

Front-end Essentials

CSS Essentials



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Lesson Objectives

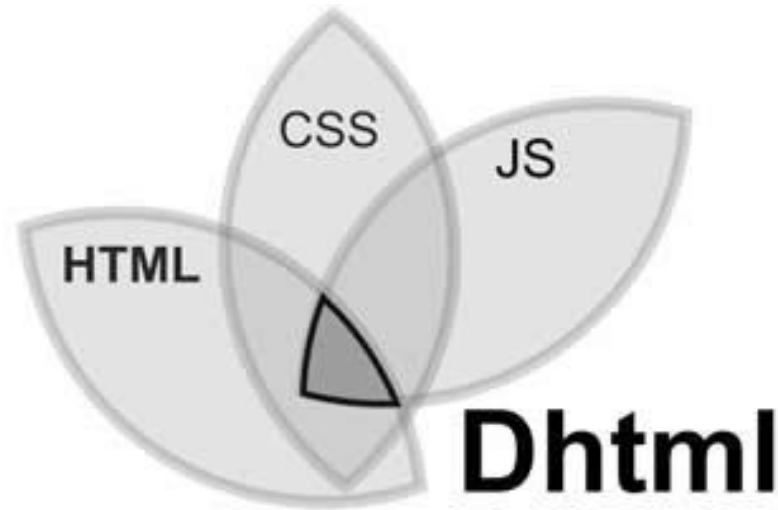
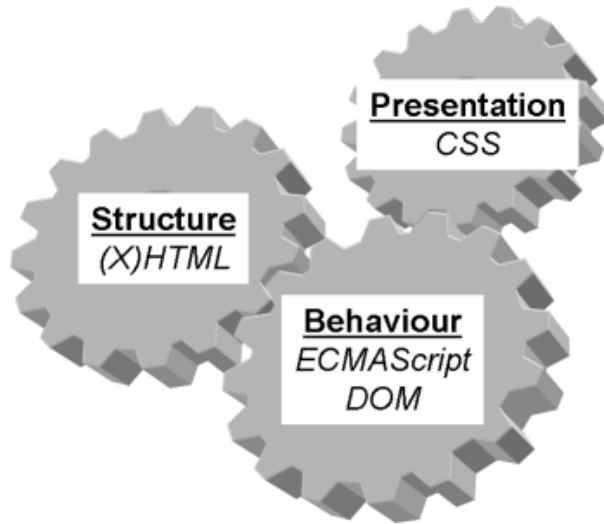
- Understand basic concepts of CSS, CSS3
- Able to style a web page using CSS

Section 1

CSS & HTML

- DHTML is used to describe the **combination of HTML**, the **stylesheet** and **script language** make the website come alive.
- The ability to **write the script** allows to add **dynamic features** to Web pages.
- Microsoft DHTML implementation through focusing on the **use of CSS** (Cascading Style Sheets). The **script code** is used for **interactive elements** of CSS.

- Microsoft DHTML implementation through focusing on the **use of CSS** (Cascading Style Sheets). The **script code** is used for **interactive elements** of CSS.



- DHTML describes the combination of HTML, Stylesheet and Scripting Language
- Use Script to add **dynamic features** to Web page
- Microsoft DHTML implementation through focusing on the **use of CSS**

Section 2

CSS Introduction

- CSS stands for ***Cascading Style Sheet***.
- Typical **CSS file** is a text file with an extension **.css** and contains a series of **commands** or **rules**.

CSS Introduction – What is CSS ?

- These **rules** tell the browser how to display.



There are **3 ways** to attach CSS to a page:

1. Inline Style Sheet

```
<p style="color: red">Some Text</p>
```

2. Internal Style Sheet

```
<head>
```

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

```
    h1 { color: red }
```

```
  </style>
```

```
</head>
```

