful if we want to override conflicting style information.

EXAMPLE OF EXTERNAL STYLE SHEETS

```
<!DOCTYPE html>
<html>

<head>
  <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>

<body>
  <h1>Heading color will be changed to sienna color</h1>
  <p>Paragraph will be have a left margin of 20px</p>
</body>
</html>
```

mystyle.css

```
H1 {
  color:sienna;
}

p {
  margin-left:20px;
}
```

OUTPUT

```
*C:\wamp\www\A340\css\02_css_External_Style_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
O2_css_External_Style_1.css O2_css_External_Style_1.html
1 <!DOCTYPE html>
2
3 <!--
4   Use of external Style Sheet
5
6   The <link> tag is used to load the style sheet.
7 -->
8
9
10
11 <html>
12
13 <head>
14
15 <link rel="stylesheet" type="text/css" href="02_css_External_style_1.css">
16
17 </head>
18
19 <body>
20   <h1>Heading color will be changed to sienna color</h1>
21   <p>Paragraph will be have a left margin of 20px</p>
22 </body>
23 </html>
24
length : 373 lines : 25 Ln : 24 Col : 1 Sel : 0 Dos\Windows ANSI INS
```

```
*C:\wamp\www\A340\css\02_css_External_Style_1.css - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
O2_css_External_Style_1.css O2_css_External_Style_1.html
1 /*
2  *
3  * A simple style sheet for changing the color for
4  * all H1 headings as well as
5  * creating a margin for all paragraphs.
6  */
7
8 h1
9 {
10   color:sienna;
11 }
12
13 p
14 {
15   margin-left:20px;
16 }
```

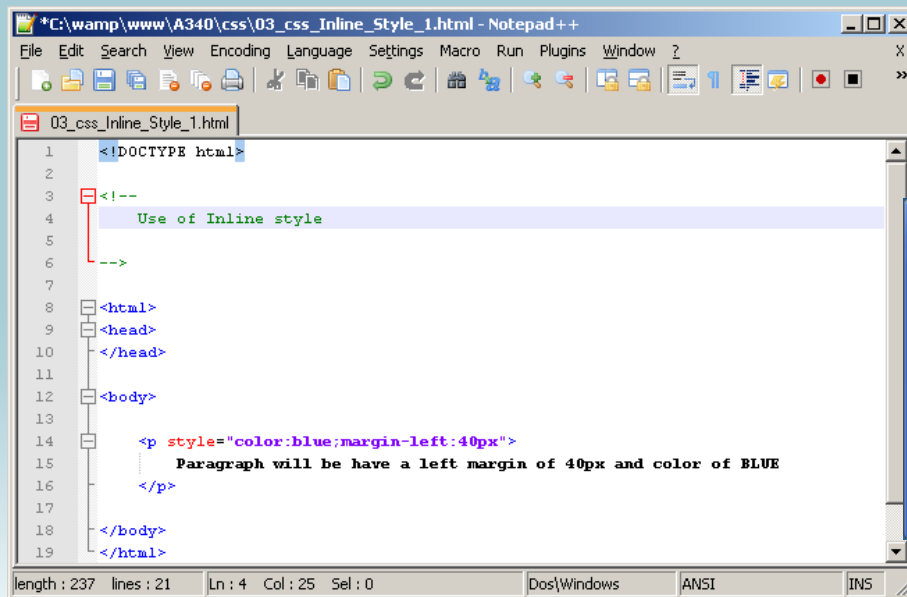


EXAMPLE OF INLINE STYLES

```
<p style="color:blue; margin-left:40px">
```

Paragraph will be have a left margin of 40px and color of BLUE

```
</p>
```



CSS SELECTORS

- There are many types of selectors (too many to list here), but we will introduce a few that are used very commonly.

Selector	Example	Description
.class	.center	Select all elements with class="center"
#id	#container	Select the element with id="container"
*	*	Select all elements
element	p	Select all <p> elements
element element	div p	Select all <p> elements inside <div> elements

- For more see:

http://www.w3schools.com/cssref/css_selectors.asp

COLOR AND BACKGROUND COLOR

- Colors in CSS can be specified by the following methods:
 - Hexadecimal colors
 - RGB colors
 - RGBA colors
 - HSL colors
 - Predefined color names

- Hex:

```
p
{
color:#ff0000;
}
```

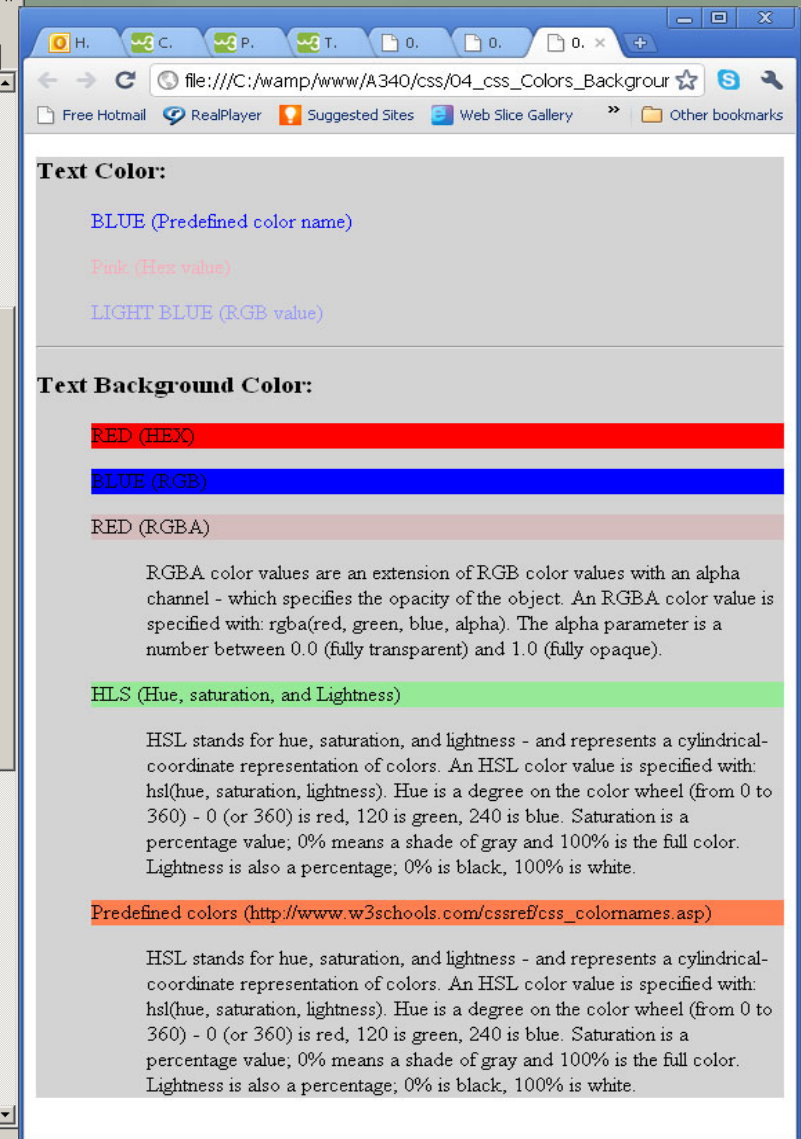
- RGB

```
p
{
background-color:rgb(255,0,0);
}
```

EXAMPLE

```
C:\wamp\www\A340\css\04_css_Colors_Background_Color_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
05_css_Text_Align_1.html 04_css_Font_Weight_1.html 06_css_Margin_1.html 05_css_Text_Decoration_1.html 04_css_Colors_Background_Color_1.html

19
20 <div style="background-color:lightgray;">
21
22
23
24 <h3> Text Color:</h3>
25 <ul>
26 <p style="color:blue;"> BLUE (Predefined color name) </p>
27 <p style="color:#FFAABB;"> Pink (Hex value) </p>
28 <p style="color:rgb(150, 150, 255);"> LIGHT BLUE (RGB value) </p>
29 </ul>
30 <hr />
31 <!-- ----->
32 <h3> Text Background Color:</h3>
33 <ul>
34 <p style="background-color:#FF0000;"> RED (HEX) </p>
35 <p style="background-color:rgb(0,0,255);"> BLUE (RGB) </p>
36 <p style="background-color:rgba(255,0,0,0.1);"> RED (RGBA) </p>
37 </ul>
38
39 RGBA color values are an extension of RGB color values with an
40 alpha channel - which specifies the opacity of the object.
41
42 An RGBA color value is specified with: rgba(red, green, blue,
43 alpha). The alpha parameter is a number between 0.0 (fully
44 transparent) and 1.0 (fully opaque).
45
46 </ul>
47
48 <p style="background-color:hsl(120,65%,75%);"> HLS (Hue, saturation,
49 and Lightness) </p>
50
51 <ul>
52 HLS stands for hue, saturation, and lightness - and represents a
53 cylindrical-coordinate representation of colors.
54
55 An HSL color value is specified with: hsl(hue, saturation,
56 lightness).
57
58 Hue is a degree on the color wheel (from 0 to 360) - 0 (or 360)
59 is red, 120 is green, 240 is blue. Saturation is a percentage
60 value; 0% means a shade of gray and 100% is the full color.
61 Lightness is also a percentage; 0% is black, 100% is white.
62
63 </ul>
64
65 </div>
```



CSS BACKGROUND PROPERTIES

- CSS background properties are used to define the background effects of an element.
 - background-color
 - background-image
 - background-repeat
 - background-attachment
 - background-position
- More info at http://www.w3schools.com/css/css_background.asp



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CSS
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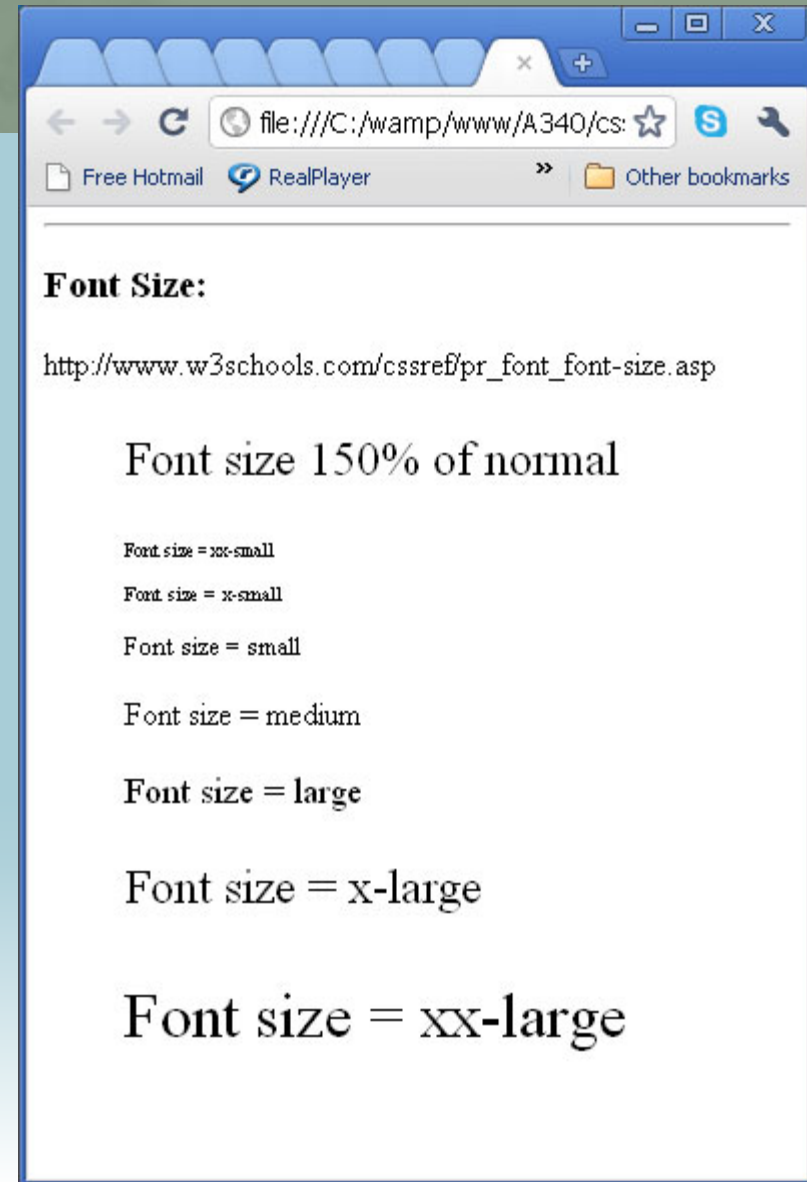


CSS FONT / TEXT PROPERTIES

- CSS **font** properties define the font family, font size, style, weight of the text.
- In addition, the CSS **text** properties define the shadow, alignment, and decoration.
- Finally, the **margin** property allows the user to specify the margin for a given object.
- More info at:
http://www.w3schools.com/css/css_font.asp

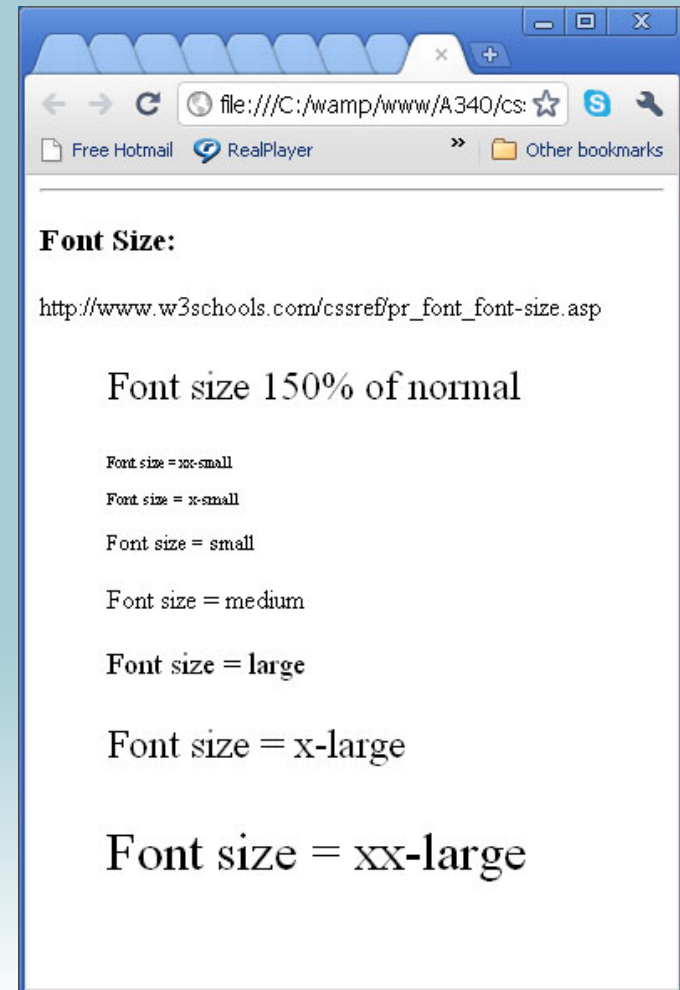
FONT SIZE

- The font-size property sets the size of a font.
- The size could be expressed as:
 - percentage relative to normal size
 - Pixels
 - Centimeters
 - Inches
 - predefined values



EXAMPLE

```
C:\wamp\www\A340\css\04_css_Font_Size_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
05_css_Text_Align_1.html 05_css_Text_Shadow_1.html 04_css_Font_Weight_1.html 06_css_Margin_1.html 04_css_Font_Size_1.html
6 Date: Feb, 2013
7 Author: Hossein Hakimzadeh
8 (C) Copyright 2013 by Hossein Hakimzadeh, All rights reserved.
9 Description:
10 Font Size
11
12 -->
13
14 <html>
15 <head>
16 </head>
17
18 <body>
19
20 <hr />
21 <!-- ----->
22 <h3> Font Size:</h3>
23 http://www.w3schools.com/cssref/pr_font_font-size.asp
24 <ul>
25 <p style="font-size:150%;"> Font size 150% of normal </p>
26 <p style="font-size:xx-small;"> Font size = xx-small </p>
27 <p style="font-size:x-small;"> Font size = x-small </p>
28 <p style="font-size:small;"> Font size = small </p>
29 <p style="font-size:medium;"> Font size = medium </p>
30 <p style="font-size:large;"> Font size = large </p>
31 <p style="font-size:x-large;"> Font size = x-large </p>
32 <p style="font-size:xx-large;"> Font size = xx-large </p>
33 </ul>
34
Hyper Text Markup 1 length: 925 lines: 38 Ln: 1 Col: 1 Sel: 0 Dos\Windows ANSI INS
```



