

# Web Technology

## Unit -1

# Learning Objective

- Overview of Internet and web
- ✓ • HTML Tags, Forms & Frames
- Introduction to Java Script and
- ✓ • Cascading Style Sheets
- DHTML
- Using various Web Design Tools like Dream Weaver

# Table of Contents

## ✓ 1. Introduction to HTML

- How the Web Works?

- What is a Web Page?

- My First HTML Page

- ✓ • Basic Tags: Hyperlinks, Images, Formatting

- Headings and Paragraphs

## 2. HTML in Details

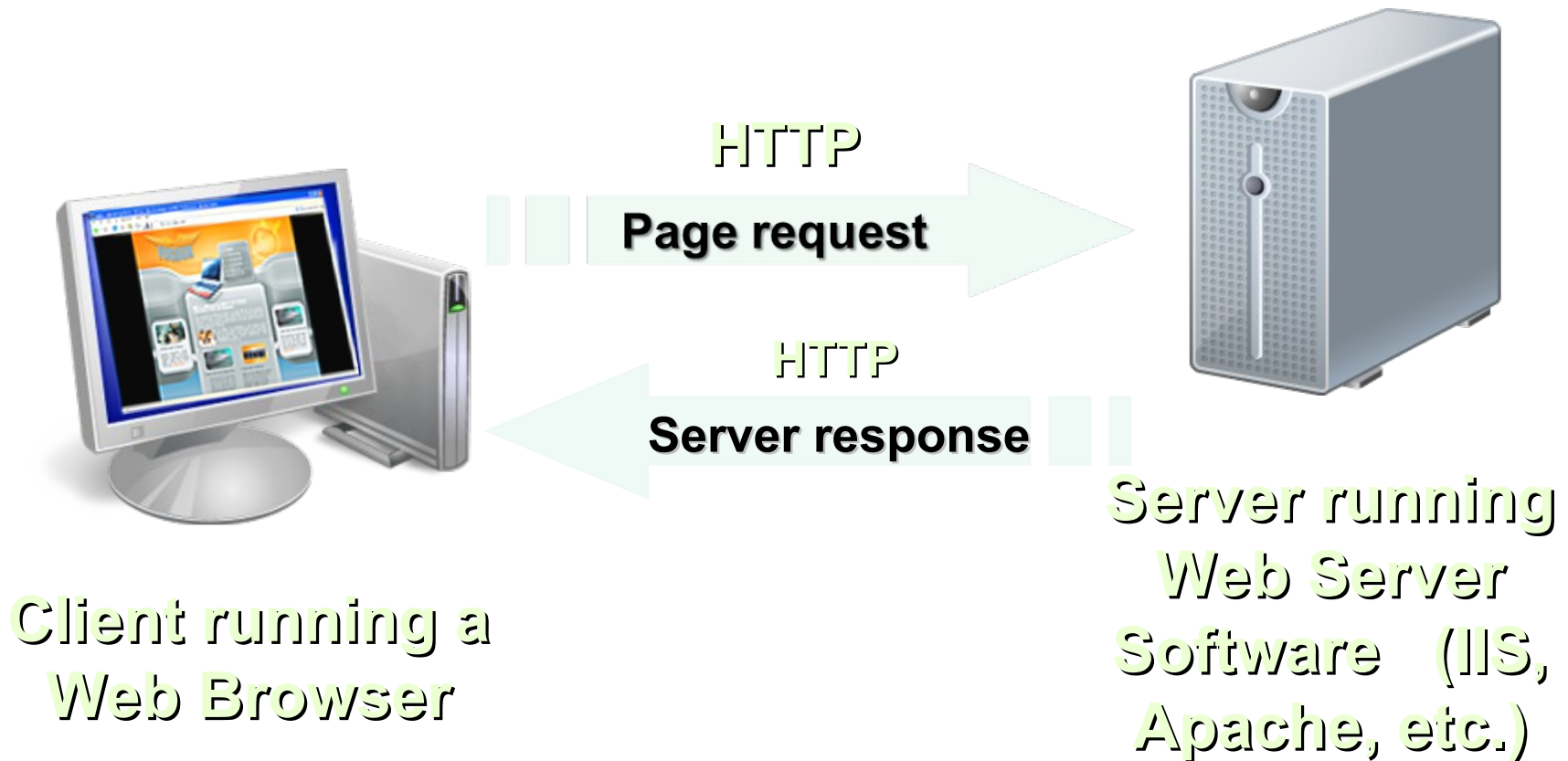
# Table of Contents (2)