3. External Style Sheet

```
<link rel="stylesheet" type="text/css" href="css/styles.css" />
```

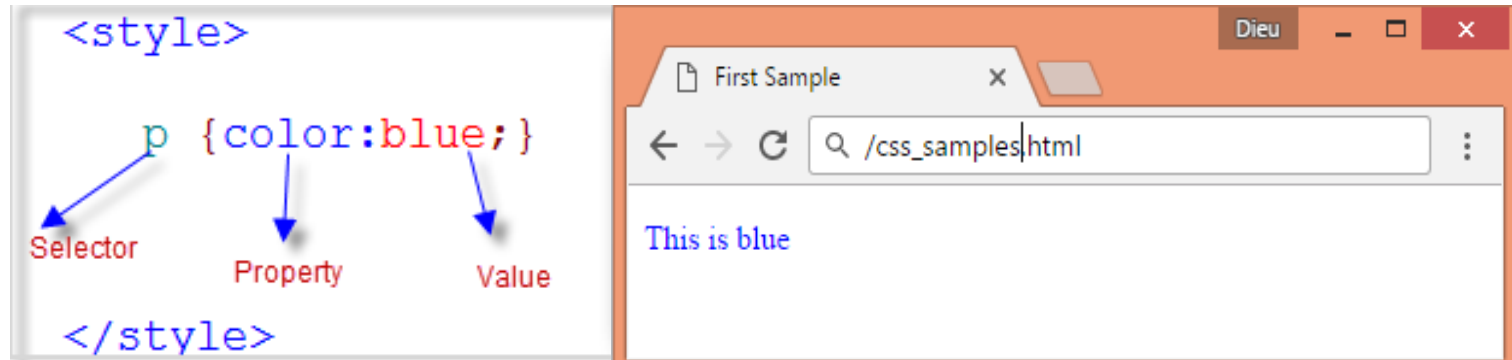
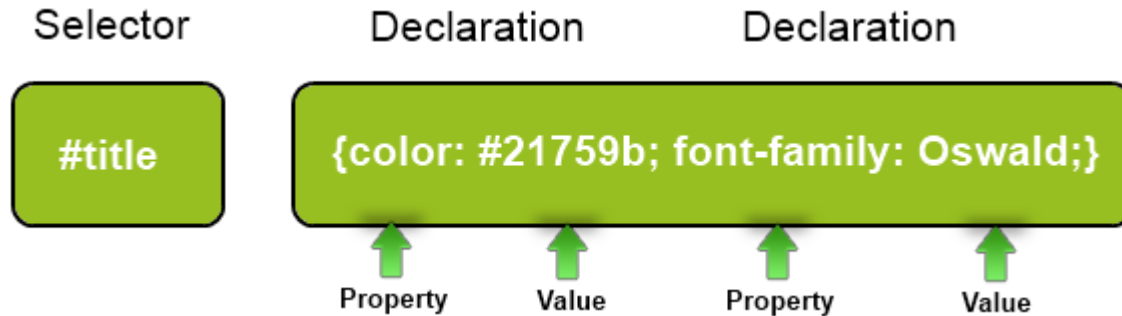
- Stands for ***Cascading Style Sheet***
- Typical **CSS file** is a text file with an extension **.css**
- CSS **rules** tell the browser how to display
- There are **3 ways** to attach CSS to a page:
 - ✓ Inline style sheet
 - ✓ Internal style sheet
 - ✓ External style sheet

Section 3

CSS Syntax

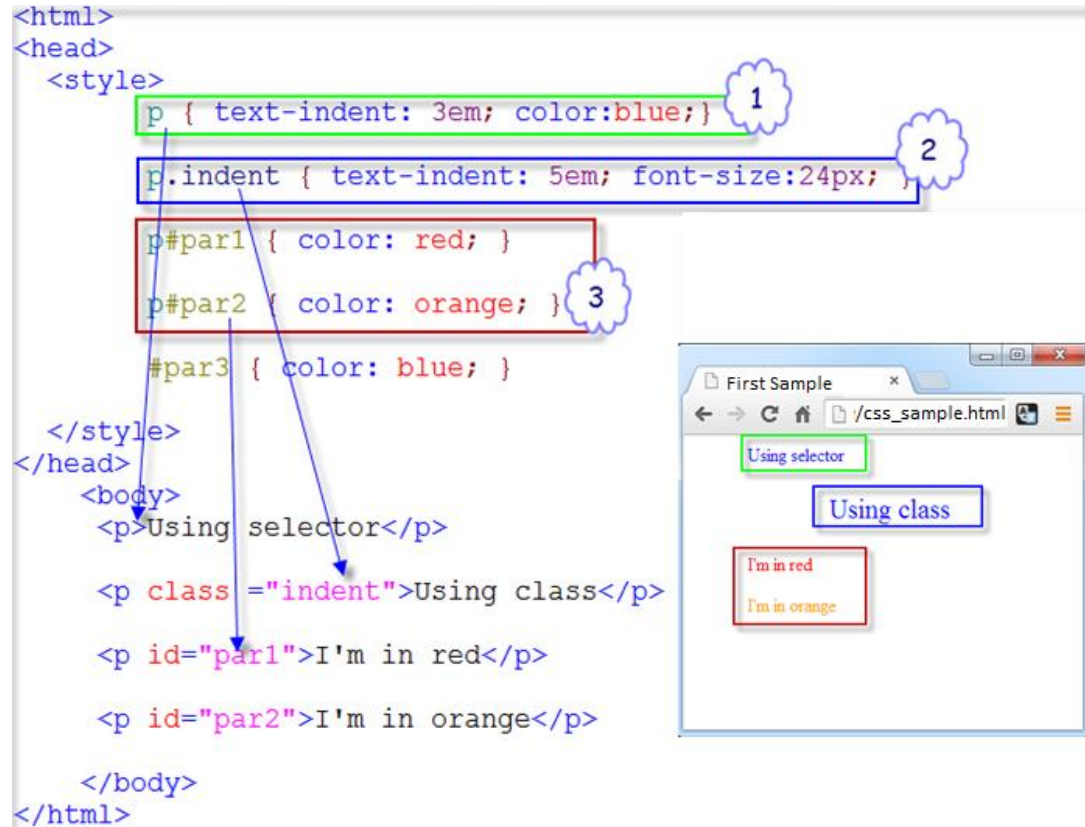
- A CSS RULE is made up of a **selector** and a **declaration**.
A declaration consists of property and value.
- **A selector** is often an element of HTML.
- **Properties** and **values** tell browser how to display