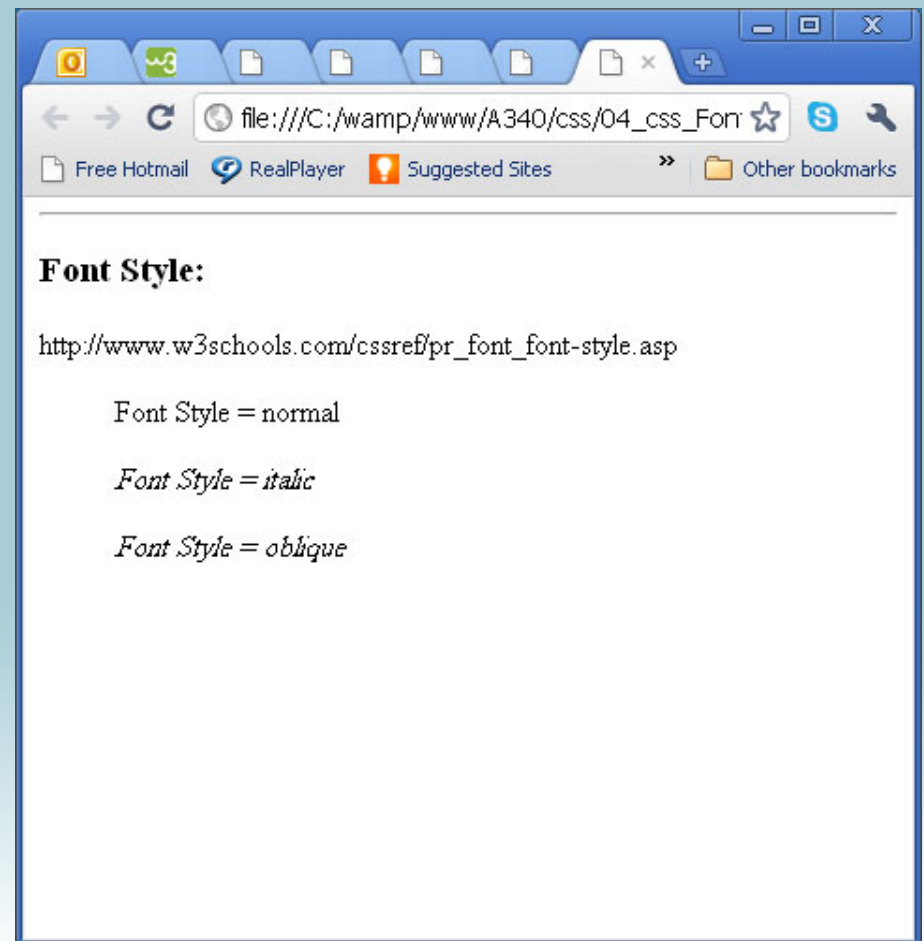
FONT STYLE

- The font-style property specifies the font style for a text.



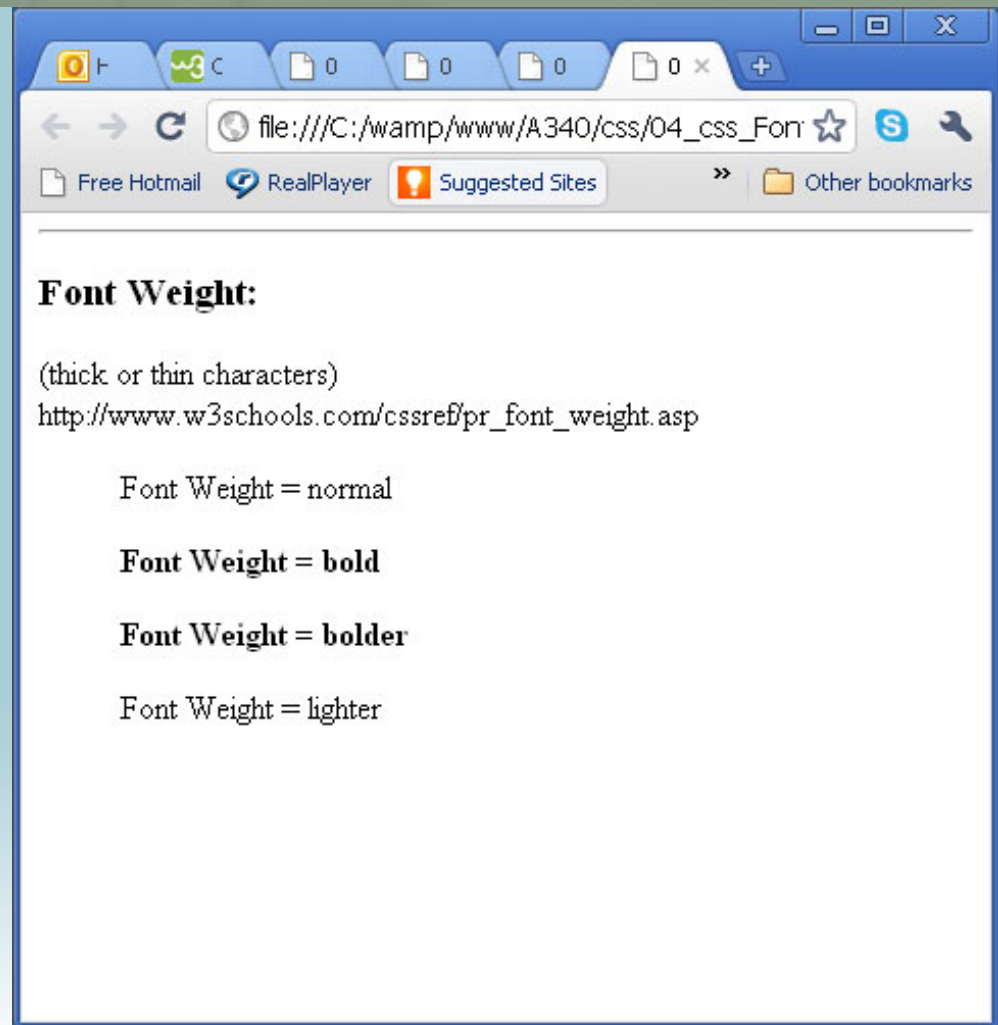
EXAMPLE

```
C:\wamp\www\A340\css\04_css_Font_Style_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
O4_css_Font_Weight_1.html O6_css_Margin_1.html O4_css_Font_Size_1.html O4_css_Font_Family_1.html O4_css_Font_Style_1.html
4
5 File:      04_CSS_Font_Style_1.html
6 Date:      Feb, 2013
7 Author:    Hossein Hakimzadeh
8           (C) Copyright 2013 by Hossein Hakimzadeh, All rights
           reserved.
9 Description:
10      Font Style
11
12 -->
13
14 <html>
15 <head>
16 </head>
17
18 <body>
19
20
21 <hr />
22 <!-- ----->
23 <h3> Font Style:</h3>
24 http://www.w3schools.com/cssref/pr_font_font-style.asp
25 <ul>
26     <p style="font-style:normal;"> Font Style = normal </p>
27     <p style="font-style:italic;"> Font Style = italic </p>
28     <p style="font-style:oblique;"> Font Style = oblique </p>
29 </ul>
30
31 </body>
32 </html>
```



FONT WEIGHT

- The font-weight property sets how thick or thin characters in text should be displayed.

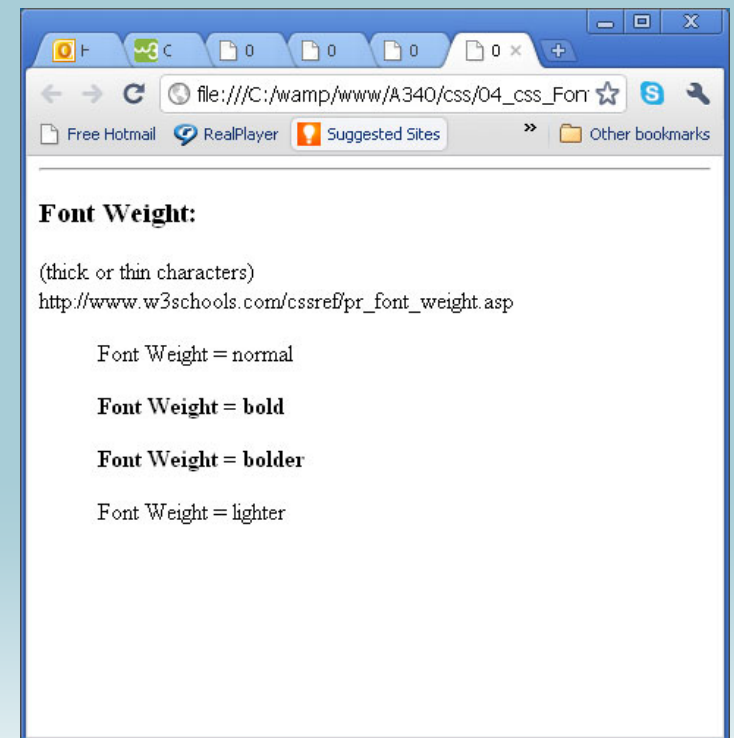


EXAMPLE

```
C:\wamp\www\A340\css\04_css_Font_Weight_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?

04_css_Font_Weight_1.html 06_css_Margin_1.html 04_css_Font_Size_1.html 04_css_Font_Family_1.html 04_css_Font_Style_1.html

5 File: 04_CSS_Font_Weight_1.html
6 Date: Feb, 2013
7 Author: Hossein Hakimzadeh
8      (C) Copyright 2013 by Hossein Hakimzadeh, All rights reserved.
9 Description:
10  Font Weight
11
12 -->
13
14 <html>
15 <head>
16 </head>
17
18 <body>
19
20 <hr />
21 <!-- ----->
22 <h3> Font Weight:</h3>(thick or thin characters)
23 http://www.w3schools.com/cssref/pr_font_weight.asp
24 <ul>
25     <p style="font-weight:normal;"> Font Weight = normal </p>
26     <p style="font-weight:bold;"> Font Weight = bold </p>
27     <p style="font-weight:bolder;"> Font Weight = bolder</p>
28     <p style="font-weight:lighter;"> Font Weight = lighter </p>
29
30 </ul>
31
32 </body>
33 </html>
34
```



FONT FAMILY

- When setting the font-family property, we should provide several font names as a "fallback" system, to ensure maximum compatibility between browsers and operating systems.
- If the browser does not support the first font, it tries the next font.
- Example:

```
p
{
  font-family:"Times New Roman", Times,
  serif
}
```

http://www.w3schools.com/cssref/css_websafe_fonts.asp

Serif Fonts

font-family	Example text
Georgia, serif	This is a heading This is a paragraph
"Palatino Linotype", "Book Antiqua", Palatino, serif	This is a heading This is a paragraph
"Times New Roman", Times, serif	This is a heading This is a paragraph

Sans-Serif Fonts

font-family	Example text
Arial, Helvetica, sans-serif	This is a heading This is a paragraph
"Arial Black", Gadget, sans-serif	<i>This is a heading</i> <i>This is a paragraph</i>
"Comic Sans MS", cursive, sans-serif	This is a heading This is a paragraph
Impact, Charcoal, sans-serif	This is a heading This is a paragraph
"Lucida Sans Unicode", "Lucida Grande", sans-serif	This is a heading This is a paragraph
Tahoma, Geneva, sans-serif	This is a heading This is a paragraph
"Trebuchet MS", Helvetica, sans-serif	This is a heading This is a paragraph
Verdana, Geneva, sans-serif	This is a heading This is a paragraph

Monospace Fonts

font-family	Example text
"Courier New", Courier, monospace	This is a heading This is a paragraph
"Lucida Console", Monaco, monospace	This is a heading This is a paragraph

EXAMPLE

```
C:\wamp\www\A340\css\04_css_Font_Family_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
04_css_Font_Weight_1.html 06_css_Margin_1.html 04_css_Font_Size_1.html 04_css_Font_Family_1.html 04_css_Font_Style_1.html
9  Description:
10  Font Family
11  -->
12
13
14  <html>
15  <head>
16  </head>
17
18  <body>
19
20
21  <hr />
22  <!-- ----->
23  <h3> Font Family:</h3>
24
25  <ul>
26  <p style="font-family: 'Times New Roman', Times, serif;"> Font
    Family = Times New Roman, Times, serif</p>
27
28  <p style="font-family: Arial, Helvetica, sans-serif;"> Font
    Family = Arial, Helvetica, sans-serif</p>
29
30  <p style="font-family: 'Courier New', Courier, monospace;">
    Font Family = "Courier New", Courier, monospace</p>
31  </ul>
32
33  </body>
34  </html>
35
36
Hyper Text Markup I length : 742 lines : 36 Ln : 1 Col : 1 Sel : 0 Dos\Windows ANSI INS
```



CSS TEXT PROPERTIES

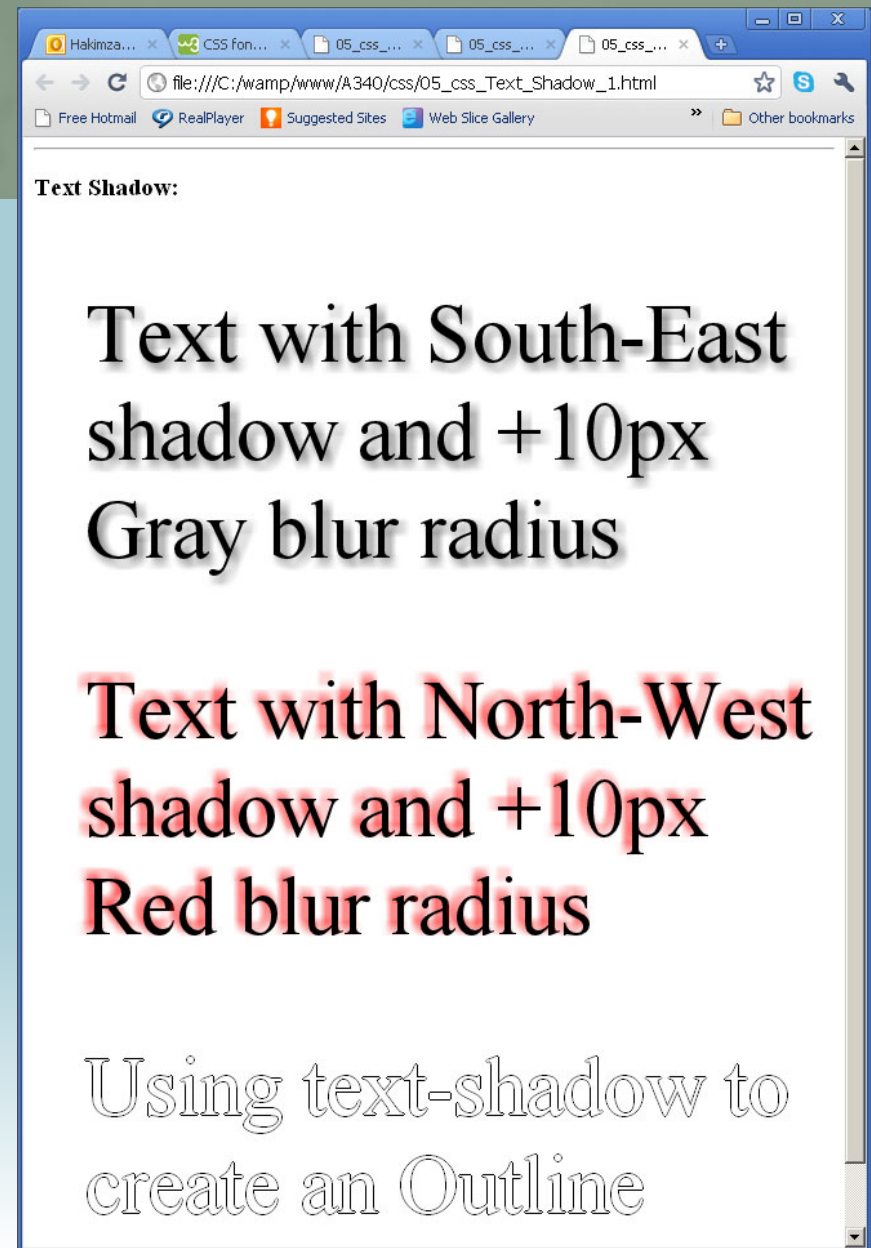
- CSS text properties are used to set the color, shadow, alignment, decoration, transformation, indentation, etc.
- More info at:
http://www.w3schools.com/css/css_text.asp

TEXT SHADOW

- The text-shadow property attaches one or more shadows to text. The property. It is a comma-separated list of shadows directions, followed by blur radius and color.