## 2. HTML in Details

- ✚ The <body> Section
- ✚ Text Styling and Formatting Tags
- ✚ Hyperlinks: <a>, Hyperlinks and Sections
- ✚ Images: <img>
- ✚ Lists: <ol>, <ul> and <dl>
- The <div> and <span> elements
- HTML Tables
- HTML Forms

# How the Web Works?

- WWW use classical client / server architecture
  - HTTP is text-based request-response protocol



# What is a Web Page?

- Web pages are text files containing HTML
- HTML – Hyper Text Markup Language
  - A notation for describing
    - ✓ document structure (semantic markup)
    - formatting (presentation markup)
  - ✓ Looks (looked?) like:
    - A Microsoft Word document
- The markup tags provide information about the page content structure

# Creating HTML Pages

- An HTML file must have an .htm or .html file extension
- HTML files can be created with text editors:
  - ✚ NotePad, NotePad ++.
- Or HTML editors (WYSIWYG Editors):
  - ✚ Microsoft FrontPage
  - ✚ Macromedia Dreamweaver
  - ✚ Netscape Composer
  - ✚ Microsoft Word
  - ✚ Visual Studio



# HTML Basics

Text, Images, Tables, Forms

Sl. No.	NAME	REG. NO.	DATE	MARKS
1	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
2	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
3	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
4	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
5	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
6	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
7	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
8	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
9	ABHIRAM	13/03/1991	25/04/1994	04/01/1994
10	ABHIRAM	13/03/1991	25/04/1994	04/01/1994





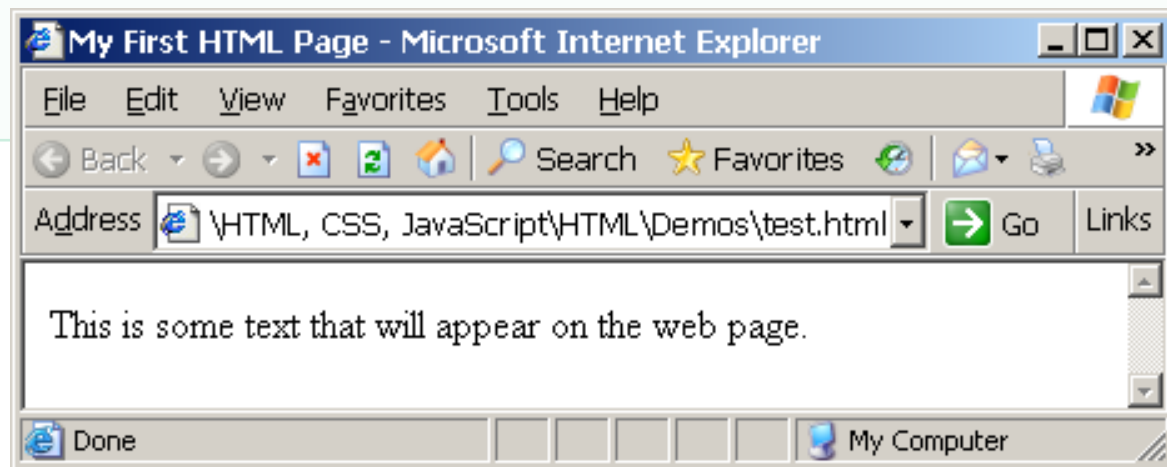
# HTML Structure

- HTML is comprised of “tags”
  - Begins with <html> and ends with </html>
- Elements (tags) are nested one inside another:  
`<html> <head></head> <body></body> </html>`
- Tags have attributes:  
``
- HTML describes structure using two main sections:  
~~<head>~~ and ~~<body>~~

# First HTML Page

test.html

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is some text...</p>
  </body>
</html>
```



# First HTML Page: Tags

```
<!DOCTYPE HTML>  
<html>  
  <head>  
    <title>My First HTML Page</title>  
  </head>  
  <body>  
    <p>This is some text...</p>  
  </body>  
</html>
```

Opening tag

Closing tag

An HTML element consists of an opening tag, a closing tag and the content inside.

# First HTML Page: Header



## HTML header

What types of information does <head>

```
<!DOCTYPE HTML>  
<html>
```

```
<head>
```

```
<title>My First HTML Page</title>
```

```
</head>
```

```
<body>
```

```
<p>This is some text...</p>
```

```
</body>
```

```
</html>
```

# First HTML Page: Body

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is some text...</p>
  </body>
</html>
```

HTML  
body

What type of information does .