CSS Introduction – CSS Syntax 2



CSS Introduction – Using Selector

```
<html>
<head>
  <style>
    p { text-indent: 3em; color:blue;} 1
    p.indent { text-indent: 5em; font-size:24px; } 2
    p#par1 { color: red; }
    p#par2 { color: orange; } 3
    #par3 { color: blue; }
  </style>
</head>
<body>
  <p>Using selector</p>
  <p class="indent">Using class</p>
  <p id="par1">I'm in red</p>
  <p id="par2">I'm in orange</p>
</body>
</html>
```



The diagram illustrates the application of CSS selectors to HTML elements. The CSS rules are defined in the <style> block, and the corresponding HTML elements are in the <body> block. The browser preview shows the rendered output, where the text is styled according to the CSS rules.

- Group **the same selector** with different declarations together on one line.
- Group **different selectors** with the same declaration on one line.

The same selectors

1

```
h1 {color: black;}  
h1 {font-weight: bold;}  
h1 {background: white;}
```



```
h1 {  
  color: black;  
  font-weight: bold;  
  background: white;  
}
```

Different selectors

2

```
h1 {color: yellow;}  
h2 {color: yellow;}  
h3 {color: yellow;}
```



```
h1, h2, h3 {color: yellow;}
```

- **Explain** the purpose of the coding
- **Help** others read and understand the code
- Serve as a reminder to you for what it all means
- Starts with `/*` and ends with `*/`

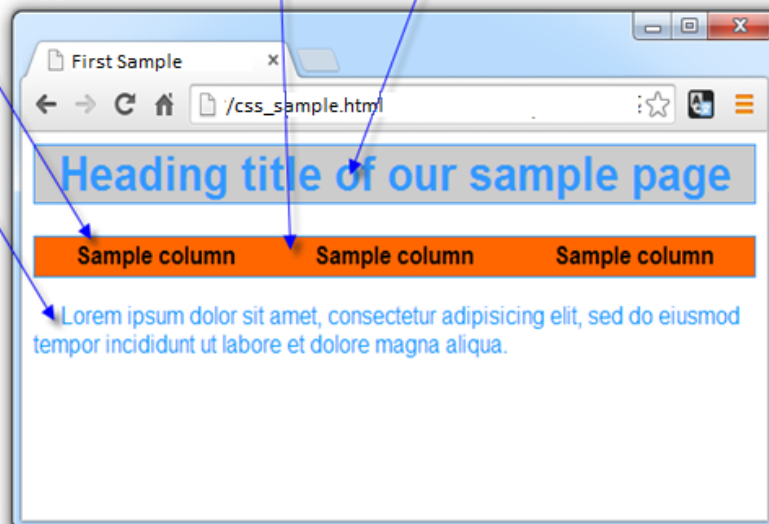
```
p {color: #ff0000;} /*Company Branding*/
```