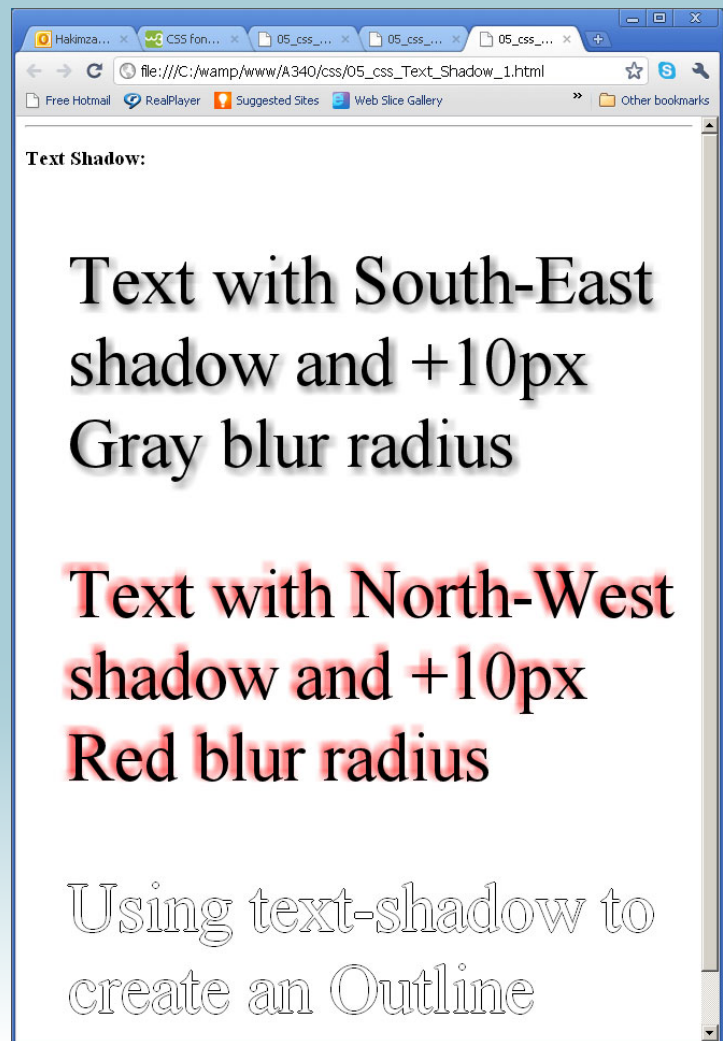
- **Syntax:**

`text-shadow: h-shadow v-shadow blur color;`



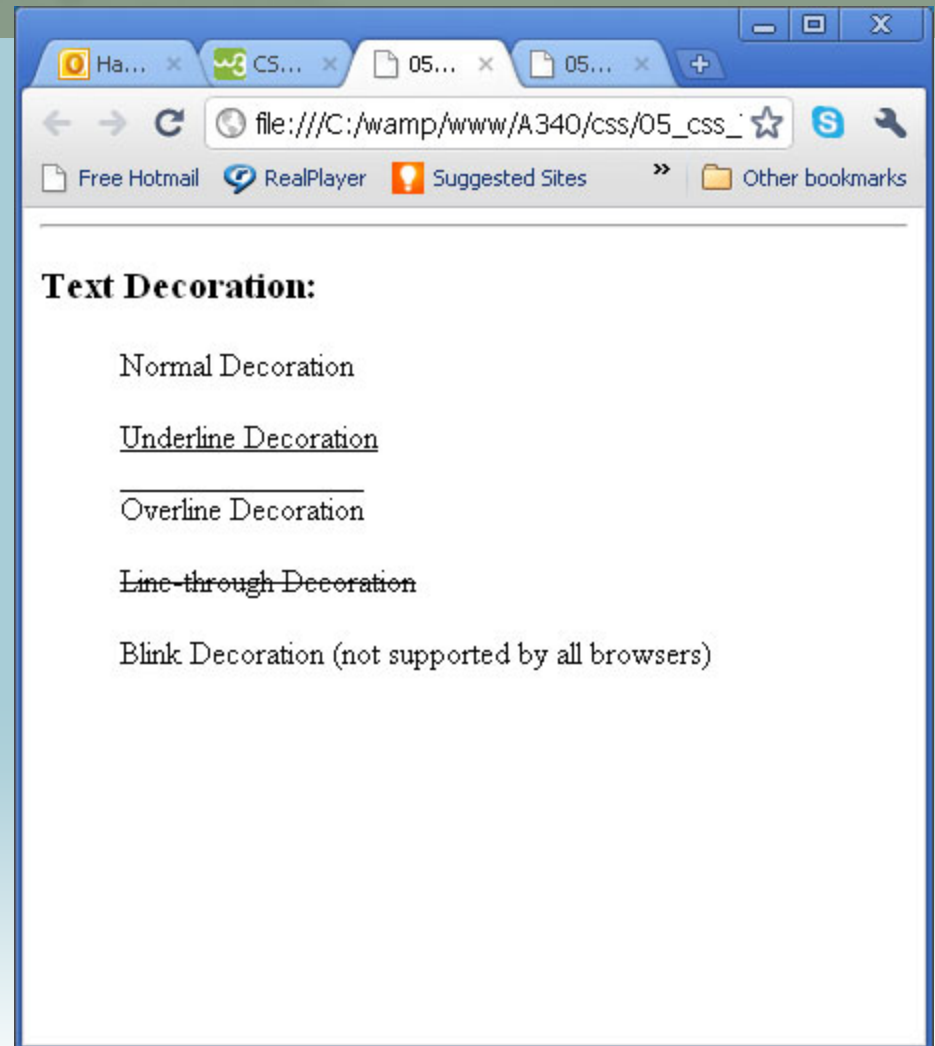
EXAMPLE

```
C:\wamp\www\A340\css\05_css_Text_Shadow_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
05_css_Text_Align_1.html 05_css_Text_Shadow_1.html 04_css_Font_Weight_1.html 06_css_Margin_1.html
15 <head>
16 </head>
17
18 <body>
19
20 <hr />
21 <!-- ----->
22 <h3> Text Shadow:</h3>
23
24 <ul>
25 <p style="text-shadow:+4px +4px 10px dimgray; font-size:400%;">
26     Text with South-East shadow and +10px Gray blur radius
27 </p>
28
29 <p style="text-shadow:-4px -4px 10px red; font-size:400%;">
30     Text with North-West shadow and +10px Red blur radius
31 </p>
32
33 <p style=" text-shadow:      -1px 0 black,
34                        0 1px black,
35                        1px 0 black,
36                        0 -1px black;
37                        color:white;
38                        font-size:400%;
39                        ">
40     Using text-shadow to create an Outline
41 </p>
42
43 </ul>
44 </body>
45 </html>
```



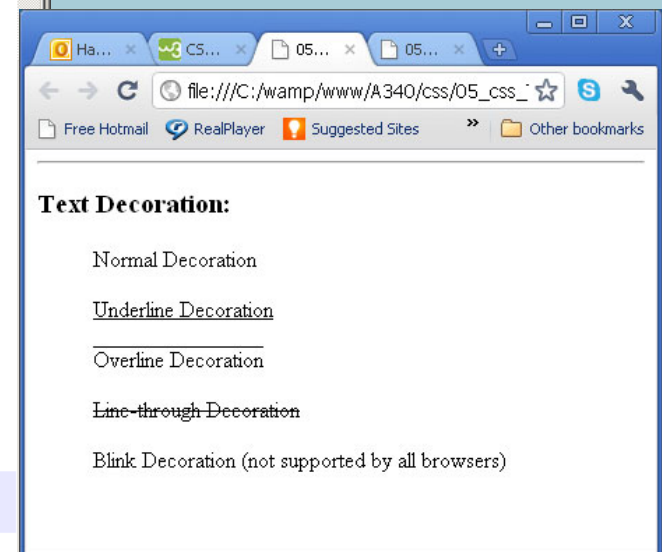
TEXT DECORATION

- The text-decoration property specifies the decoration added to text.
- Decoration includes:
 - None
 - Underline
 - Overline
 - Line-through
 - Blink



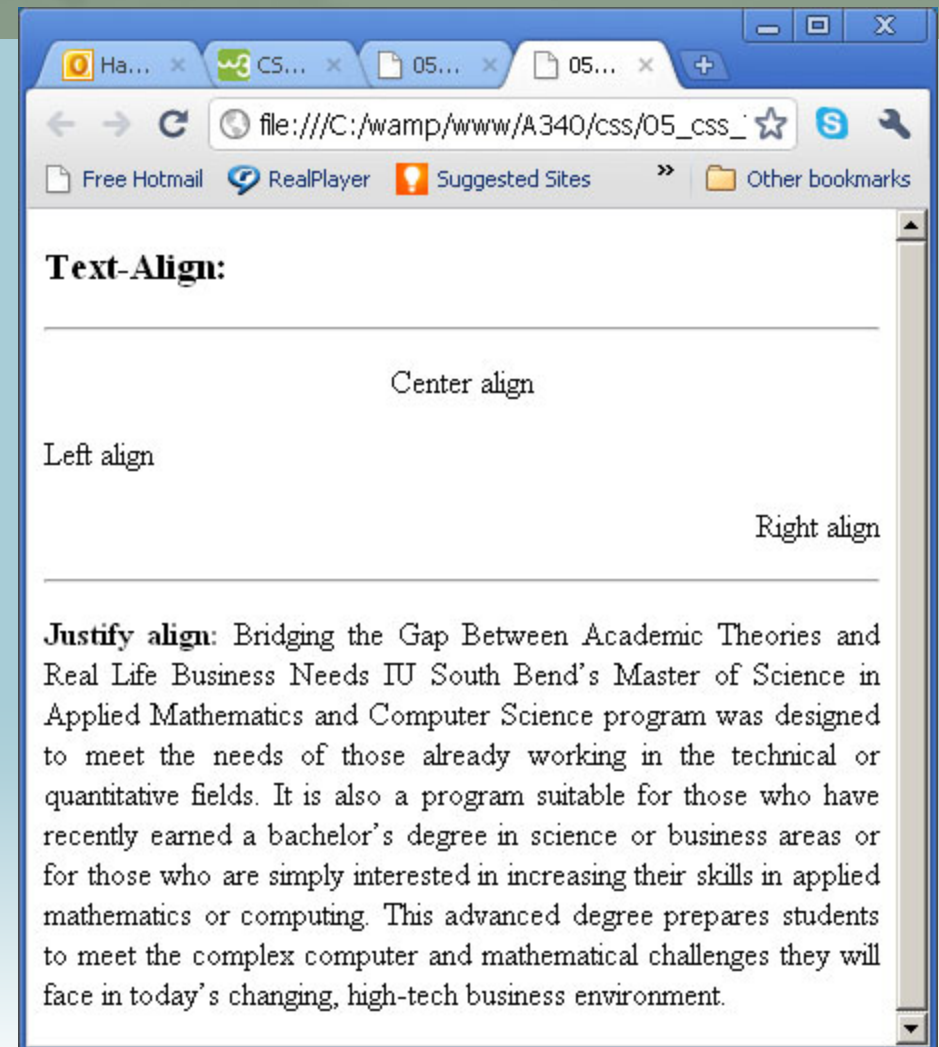
EXAMPLE

```
*C:\wamp\www\A340\css\05_css_Text_Decoration_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
05_css_Text_Align_1.html 04_css_Font_Weight_1.html 06_css_Margin_1.html 05_css_Text_Decoration_1.html
9 Description:
10 Text Decoration
11
12 -->
13
14 <html>
15 <head>
16 </head>
17
18 <body>
19
20 <hr />
21 <!-- ----->
22 <h3> Text Decoration:</h3>
23
24 <ul>
25 <p style="text-decoration:normal;"> Normal Decoration </p>
26 <p style="text-decoration:underline;"> Underline Decoration </p>
27 <p style="text-decoration:overline;"> Overline Decoration </p>
28 <p style="text-decoration:line-through;">Line-through Decoration </p>
29 <p style="text-decoration:blink;"> Blink Decoration (not supported
30 by all browsers)</p>
31
32 </ul>
33 </body>
34 </html>
35
```



TEXT ALIGN

- The text-align property specifies the horizontal alignment of text in an element.
- Alignment includes:
 - Left
 - Right
 - Center
 - Justify