Syntax: `/* content of comment */`

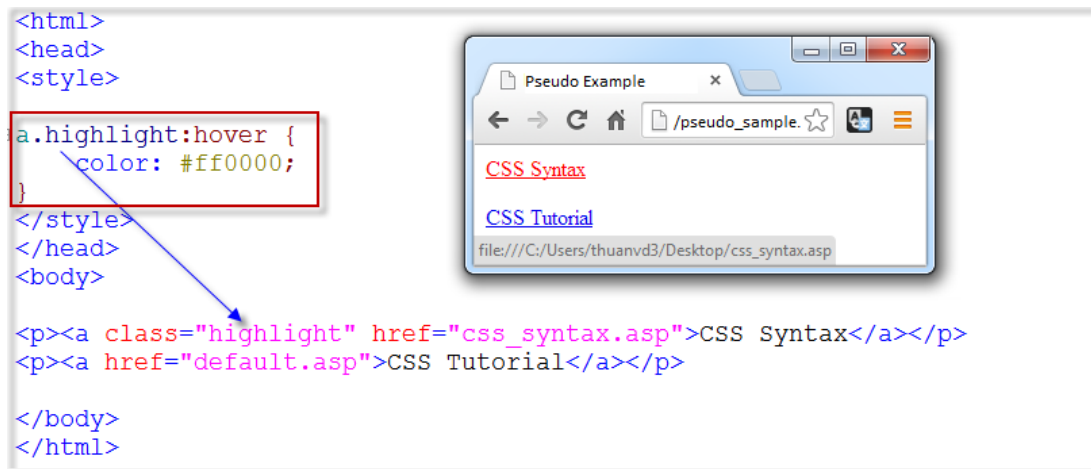
1

CSS Introduction – Example 1

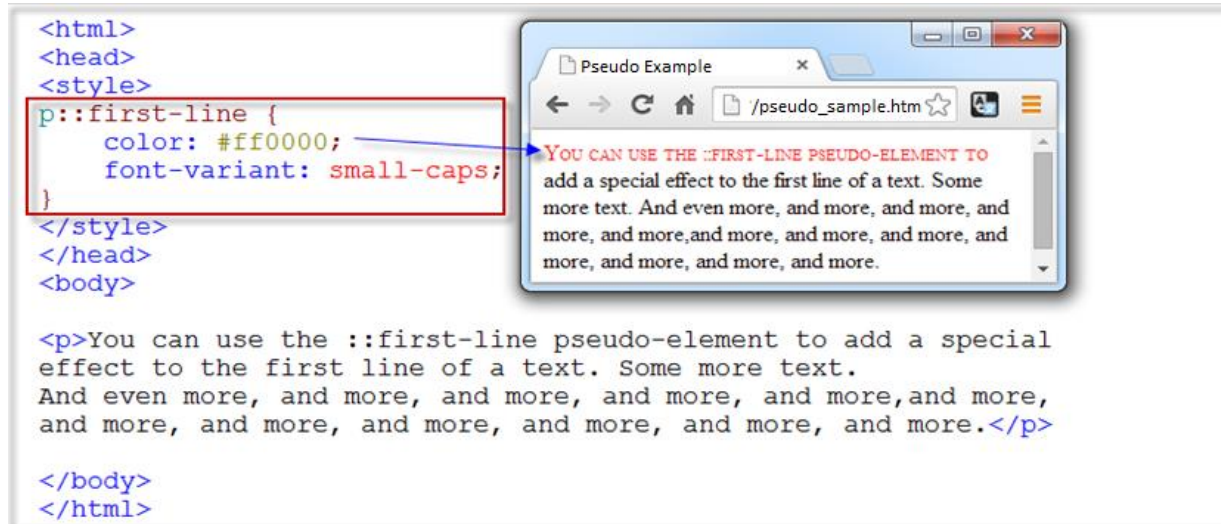
```
<head>
<style>
  body {font-family: arial;}
  h1 {background-color:#CCC; border: 1px solid; color:#39F; text-align: center;}
  table { background-color: #F60; border: 1px solid #39F; width: 100%;}
  td { border: 0px; text-align: center;}
  p {color:#09F; text-indent: 20px;}
</style>
</head>
<body>
<h1>Heading title of our sample page </h1>
<table border="1">
<tr>
  <td><strong>Sample column</strong></td>
  <td><strong>Sample column</strong></td>
  <td><strong>Sample column</strong></td>
</tr>
</table>
<p>Lorem ipsum dolor sit amet, consectetur
adipiscing elit, sed do eiusmod tempor
incididunt ut labore et dolore magna aliqua.</p>
</body>
```



- Define a **special state** of an element.
- For example, it can be used to:
 - ✓ Style an element when a user move **mouse over** it
 - ✓ Style **visited** and **unvisited** links differently



- To select **specified parts of an element**.
- For example, it can be used to:
 - ✓ Style the **first letter**, or **line**, of an element
 - ✓ Insert content before, or after, the content of an element



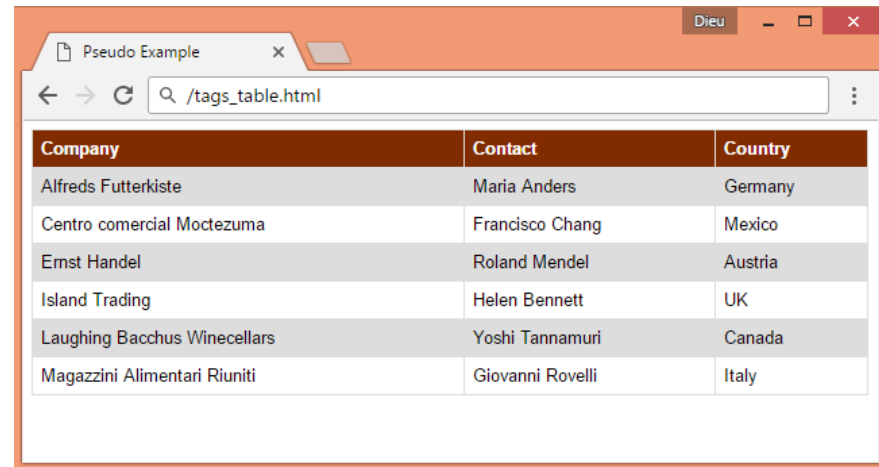
■ :first-child, :nth-child()(CSS3) Selector

```
<style>
table {
  font-family: arial, sans-serif;
  border-collapse: collapse;
  width: 100%;
}

td, th {
  border: 1px solid #dddddd;
  text-align: left;
  padding: 8px;
}

tr:first-child {
  background-color: #802b00;
  color: #ffffff;
}

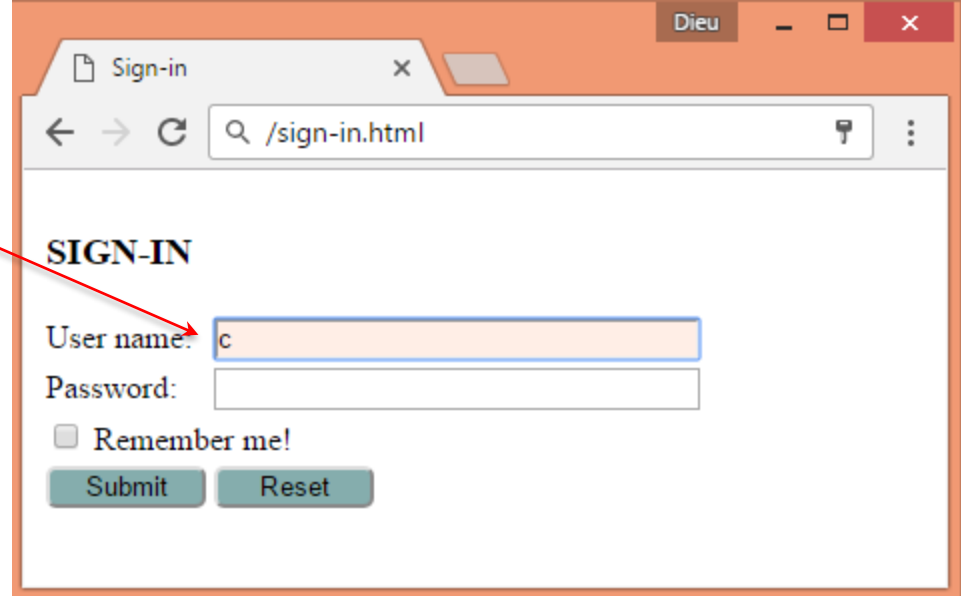
tr:nth-child(even) {
  background-color: #dddddd;
}
</style>
```



Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy

■ :focus Selector

```
input:focus {  
    background-color: #ffeee6;  
}
```



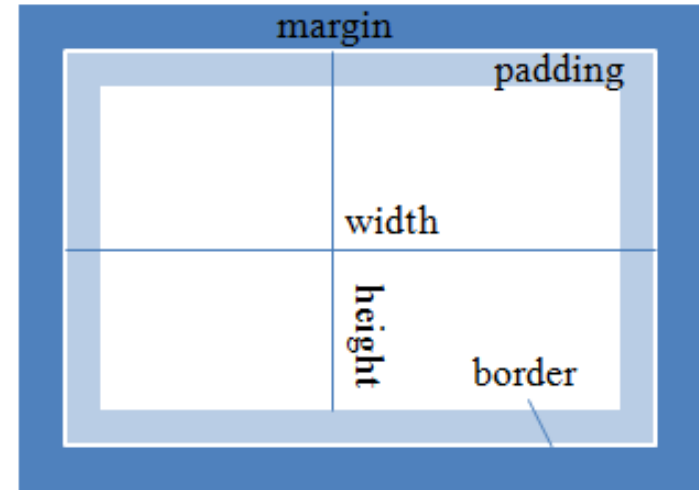
- CSS rule is made up of a **selector** and a **declaration**
- A declaration consists of property and value
- **Properties** and **values** tell browser how to display
- Grouping selector to make code more readable
- Pseudo class define **special state** of an element
- Pseudo element is used to select **specified parts** of an element