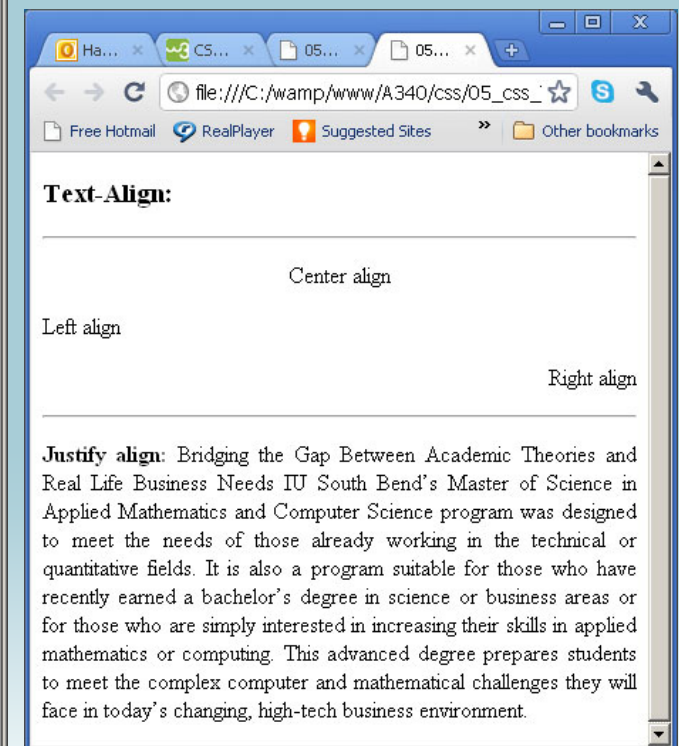


EXAMPLE

```
*C:\wamp\www\A340\css\05_css_Text_Align_1.html - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
05_css_Text_Align_1.html 04_css_Font_Weight_1.html 06_css_Margin_1.html 05_css_Text_Decoration_1.html

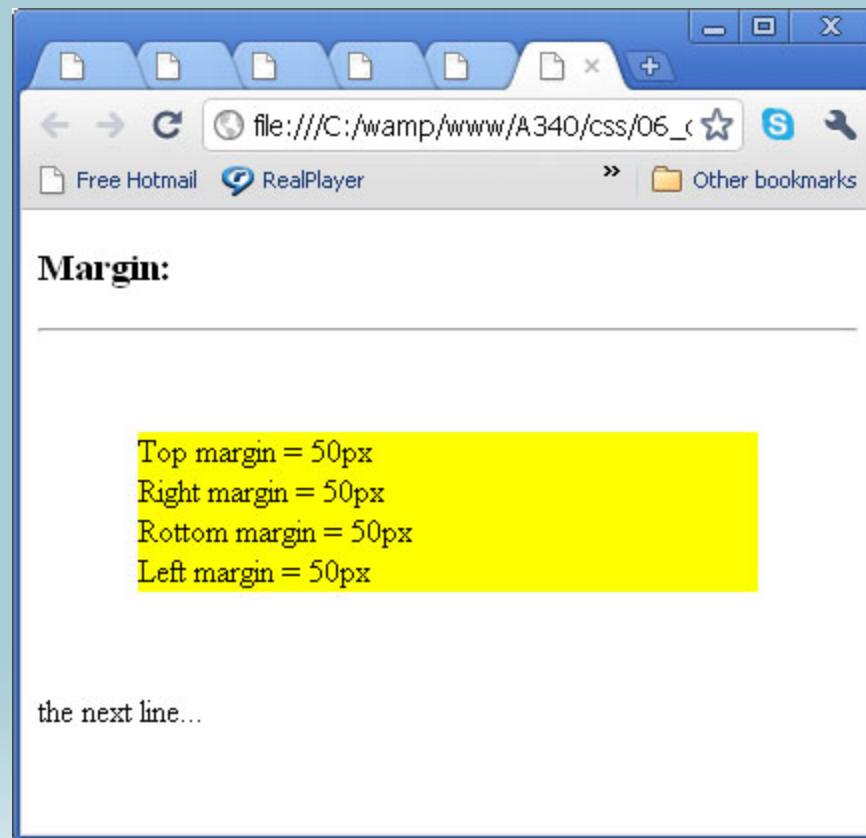
21 <!-- ----->
22 <h3> Text-Align:</h3>
23 <hr />
24
25
26 <p style="text-align:center;"> Center align </p>
27 <p style="text-align:left;"> Left align </p>
28 <p style="text-align:right;"> Right align </p>
29
30 <hr />
31 <p style="text-align:justify;">
32 | | <b> Justify align: </b>
33 | | Bridging the Gap Between Academic Theories and Real Life Business
| | Needs IU South Bend's Master of Science in Applied Mathematics
| | and Computer Science program was designed to meet the needs of
| | those already working in the technical or quantitative fields. It
| | is also a program suitable for those who have recently earned a
| | bachelor's degree in science or business areas or for those who
| | are simply interested in increasing their skills in applied
| | mathematics or computing. This advanced degree prepares students
| | to meet the complex computer and mathematical challenges they
| | will face in today's changing, high-tech business environment.
34 | | </p>
35
36 </body>
37 </html>
38

Hyper Text Markup Language file length : 1258 lines : 39 Ln : 35 Col : 1 Sel : 0 Dos\Windows ANSI INS
```

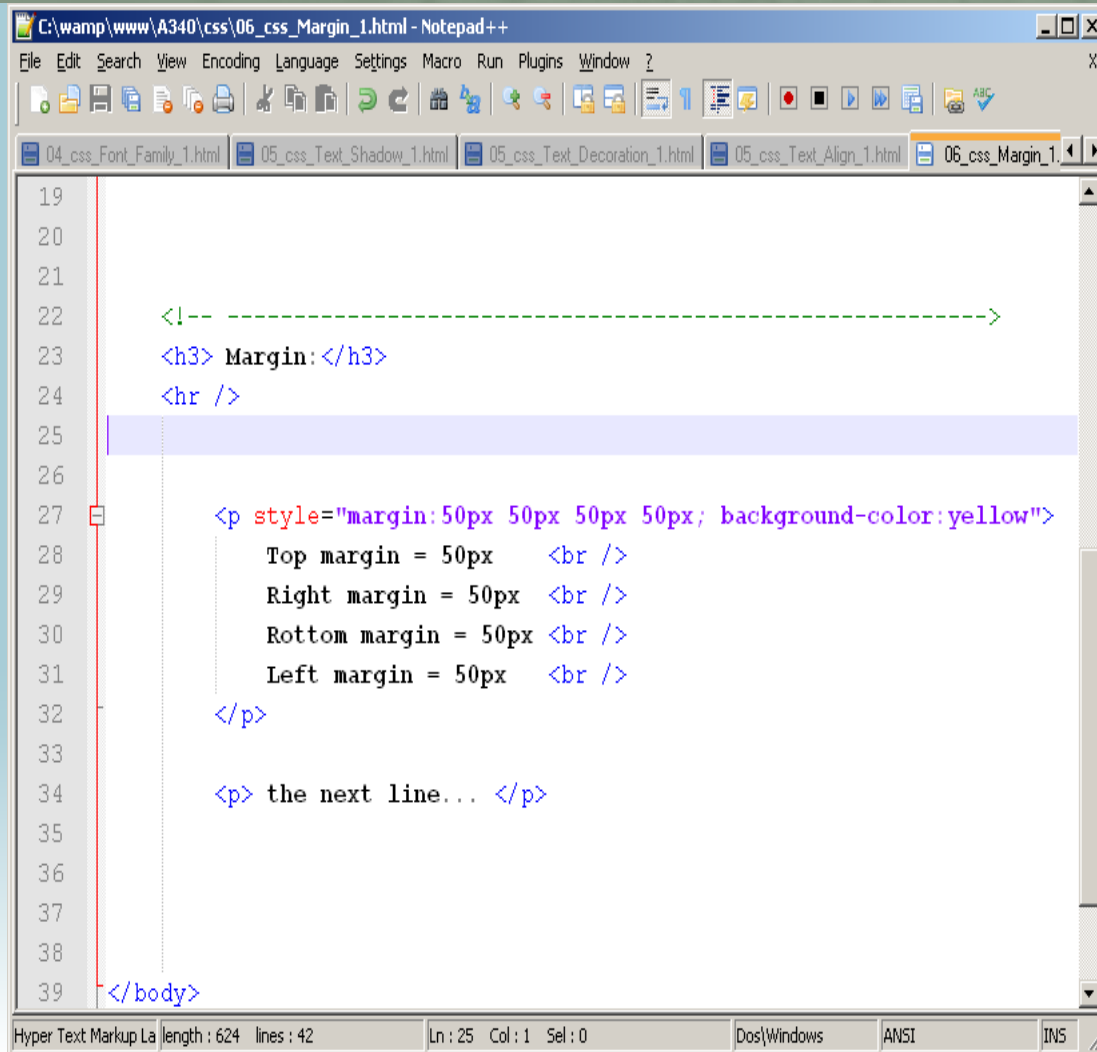


MARGIN

- The margin shorthand property sets all the margin properties in one declaration. This property can have from one to four values.
- **Example:**
margin:10px 5px 15px 20px;
 - top margin is 10px
 - right margin is 5px
 - bottom margin is 15px
 - left margin is 20px



EXAMPLE



The screenshot shows a Notepad++ window with the file path `C:\wamp\www\A340\css\06_css_Margin_1.html`. The code is as follows:

```
19
20
21
22 <!-- ----->
23 <h3> Margin:</h3>
24 <hr />
25
26
27 <p style="margin:50px 50px 50px 50px; background-color:yellow">
28     Top margin = 50px <br />
29     Right margin = 50px <br />
30     Rottom margin = 50px <br />
31     Left margin = 50px <br />
32 </p>
33
34 <p> the next line... </p>
35
36
37
38
39 </body>
```





AN INTRODUCTION TO WEB PROGRAMMING

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CSS
D



CONFLICTING STYLES: INHERITANCE (CASCADING STYLES)

- In most cases a style defined at the parent level is applied to its child elements.
- Child elements however can attempt to override the parent style information. (for example by using inline styles at the element level.)
- Properties defined on for descendant (child) elements have a **higher specificity** that properties of parent elements.
- **Conflicts are resolved in favor of higher specificity.**
- **child's styles take precedence!**

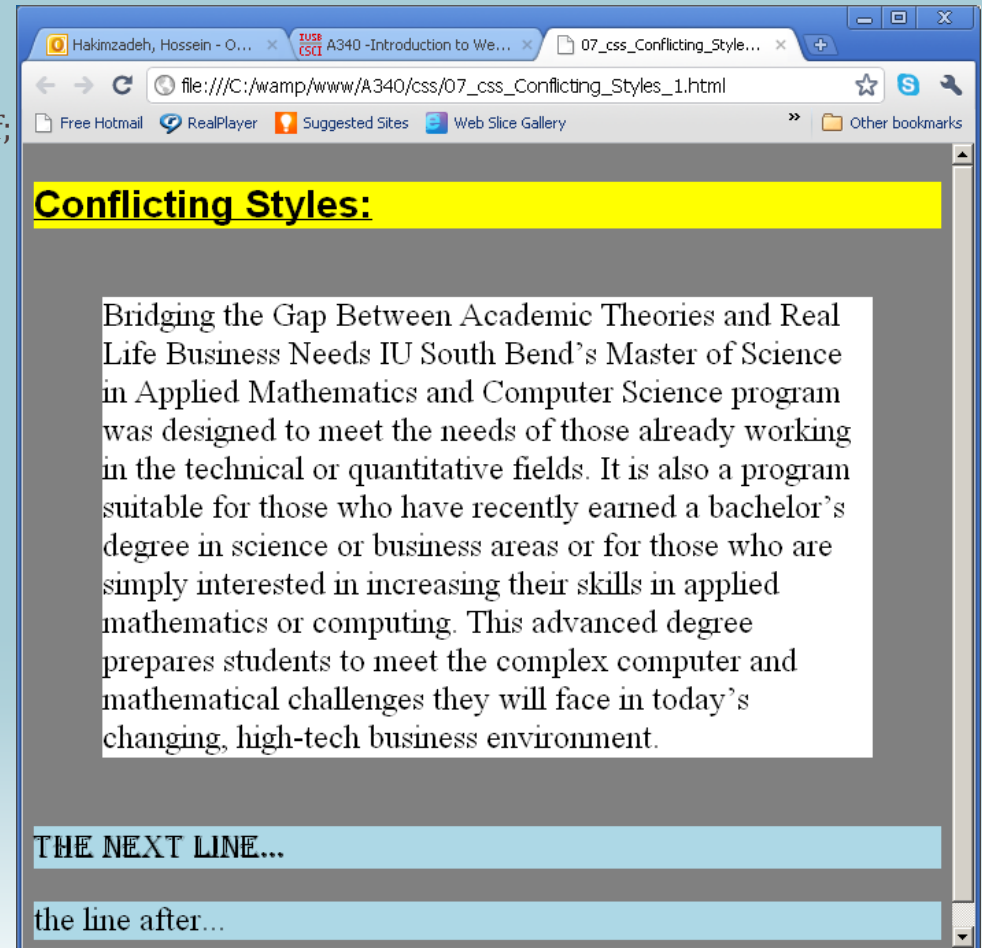
CONFLICTING STYLE

```
<style type="text/css">
  body {
    font-family: "Times New Roman", Times, serif;
    background-color:gray;
    font-size:x-large;
  }

  h3 {
    font-family: arial, helvetica, sans-serif;
    background-color:yellow;
    text-decoration:underline;
  }

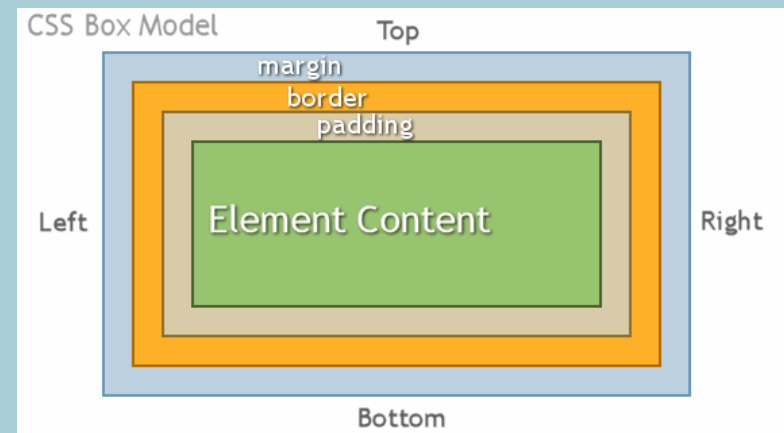
  p {
    background-color:lightblue;
  }

  #cool {
    font-family: ALGERIAN;
  }
</style>
```



CSS BOX MODEL AND FLOW

- All block-level elements have a virtual box drawn around them.
- Block-level element is surrounded by the following:
 - Padding
 - Border
 - Margin



http://www.guistuff.com/css/css_boxmodel.html

<http://www.w3.org/TR/CSS2/box.html>

MARGIN AND PADDING

- Margin and Padding can be set by using the “margin” and “padding” parameters.
- They both have a similar syntax:
- Examples:

margin: top right bottom left

padding: top right bottom left

padding:10px 5px 15px 20px;

top padding is 10px
right padding is 5px
bottom padding is 15px
left padding is 20px

padding:10px 5px 15px;

top padding is 10px
right and left padding are 5px
bottom padding is 15px

padding:10px 5px;

top and bottom padding are 10px
right and left padding are 5px

padding:10px;

all four paddings are 10px

The same syntax is used for Margins

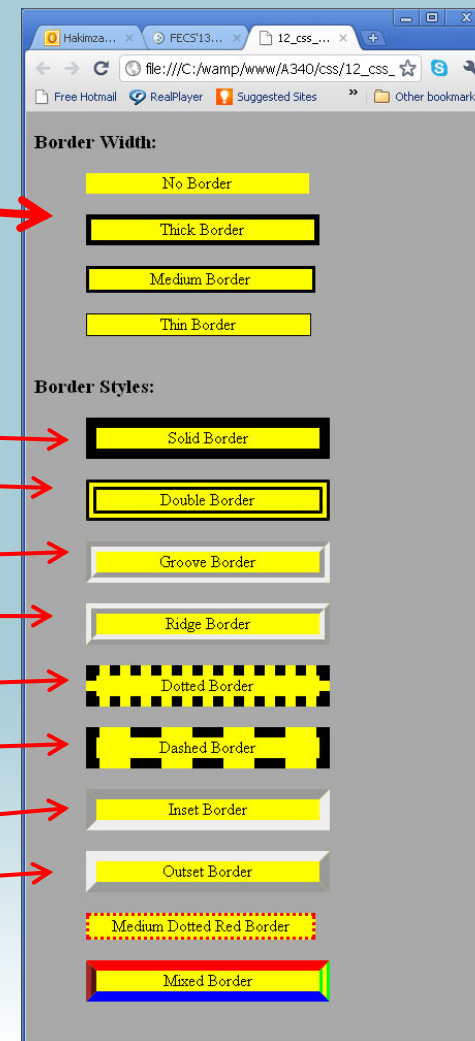
CREATING BORDER AND BOXES

- **Border Width:**

```
.simple { border-width: 0px; }  
.thick { border-width: thick; }  
.medium { border-width: medium; }  
.thin { border-width: thin; }
```