Section 4

Common CSS Properties

- Layout properties
- Text properties
- CSS Colors
- Styling link
- Box Model

- **width/height:** %, px;
- **float/clear:** left, right, none, inherit
- **border:** px;
- **padding:** padding, padding-left, padding-right, padding-top, padding-bottom (px, em)
- **margin:** margin, margin-left, margin-right, margin-top, margin-bottom (px, em)



■ To style the text, it consist of some properties:

- ✓ color
- ✓ letter-spacing
- ✓ text-transform
- ✓ word-spacing
- ✓ text-align
- ✓ font

```
<style type="text/css">
    .mainHeading {
        color: red;

        letter-spacing: 5px;

        text-transform: uppercase;

        word-spacing: 15px;

        text-align: left;

        font-family: Times;

        text-decoration: underline;

        font-size: 12px;

        font-style: italic;

        font-weight: bold;

    }
</style>
```

■ To style color for text

Standard

- White
- Black
- Blue
- Fuchsia
- Gray
- Green
- Lime
- Aqua

Hexadecimal

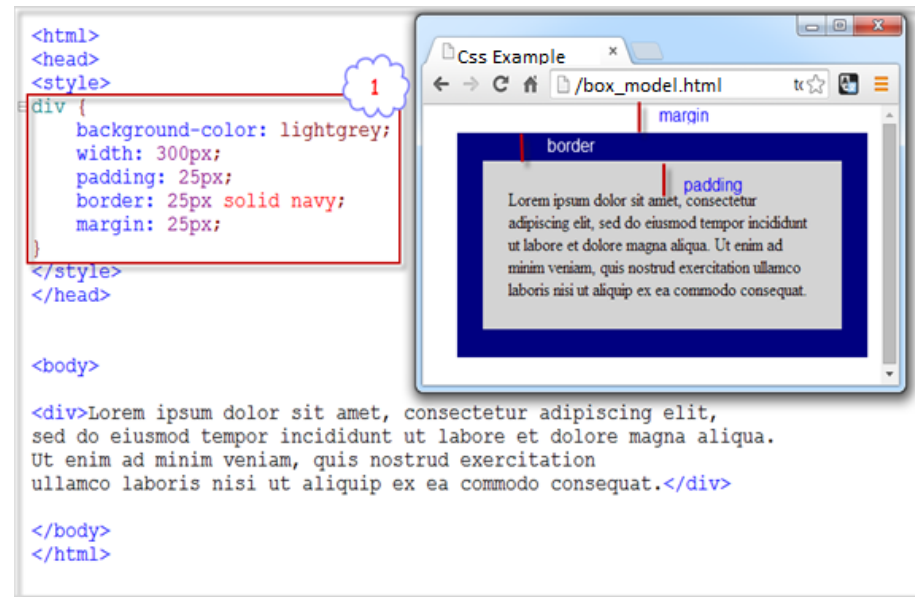
- #ffffff
- #fff
- #cccf0f3

```
<style type="text/css">
  .mainHeading {
    color: red;
    letter-spacing: 5px;
    text-transform: uppercase;
  }
</style>
```

- The links property defines how *inactive*, *hovered*, *active*, and *visited* [link](#) states appear to the user.

```
a:link {  
    color: red;  
    text-decoration: none;  
    border-bottom: 1px dashed red;  
    background: white;  
}  
a:visited {  
    color: yellow;  
}  
a:active {  
    color: green;  
}  
a:hover {  
    color: orange;  
}
```

- The CSS box model is essentially a box that wraps around HTML elements, and it consists of:
 - ✓ margins,
 - ✓ borders,
 - ✓ padding, and
 - ✓ the **actual content**.



- Applying CSS for the screen is designed in pre-lecture.
- On completion, the page will look like following:

The screenshot displays a web application interface for a 'Sale System'. On the left, a vertical sidebar contains a list of menu items: Order, Estimates, Customer, Supplier, Commodity, Employee, and Invoice. Each item has a sub-item listed below it. The 'Order' menu item is currently selected. The main content area is titled 'CREATE ORDER' and contains a form with the following fields: 'Order No*' (text input), 'Order Name*' (text input), 'Division' (text input), 'Region' (dropdown menu), 'Work Status:' (dropdown menu with 'Responsible' selected), 'Order Date*' (date input), 'Delivery Schedule Date*' (date input), 'Delivery Date' (date input), 'Order Form' (dropdown menu with 'J-WEB' selected), 'Collect Type' (dropdown menu with 'None' selected), and 'Instruction' (dropdown menu with 'None' selected). At the bottom of the form are two green buttons labeled 'Save' and 'Back'.

- Common properties to change layout: width/height, float/clear, border, margin, padding
- To style the text use color, letter-spacing, text-transform, word-spacing, text-align, font
- There are 2 way to style color for text: standard color (white, black...) or hexadecimal value (#fff)
- Each HTML element has a box that wraps around called box model

Section 5

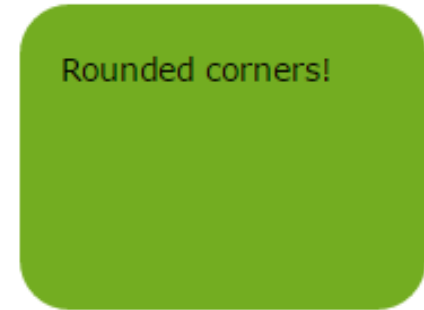
CSS 3

- Latest standard of CSS.
- CSS 3 is fully backward compatible with previous versions of CSS
- Many modern browser already support CSS 3

- Some of the most important CSS3 modules are:
 - ✓ Selectors
 - ✓ Box Model
 - ✓ Backgrounds and Borders
 - ✓ Image Values and Replaced Content
 - ✓ Text Effects
 - ✓ 2D/3D Transformations
 - ✓ Animations
 - ✓ Multiple Column Layout
 - ✓ User Interface

- With the CSS3 **border-radius** property, you can give any element "rounded corners"
- Example:

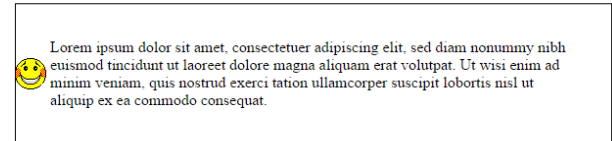
```
#rcorners1 {  
    border-radius: 25px;  
    background: #73AD21;  
    padding: 20px;  
    width: 200px;  
    height: 150px;  
}
```



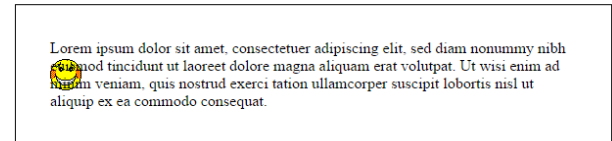
- **Border effects :**
 - ✓ box-shadow
 - ✓ border-image
- **Background effects:**
 - ✓ background-size
 - ✓ background-origin



background-origin: border-box;



background-origin: content-box;



- Set the color of the four borders
- Example:

```
p {  
    border-style: solid;  
    border-color: #ff0000 #0000ff;  
}  
<p>Two-colored border!</p>
```

Two-colored border!

■ Text Effects:

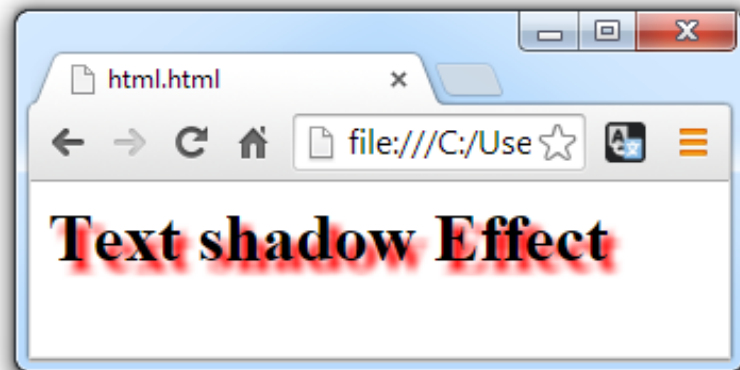
- ✓ text-shadow
- ✓ word-wrap

■ Fonts effects:

- ✓ @font-face

```
<style>  
h1{text-shadow: 5px 5px 5px #FF0000;}  
</style>
```

```
<h1> Text shadow Effect</h1>
```



- Set the collapsing borders model for a table
- Example

```
table, th, td {  
    border: 1px solid black;  
    border-collapse: collapse;  
    width: 90%;  
    table-layout: fixed;  
    padding: 5px;  
    margin: auto;  
}
```

Last Name	First Name	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

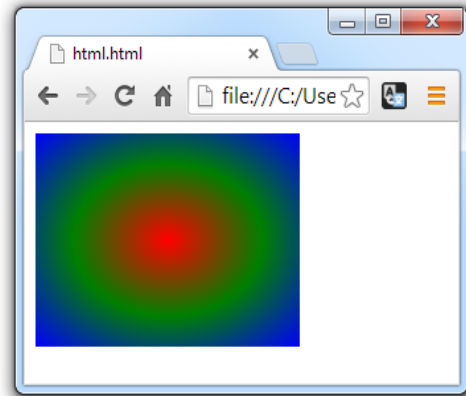
```
table, th, td {  
    border: 1px solid black;  
    width: 90%;  
    table-layout: fixed;  
    padding: 5px;  
    margin: auto;  
}
```