- **Border Style:**

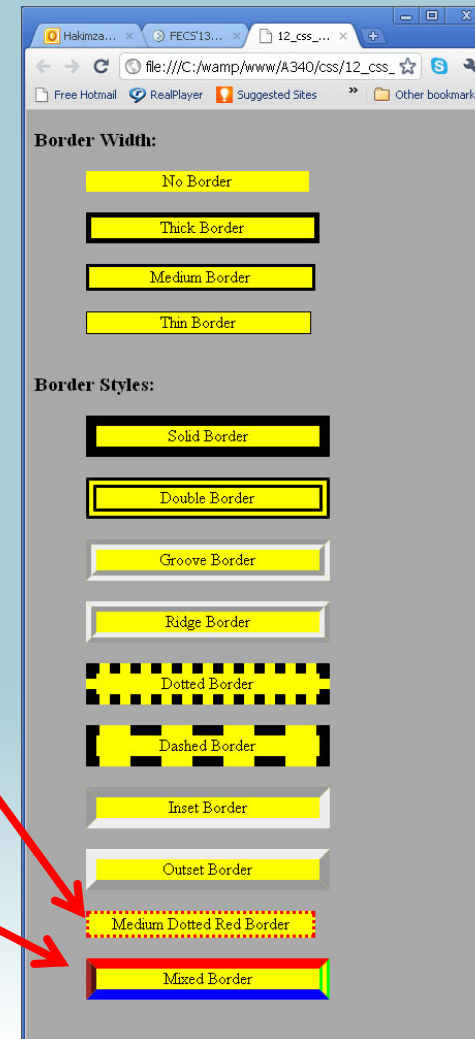
```
.solid { border-style: solid; }  
.double { border-style: double; }  
  
.groove { border-style: groove; }  
.ridge { border-style: ridge; }  
  
.dotted { border-style: dotted; }  
.dashed { border-style: dashed; }  
  
.inset { border-style: inset; }  
.outset { border-style: outset; }
```



BORDERS AND BOXES

```
.dottedRed {  
    border-width: medium;  
    border-style: dotted;  
    border-color: Red;  
}
```

```
.mixed {  
    border-top-style:solid;  
    border-top-color:#ff0000;  
  
    border-right-style:double;  
    border-right-color:#00ff00;  
  
    border-bottom-style:inset;  
    border-bottom-color:#0000ff;  
  
    border-left-style:ridge;  
    border-left-color:brown;  
}
```



BORDER IMAGES

Source Code:

[Submit Code »](#)

```
<!DOCTYPE html>
<html>
<head>
<style>
div
{
border:15px solid transparent;
width:250px;
padding:10px 20px;
}

#round
{
-moz-border-image:url(border.png) 30 30 round; /* Old Firefox */
-webkit-border-image:url(border.png) 30 30 round; /* Safari */
-o-border-image:url(border.png) 30 30 round; /* Opera */
border-image:url(border.png) 30 30 round;
}

#stretch
{
-moz-border-image:url(border.png) 30 30 stretch; /* Old Firefox */
-webkit-border-image:url(border.png) 30 30 stretch; /* Safari */
-o-border-image:url(border.png) 30 30 stretch; /* Opera */
border-image:url(border.png) 30 30 stretch;
}
</style>
</head>
<body>

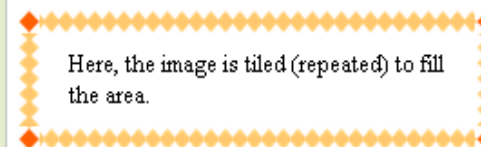
<p><b>Note:</b> Internet Explorer does not support the border-image
property.</p>
<p>The border-image property specifies an image to be used as a
border.</p>

<div id="round">Here, the image is tiled (repeated) to fill the
```

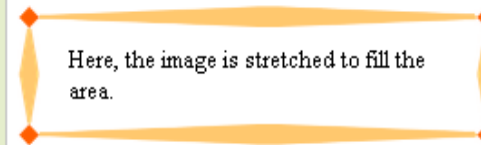
Result:

Note: Internet Explorer does not support the border-image property.

The border-image property specifies an image to be used as a border.



Here, the image is tiled (repeated) to fill the area.



Here, the image is stretched to fill the area.

Here is the image used:



http://www.w3schools.com/cssref/css3_pr_border-image.asp

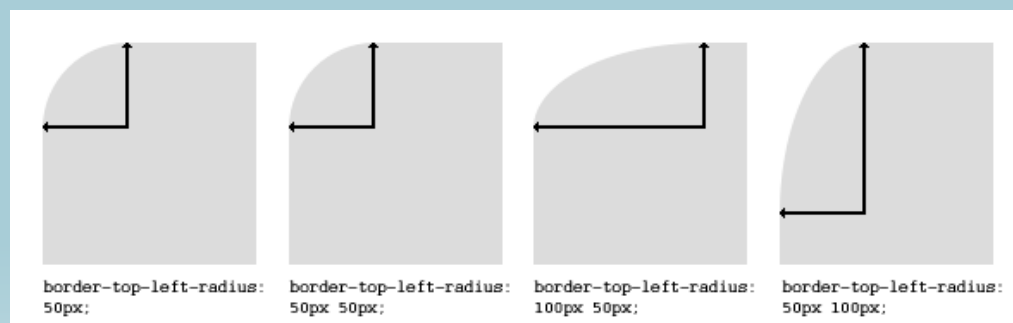
ROUNDED BORDERS

- Rounder corners can be created independently using the four individual **corner** properties, or just be setting all four corners by using the **border-radius** property:

- Corner Properties:
 - border-bottom-left-radius
 - border-top-left-radius
 - border-bottom-right-radius
 - border-top-right-radius

- Example:

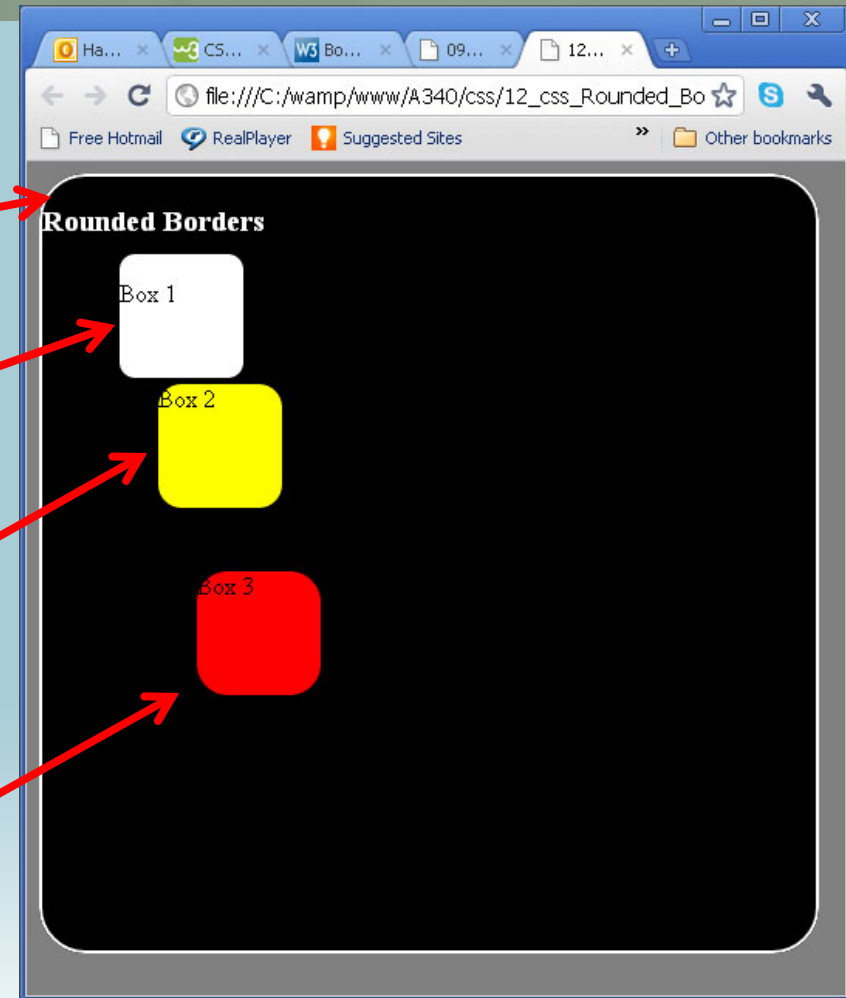
```
border-top-left-radius: 10px 5px;  
border-bottom-right-radius: 10% 5%;  
border-top-right-radius: 10px;
```



<http://www.css3.info/preview/rounded-border/>

ROUNDED BORDERS

```
body {  
    background-color:gray;  
}  
div.background {  
    position: absolute;  
  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
    border-radius: 30px;  
}  
div.box1 {  
    position: absolute;  
    top:50px;  
    left:50px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
    border-radius: 10px;  
}  
div.box2 {  
    position: relative;  
    top:75px;  
    left:75px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
    border-radius: 15px;  
}  
div.box3 {  
    position: relative;  
    top:100px;  
    left:100px;  
  
    width:80px;  
    height:80px;  
    background-color:Red;  
    border-radius: 20px;  
}
```

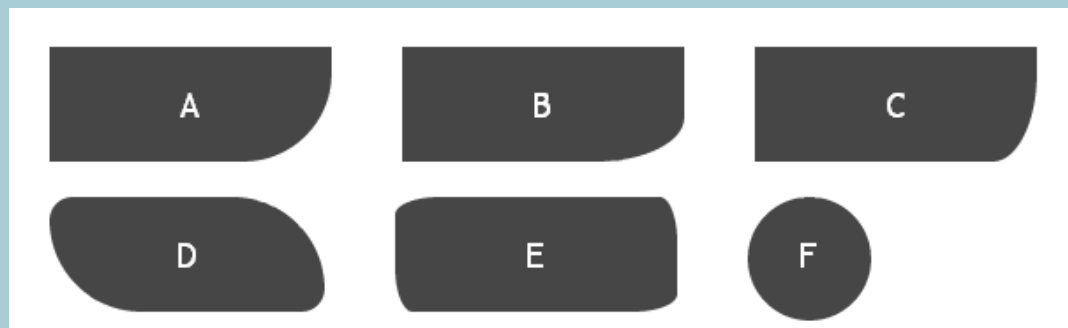


<http://www.css3.info/preview/rounded-border/>

ROUNDED BORDERS

- `#Example_A {
height: 65px;
width: 160px;
-moz-border-radius-bottomright: 50px;
border-bottom-right-radius: 50px;
}`
- `#Example_B {
height: 65px;
width: 160px;
-moz-border-radius-bottomright: 50px 25px;
border-bottom-right-radius: 50px 25px;
}`
- `#Example_C {
height: 65px;
width: 160px;
-moz-border-radius-bottomright: 25px 50px;
border-bottom-right-radius: 25px 50px;
}`
- `#Example_D {
height: 5em;
width: 12em;
-moz-border-radius: 1em 4em 1em 4em;
border-radius: 1em 4em 1em 4em;
}`
- `#Example_E {
height: 65px;
width: 160px;
-moz-border-radius: 25px 10px / 10px 25px;
border-radius: 25px 10px / 10px 25px;
}`
- `#Example_F {
height: 70px;
width: 70px;
-moz-border-radius: 35px;
border-radius: 35px;
}`

-moz- prefix is
used by some
versions of
Mozilla firefox



<http://www.css3.info/preview/rounded-border/>

BOXES AND SHADOWS

- Simple example of box-shadow property.

Source Code:	Submit Code »	Result:
<pre><!DOCTYPE html> <html> <head> <style> div { width:300px; height:100px; background-color:yellow; box-shadow: 10px 10px 5px #888888; } </style> </head> <body> <div></div> </body> </html></pre>		

<http://www.css3.info/preview/box-shadow/>

TRANSPARENCY AND OPACITY

<head>

```
<style type= "text/css">
```

```
img {  
  opacity:0.2;  
  filter:alpha(opacity=20); /* For IE8 and earlier */  
}
```

```
img:hover {  
  opacity:1.0;  
  filter:alpha(opacity=100); /* For IE8 and earlier */  
}
```

```
</style>
```

</head>

<body>

```
<!-- ----->
```

```
<h3 > Trasparecy / Opacity:</h3>
```

```
<p> Original Opacity = 20%. Hovering over the image will increase the opacity to 100%.
```

```
<br>
```

```

```

```
<br>
```

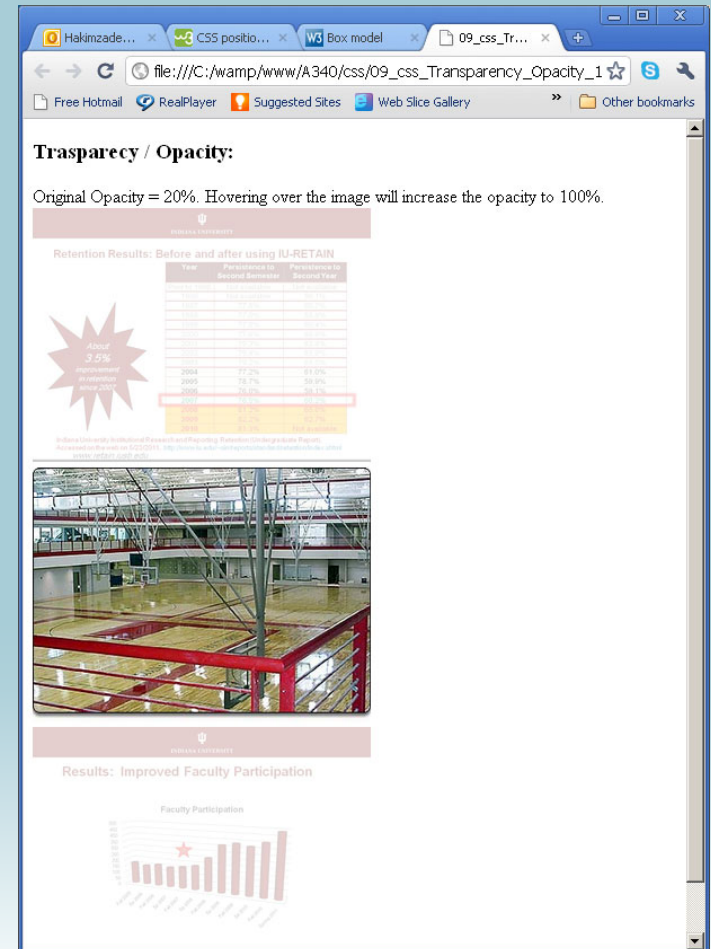
```

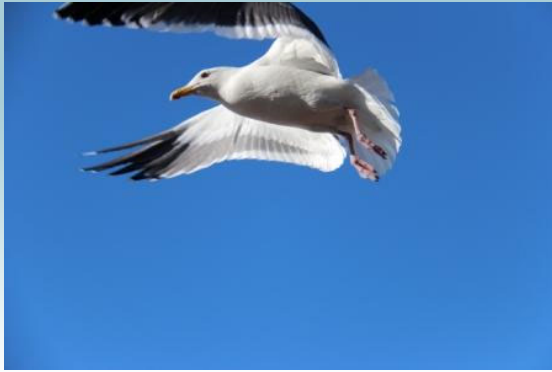
```

```
<br>
```

```

```





AN INTRODUCTION TO WEB PROGRAMMING

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CSS
E



POSITIONING AND LAYERING

- Elements in HTML5 can be stacked on top of each other (or overlap) using two different CSS properties:
 1. **Position**
 2. **Z-index**
- **Position** can be:
 - Static (default)
 - Relative
 - Absolute
 - Fixed
 - Inherit (inherit from parent)
- **Z-index** is simply a number.
 - Smaller number means farther away from you