Last Name	First Name	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

- CSS3 gradients let you display smooth transitions between two or more specified colors.
- CSS3 defines two types of gradients:
 - ✓ Linear Gradients (goes down/up/left/right/diagonally)
 - ✓ Radial Gradients (defined by their center)

```
<style>
#grad1
{
  height:150px;
  width:200px;
  background: -webkit-radial-gradient(red, green, blue);
  background: -o-radial-gradient(red, green, blue);
  background: -moz-radial-gradient(red, green, blue);
  background: radial-gradient(red, green, blue);
}
</style>

<div id ="grad1"></div>
```

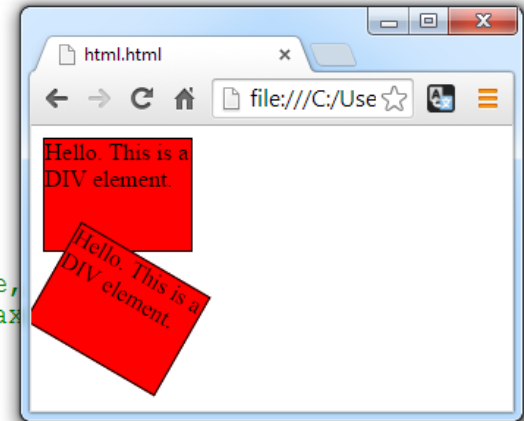


- CSS3 transforms allow you to translate, rotate, scale, and skew elements.

- ✓ translate()
- ✓ rotate()
- ✓ scale()
- ✓ skew()
- ✓ matrix()

```
<style>
div {
    width: 100px;
    height: 75px;
    background-color: red;
    border: 1px solid black;
}
div#div2 {
    -ms-transform: rotate(30deg); /* IE 9 */
    -webkit-transform: rotate(30deg); /* Chrome,
    transform: rotate(30deg); /* Standard syntax
}
</style>

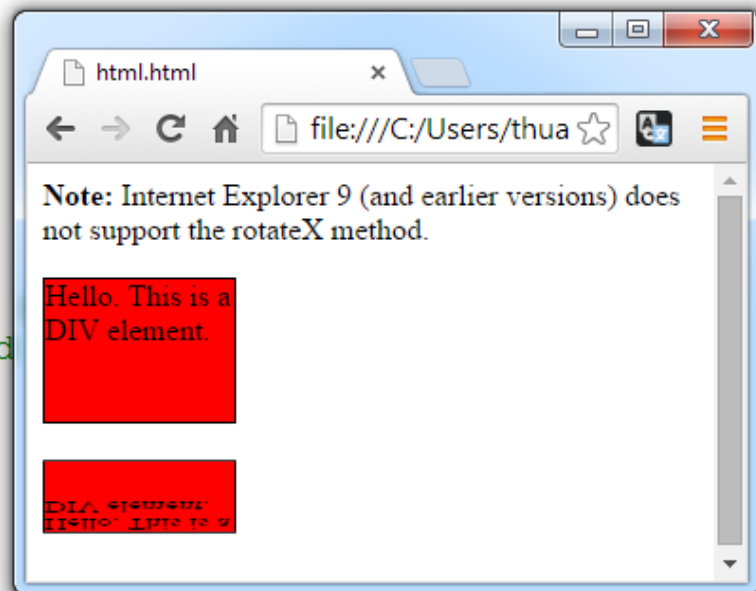
<div>Hello. This is a DIV element.</div>
<div id="div2">Hello. This is a DIV element.</div>
```



✓ rotateX()

✓ rotateY()

```
<style>
div {
  width: 100px;
  height: 75px;
  background-color: red;
  border: 1px solid black;
}
div#div2 {
  -webkit-transform: rotateX(120deg); /*
  transform: rotateX(120deg); /* Standard
}
</style>
<p><b>Note:</b> Internet Explorer 9
(and earlier versions)
does not support the rotateX method.</p>
<div>Hello. This is a DIV element.</div>
<div id="div2">Hello. This is a DIV element.</div>
```



- CSS 3 is the latest standard of CSS
- Fully backward compatible with previous version of CSS
- Border radius allow to create rounded corners
- CSS 3 introduce many amazing features such as: 2D/3D transformation, Shadow, Animations...

Thank you