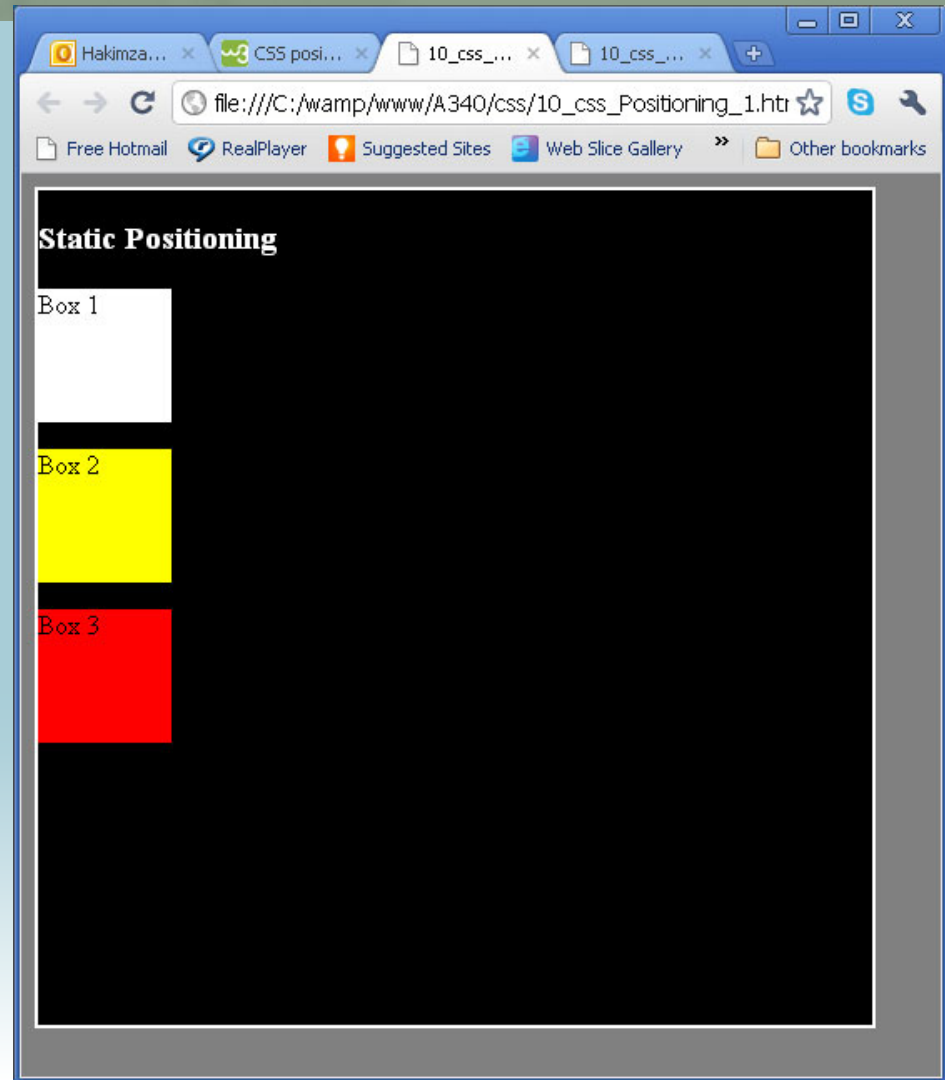
POSITIONING

- **Static** positioning is the default and the z-index has no effect on statically positioned elements.
- **Relative** positioning is based on the parent and other elements and can be adjusted using the margin, top, bottom, left and right properties.
- **Absolute** positioned elements are removed from the flow of the document, but they are relative to their parent elements. (Other elements in the page will behave as if it is not even there!)
- **Fixed** positioned elements are similar to Absolute positioned element, except that they are fixed to the document not any parent element.

http://www.w3schools.com/css/css_positioning.asp

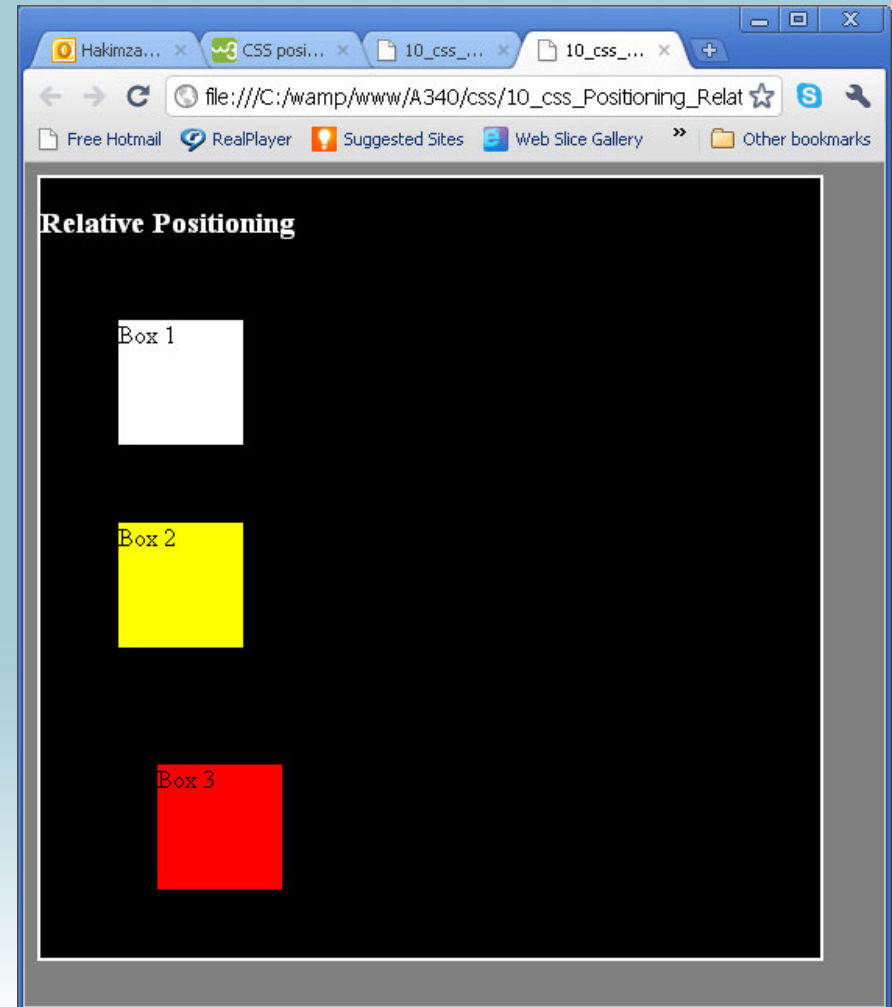
STATIC POSITIONING EXAMPLES:

```
body {  
    background-color:gray;  
}  
div.background {  
    position: static;  
  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
}  
div.box1 {  
    position:static;  
    margin:0px;  
    top:0px;  
    left:0px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
}  
div.box2 {  
    position:static;  
    margin:0px;  
    top:0px;  
    left:0px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
}  
div.box3 {  
    position:static;  
    width:80px;  
    height:80px;  
    background-color:Red;  
}
```



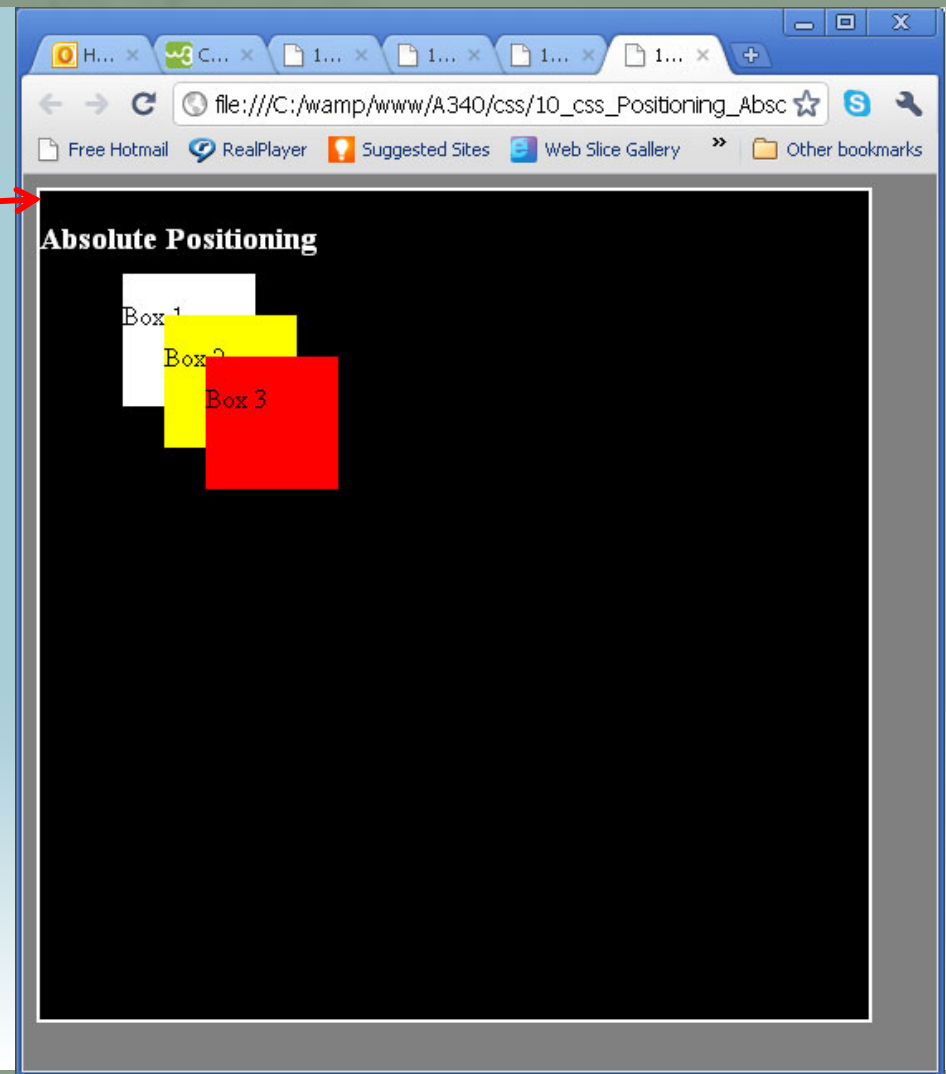
RELATIVE POSITIONING EXAMPLES:

```
body {  
    background-color:gray;  
}  
div.background {  
    position: relative;  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
}  
div.box1 {  
    position:relative;  
    margin:50px 50px 50px 50px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
}  
div.box2 {  
    position:relative;  
    margin:50px 50px 50px 50px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
}  
div.box3 {  
    position:relative;  
    margin:75px 75px 75px 75px;  
  
    width:80px;  
    height:80px;  
    background-color:Red;  
}
```



ABSOLUTE POSITIONING EXAMPLES:

```
body {  
    background-color:gray;  
}  
div.background {  
    position: absolute;  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
}  
div.box1 {  
    position: absolute;  
    top:50px;  
    left:50px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
}  
div.box2 {  
    position: absolute;  
    top:75px;  
    left:75px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
}  
div.box3 {  
    position: absolute;  
    top:100px;  
    left:100px;  
  
    width:80px;  
    height:80px;  
    background-color:Red;  
}
```



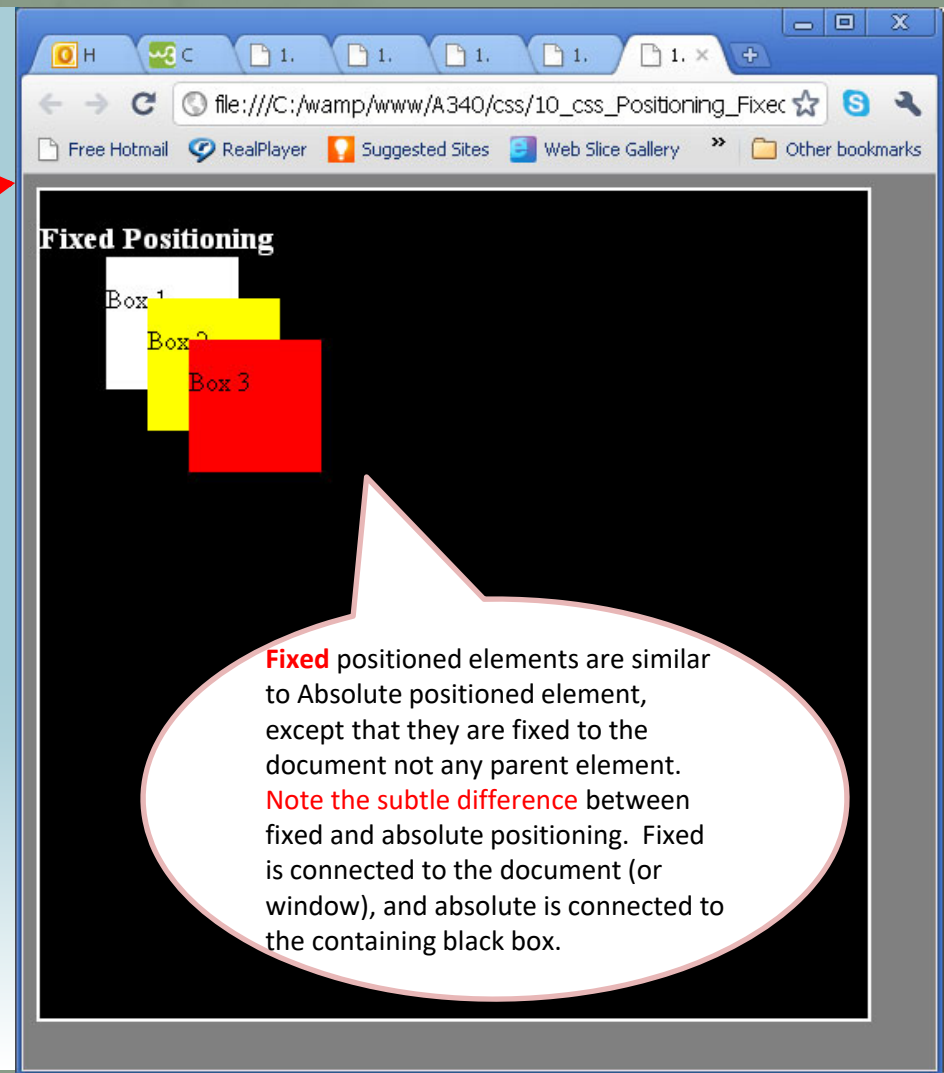
FIXED POSITIONING EXAMPLES:

```
body {
    background-color:gray;
}
div.background {
    position: fixed;
    width:500px;
    height:500px;
    background-color:black;
    border:2px solid white;
}
div.box1 {
    position: fixed;
    top:50px;
    left:50px;

    width:80px;
    height:80px;
    background-color:white;
}
div.box2 {
    position: fixed;
    top:75px;
    left:75px;

    width:80px;
    height:80px;
    background-color:Yellow;
}
div.box3 {
    position: fixed;
    top:100px;
    left:100px;

    width:80px;
    height:80px;
    background-color:Red;
}
```

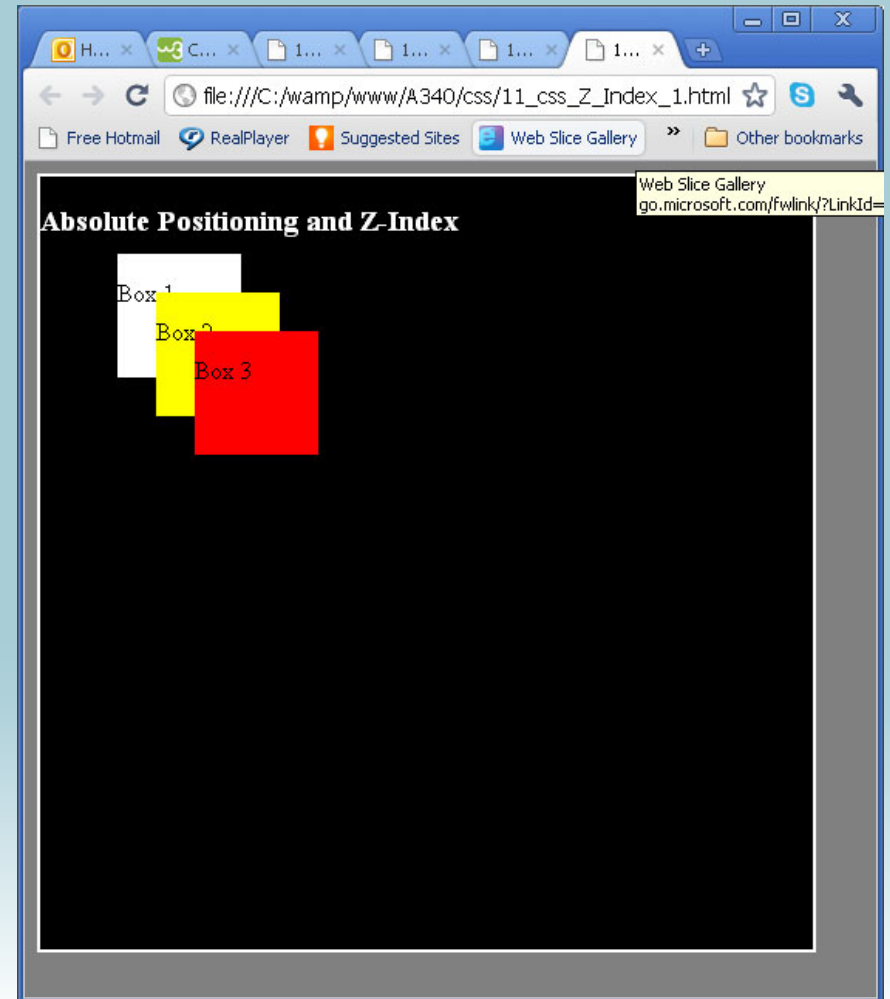


LAYERING (Z-INDEX)

- Using the **Absolute positioning** and the **z-index** property, the user can have much better control over the positioning and layering of objects on a web page.
- Specifying an element's position as "absolute" will remove it from the normal flow of elements on a page. Instead, the element can be positioned according to a distance from top, left, right, bottom of its containing block-level element.

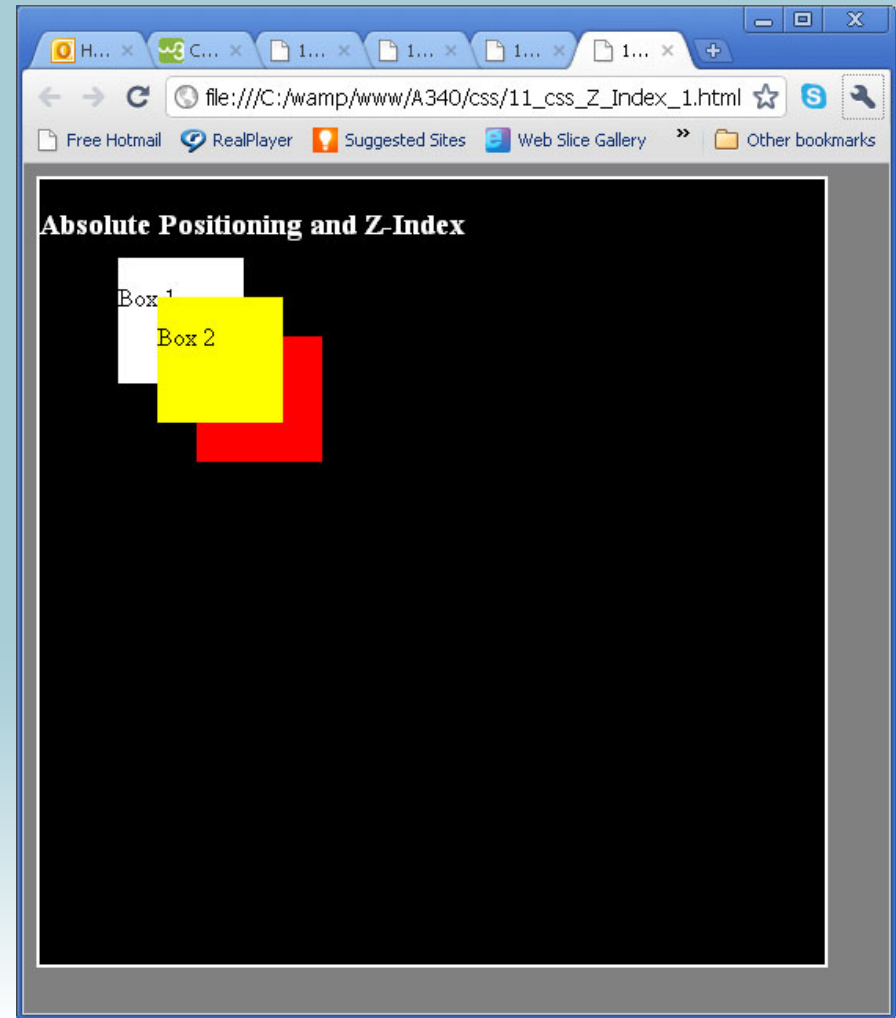
LAYERING (Z-INDEX)

```
body {  
    background-color:gray;  
}  
div.background {  
    position: absolute;  
  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
}  
div.box1 {  
    position: absolute;  
    top:50px;  
    left:50px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
    z-index:1;  
}  
div.box2 {  
    position: absolute;  
    top:75px;  
    left:75px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
    z-index:2;  
}  
div.box3 {  
    position: absolute;  
    top:100px;  
    left:100px;  
  
    width:80px;  
    height:80px;  
    background-color:Red;  
    z-index:3;  
}
```



LAYERING (Z-INDEX)

```
body {  
    background-color:gray;  
}  
div.background {  
    position: absolute;  
  
    width:500px;  
    height:500px;  
    background-color:black;  
    border:2px solid white;  
}  
div.box1 {  
    position: absolute;  
    top:50px;  
    left:50px;  
  
    width:80px;  
    height:80px;  
    background-color:white;  
    z-index:1;  
}  
div.box2 {  
    position: absolute;  
    top:75px;  
    left:75px;  
  
    width:80px;  
    height:80px;  
    background-color:Yellow;  
    z-index:3;  
}  
div.box3 {  
    position: absolute;  
    top:100px;  
    left:100px;  
  
    width:80px;  
    height:80px;  
    background-color:Red;  
    z-index:2;  
}
```



MULTI-COLUMN LAYOUT

- CSS allows the user to use pagination features such as multiple columns:

```
div
{
  -moz-column-count:3;    /* Firefox */
  -webkit-column-count:3; /* Safari and Chrome */
  column-count:3;
}
```

MULTI-COLUMN LAYOUT

```
<style type="text/css">
```

```
body{background-color:gray;}
```

```
div {
```

```
    width: 500px;
    background-color:black;
    color: white;
    border-radius: 10px;
    border-style: solid;
```

```
}
```

```
.news_2_column
```

```
{
```

```
    -moz-column-count:2;          /* Firefox */
    -webkit-column-count:2; /* Safari and Chrome */
    column-count:2;
```

```
}
```

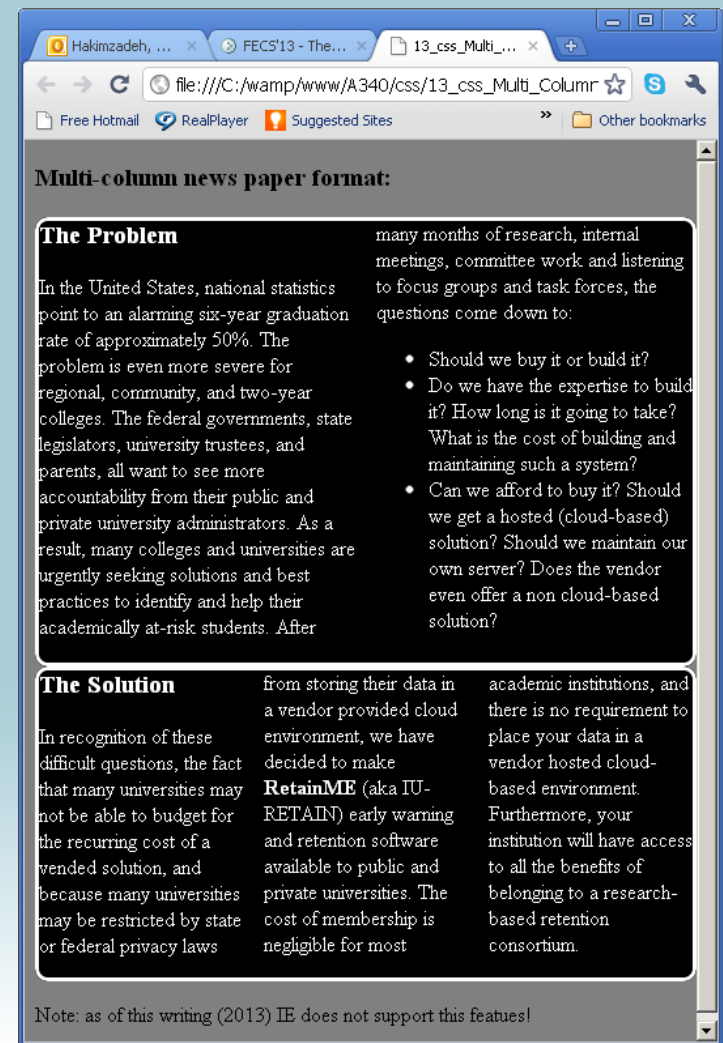
```
.news_3_column
```

```
{
```

```
    -moz-column-count:3;          /* Firefox */
    -webkit-column-count:3; /* Safari and Chrome */
    column-count:3;
```

```
}
```

```
</style>
```



MULTI-COLUMN LAYOUT IN (IE)

```
<style type="text/css">
```

```
body{background-color:gray;}
```

```
div {
```

```
width: 500px;  
background-color:black;  
color: white;  
border-radius: 10px;  
border-style: solid;
```

```
}
```

```
.news_2_column
```

```
{
```

```
-moz-column-count:2; /* Firefox */  
-webkit-column-count:2; /* Safari and Chrome */  
column-count:2;
```

```
}
```

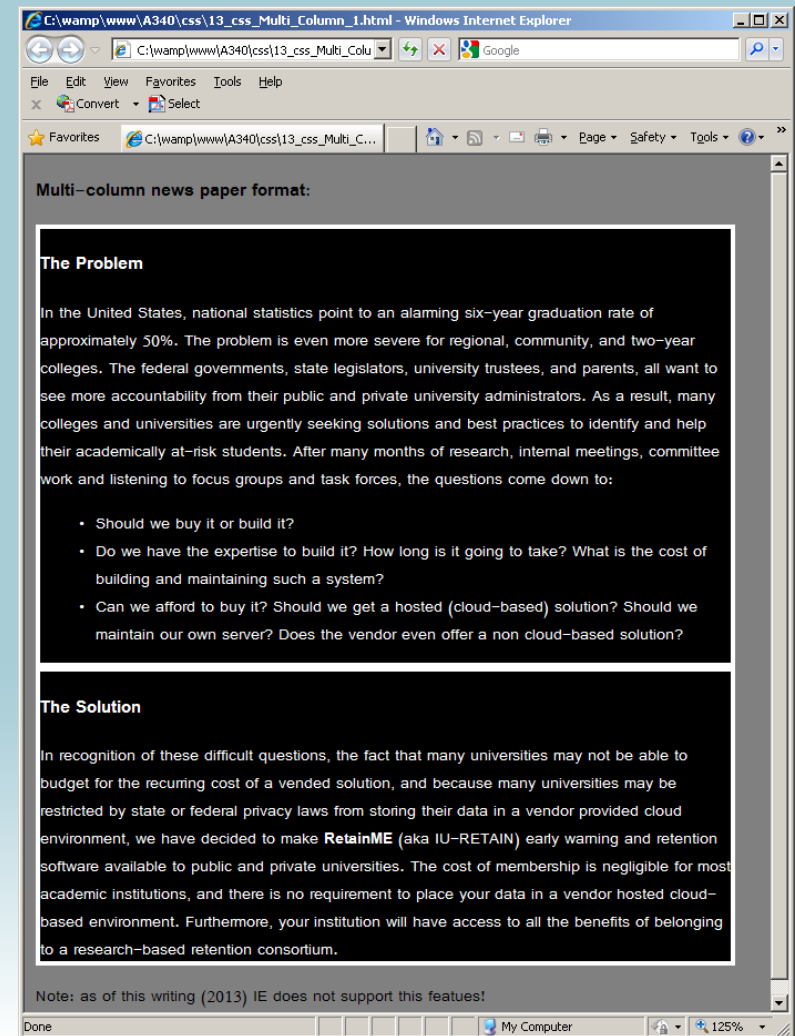
```
.news_3_column
```

```
{
```

```
-moz-column-count:3; /* Firefox */  
-webkit-column-count:3; /* Safari and Chrome */  
column-count:3;
```

```
}
```

```
</style>
```





AN INTRODUCTION TO WEB PROGRAMMING

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CSS
F



CONTENTS

- Event handling with CSS (pseudo-classes)
- CSS's overflow attribute (vs. iframe)
- Figure and Fig-caption tags
- Animation and Transformation (translation, scaling, rotation)

EVENT HANDLING WITH CSS

- Although sophisticated event handling is typically performed by a client-side or server-side programming language (e.g., JavaScript or PHP), some events can be nicely handled by simple CSS styles.
- For example we can change the opacity of an image by simply hovering over it, and change the background color of a section by hovering our mouse over it.
- This is often achieved by using a CSS **pseudo-class selectors**.

CSS PSEUDO-CLASSES

- **Pseudo-class selectors** are used to add special effect to “some” selectors.
- Pseudo-class are selectors in CSS that apply to elements when they're in a certain state or condition.
- Syntax:
 - `selector:pseudo-class {property:value;}`
- Example:
 - `p:hover { color:green;}`

CSS PSEUDO-CLASSES

All CSS Pseudo Classes/Elements

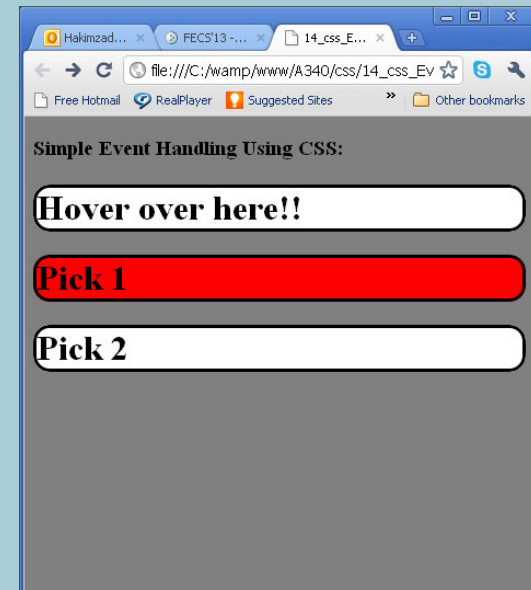
Selector	Example	Example description
<u>:link</u>	a:link	Selects all unvisited links
<u>:visited</u>	a:visited	Selects all visited links
<u>:active</u>	a:active	Selects the active link
<u>:hover</u>	a:hover	Selects links on mouse over
<u>:focus</u>	input:focus	Selects the input element which has focus
<u>:first-letter</u>	p:first-letter	Selects the first letter of every <p> element
<u>:first-line</u>	p:first-line	Selects the first line of every <p> element
<u>:first-child</u>	p:first-child	Selects every <p> elements that is the first child of its parent
<u>:before</u>	p:before	Insert content before every <p> element
<u>:after</u>	p:after	Insert content after every <p> element
<u>:lang(<i>language</i>)</u>	p:lang(it)	Selects every <p> element with a lang attribute value starting with "it"

http://www.w3schools.com/css/css_pseudo_classes.asp

EXAMPLES OF CSS EVENT HANDLING

- Let's create a couple of classes, using the hover:

```
.myClass {  
    border-style:solid;  
    border-radius:15px;  
    background-color: #ffffff;  
}  
  
.myClass:hover {  
    background-color: #FF0000;  
}
```



<H3> Simple Event Handling Using CSS:</H3>

<h1 class="myClass"> Hover over here!! </h1>

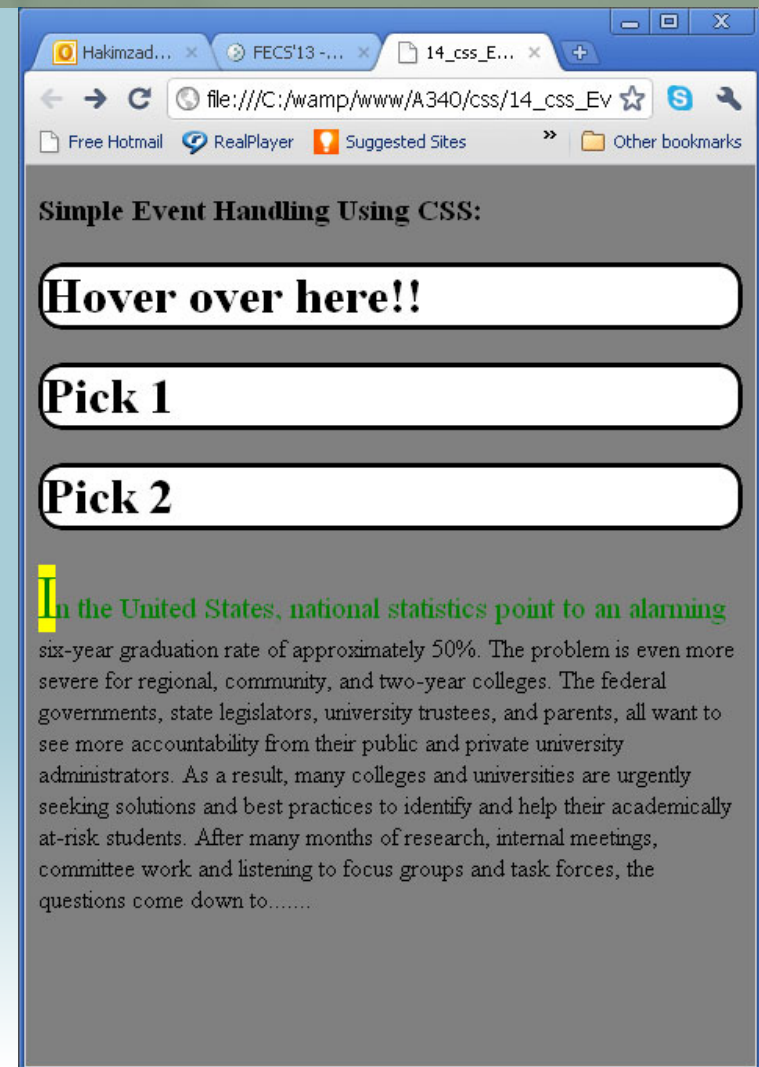
<h1 class="myClass"> Pick 1 </h1>

<h1 class="myClass"> Pick 2 </h1>

EXAMPLES OF CSS EVENT HANDLING

```
<style type="text/css">
  body{background-color:gray;}

  /* Creating a class for handling hover */
  .myClass {
    border-style:solid;
    border-radius:15px;
    background-color: #ffffff;
  }
  .myClass:hover {
    background-color: #FF0000;
  }
  /* Creating a rules and pseudo-classes for handling paragraphs */
  P {      color:black;    }
  p:hover {
    color:white;
    font-weight: bold;
  }
  p:first-line {
    color:green;
    font-size: 0.5cm;
  }
  p:first-letter {
    background-color:yellow;
    font-size: 1cm;
  }
</style>
```



OVERFLOW

- Sometimes, the content of a box element may overflow its container.
- The overflow property specifies what happens if content overflows an element's box.
- Syntax:
 - Overflow:property
- Property can be:
 - Visible
 - Hidden
 - Scroll
 - Auto

Example:

```
div {  
    width:150px;  
    height:150px;  
    overflow:scroll;  
}
```

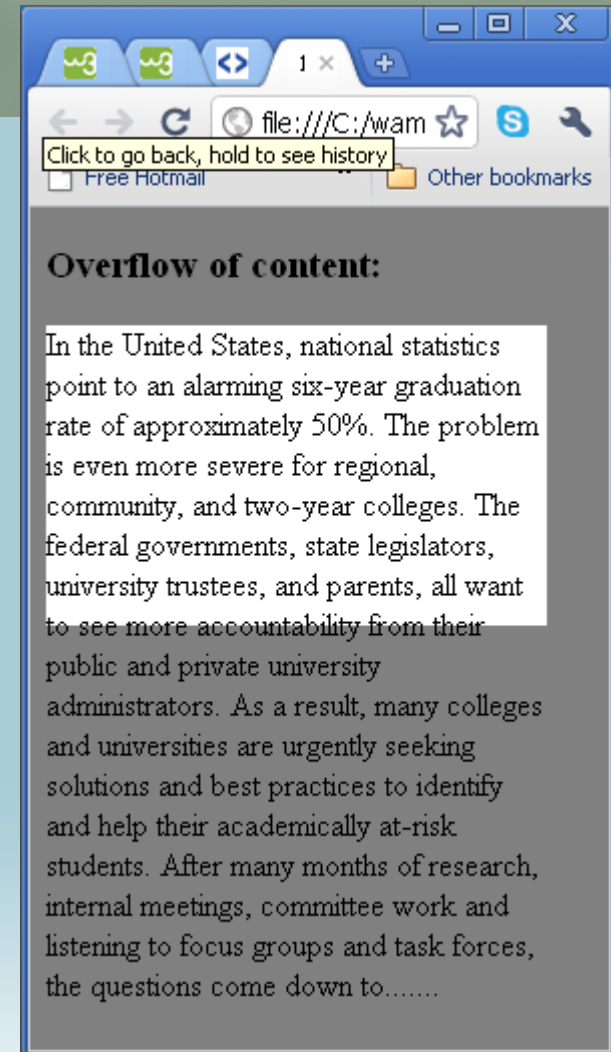
Property Values

Value	Description
visible	The overflow is not clipped. It renders outside the element's box. This is default
hidden	The overflow is clipped, and the rest of the content will be invisible
scroll	The overflow is clipped, but a scroll-bar is added to see the rest of the content
auto	If overflow is clipped, a scroll-bar should be added to see the rest of the content
inherit	Specifies that the value of the overflow property should be inherited from the parent element

http://www.w3schools.com/cssref/pr_pos_overflow.asp

OVERFLOW

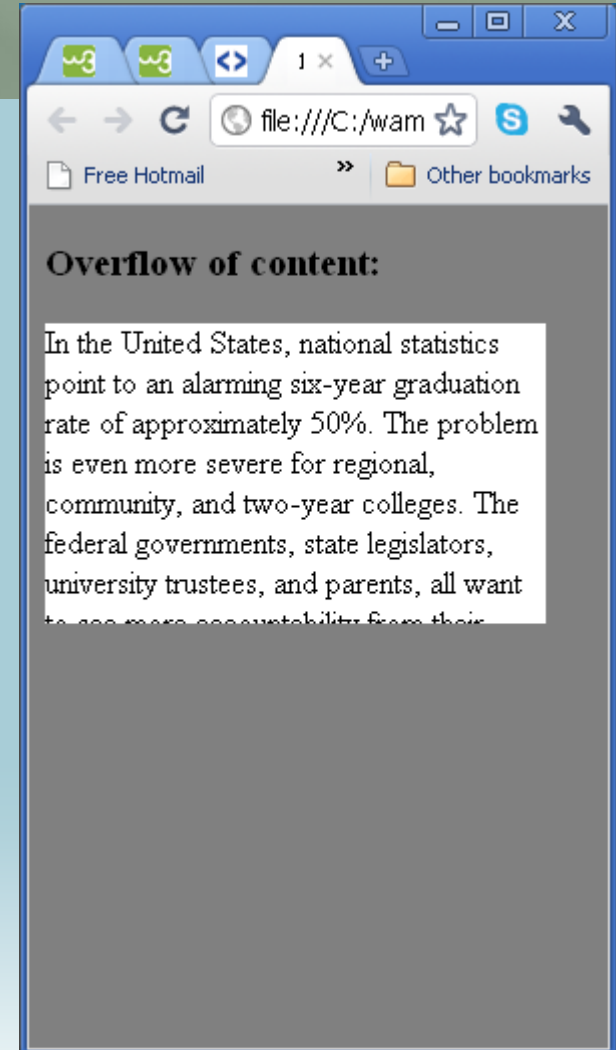
```
div {  
    width:250px;  
    height:150px;  
    background-color: white;  
    overflow:visible;  
}
```



http://www.w3schools.com/cssref/pr_pos_overflow.asp

OVERFLOW

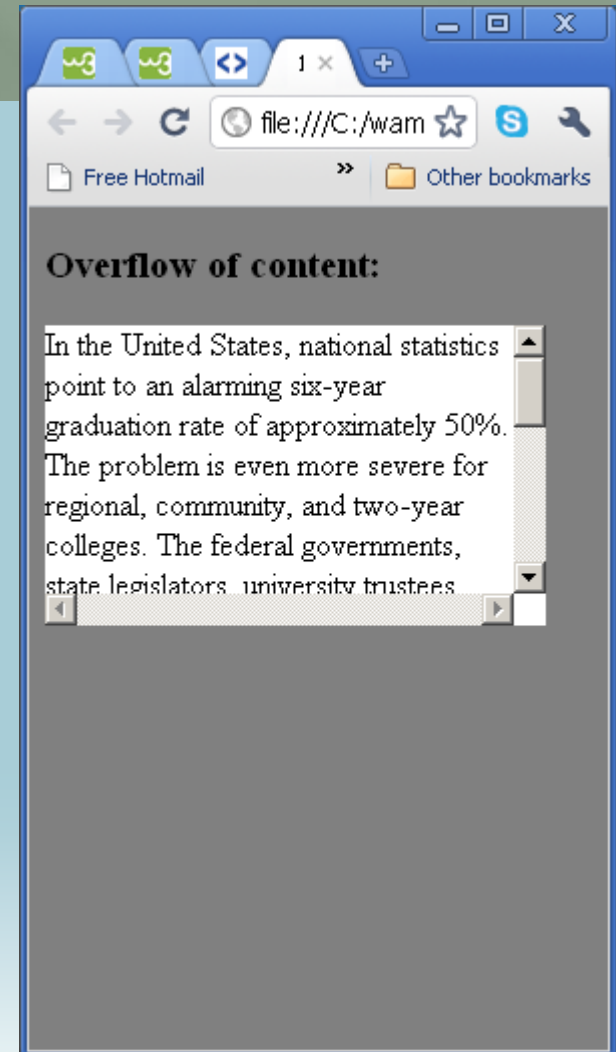
```
div {  
    width:250px;  
    height:150px;  
    background-color: white;  
    overflow: hidden;  
}
```



http://www.w3schools.com/cssref/pr_pos_overflow.asp

OVERFLOW

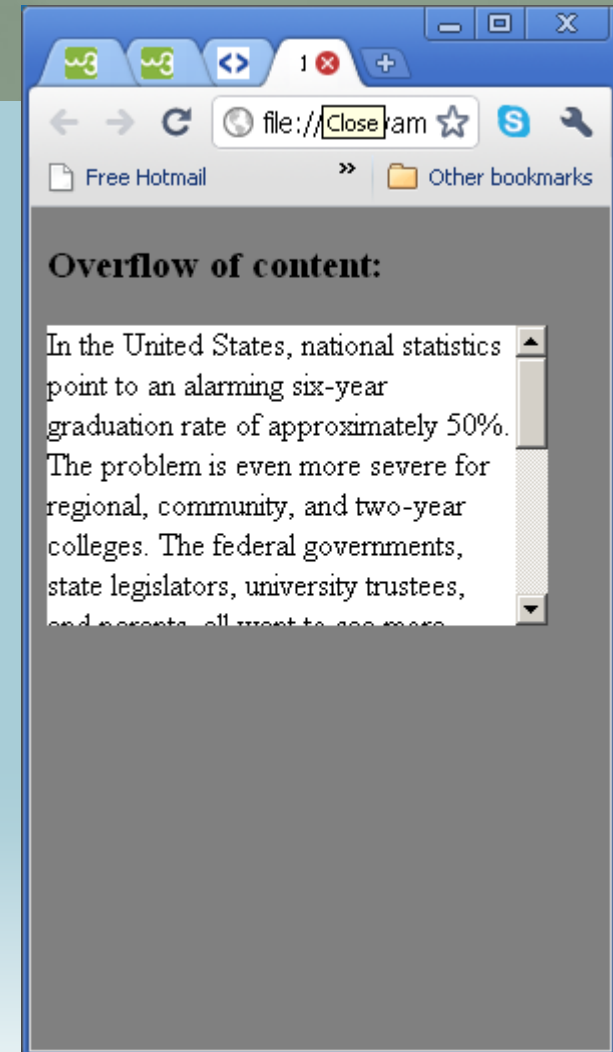
```
div {  
    width:250px;  
    height:150px;  
    background-color: white;  
    overflow:scroll;  
}
```



http://www.w3schools.com/cssref/pr_pos_overflow.asp

OVERFLOW

```
div {  
    width:250px;  
    height:150px;  
    background-color: white;  
    overflow:auto;  
}
```



http://www.w3schools.com/cssref/pr_pos_overflow.asp

FIGURE AND FIGCAPTION TAGS

- `<Figure>`
 - marks up a photo in a document.
- `<figcaption>`
 - Allows the user to add a caption to the bottom of the figure

`<figure>`

``

`<figcaption> Fig.1 – The official IU logo</figcaption>`

`</figure>`

ANIMATION

- The animation property is a shorthand property for six of the animation properties:
 1. animation-name,
 2. animation-duration,
 3. animation-timing-function,
 4. animation-delay,
 5. animation-iteration-count,
 6. animation-direction.
- Duration must always be specified otherwise it will default to 0 (no animation)
- **Not supported by IE**

CSS TRANSFORMATION /ANIMATION

- CSS3 transitions are effects that let an element gradually change from one style to another.
- To do this, you must specify two things:
 - Specify the CSS property you want to add an effect to
 - Specify the duration of the effect

CSS TRANSFORMATION

- 2D Transformations are as follows:
 - Translation (moving in x and/or y coordinate)
 - Rotation (about a fixed point)
 - Scaling (enlarging or reducing the object)

TRANSLATION

- `-moz-transform: translate(10px, 10px);`
 - `-webkit-transform: translate(10px, 10px);`
 - `-o-transform: translate(10px, 10px);`
 - **`transform: translate(10px, 10px);`**
-
- `-moz-transform: translateY(40px) scale(1.5) rotate(15deg);`
 - `-webkit-transform: translateY(40px) scale(1.5) rotate(15deg);`
 - `-o-transform: translateY(40px) scale(1.5) rotate(15deg);`
 - `transform: translateY(40px) scale(1.5) rotate(15deg);`

ROTATION

- `-moz-transform: rotate(45deg);`
- `-webkit-transform: rotate(45deg);`
- `-o-transform: rotate(45deg);`
- `transform: rotate(45deg);`

- `-moz-transform: skew(15deg);`
- `-webkit-transform: skew(15deg);`
- `-o-transform: skew(15deg);`
- `transform: skew(15deg);`

SCALE

- `-moz-transform: scale(2);`
- `-webkit-transform: scale(2);`
- `-o-transform: scale(2);`
- `transform: scale(2);`

TRANSITION/ANIMATION

```
<!DOCTYPE html>
<html>
<head>
<style>
div
{
    width:100px;
    height:100px;
    background:red;
    transition:width 2s, height 2s;
    -moz-transition:width 2s, height 2s, -moz-transform 2s; /* Firefox 4 */
    -webkit-transition:width 2s, height 2s, -webkit-transform 2s; /* Safari and Chrome */
    -o-transition:width 2s, height 2s, -o-transform 2s; /* Opera */
}

div:hover
{
    width:200px;
    height:200px;
    transform:rotate(180deg);
    -moz-transform:rotate(180deg); /* Firefox 4 */
    -webkit-transform:rotate(180deg); /* Safari and Chrome */
    -o-transform:rotate(180deg); /* Opera */
}
</style>

</head>
<body>
<p><b>Note:</b> This example does not work in Internet Explorer.</p>
<div>Hover over me to see the transition effect!</div>
</body>
</html>
```

Note: This example does not work in Internet Explorer.

Hover over me
to see the
transition effect!

http://www.w3schools.com/css3/tryit.asp?filename=trycss3_transition2