# Some Simple Tags

- Hyperlink Tags

~~<a href="http://www.bvicam.in" title="BVICAM">Link to BVICAM Web site</a>~~

- Image Tags

~~~~

- Text formatting tags

This text is <em>emphasized.</em>

<br />new line<br />

This one is <strong>more emphasized.</strong>

# Some Simple Tags – Example

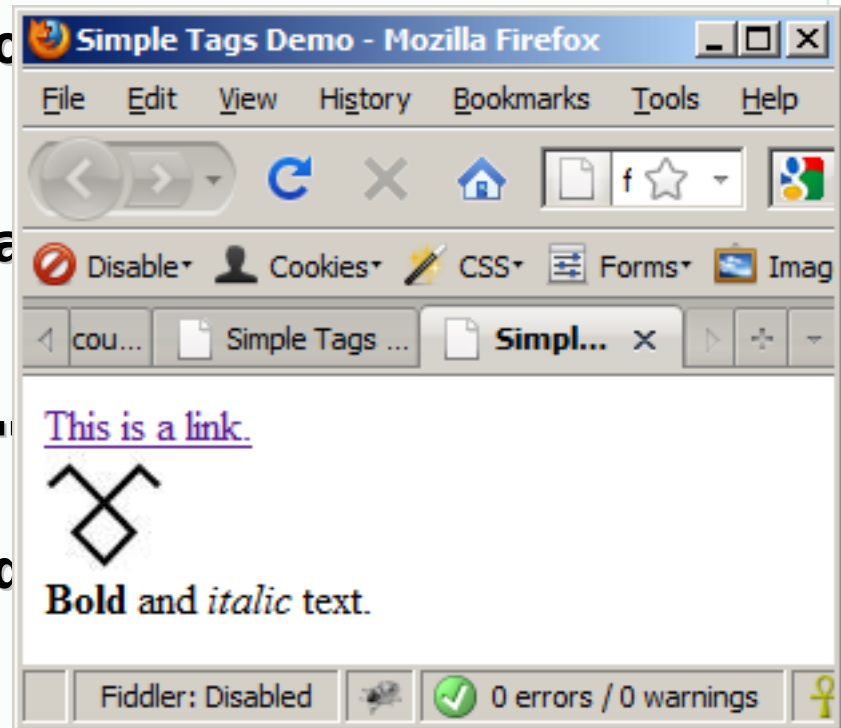
## some-tags.html

```
<!DOCTYPE HTML>
<html>
<head>
  <title>Simple Tags Demo</title>
</head>
<body>
  <a href="http://www.bvicam.in"
    title="BVICAM">Link to BVICAM Web site</a>
  <br />
  
  <br />
  <strong>Bold</strong> and <em>italic</em> text.
</body>
</html>
```

# Some Simple Tags – Example (2)

some-tags.html

```
<!DOCTYPE HTML>
<html>
<head>
  <title>Simple Tags Demo
</head>
<body>
  <a href="http://www.bvicam.com"
    title="BVICAM">Link to
  <br />
  
  <br />
  <strong>Bold</strong> and
  </body>
</html>
```





# Tags Attributes

- Tags can have attribute

- Attributes specify proper

- Example:

```

```

Attribute alt with value "logo"

- Few attributes can apply to every element:

- ✓ id, style, class, title

- The id is unique in the document

- ✓ Content of title attribute is displayed as hint when the element is hovered with the mouse

- Some elements have obligatory attributes

# Headings and Paragraphs

- Heading Tags (h1 – h6)

```
<h1>Heading 1</h1>  
<h2>Sub heading 2</h2>  
<h3>Sub heading 3</h3>
```

- Paragraph Tags

```
<p>This is my first paragraph</p>  
<p>This is my second paragraph</p>
```

- Sections: div

```
<div style="background: skyblue;">  
  This is a div</div>
```

# Headings and Paragraphs –

## headings.html

## Example

```
<!DOCTYPE HTML>
<html>
  <head><title>Headings and
paragraphs</title></head>
  <body>
    <h1>Heading 1</h1>
    <h2>Sub heading 2</h2>
    <h3>Sub heading 3</h3>

    <p>This is my first paragraph</p>
    <p>This is my second paragraph</p>

    <div style="background:skyblue">
      This is a div</div>
  </body>
</html>
```

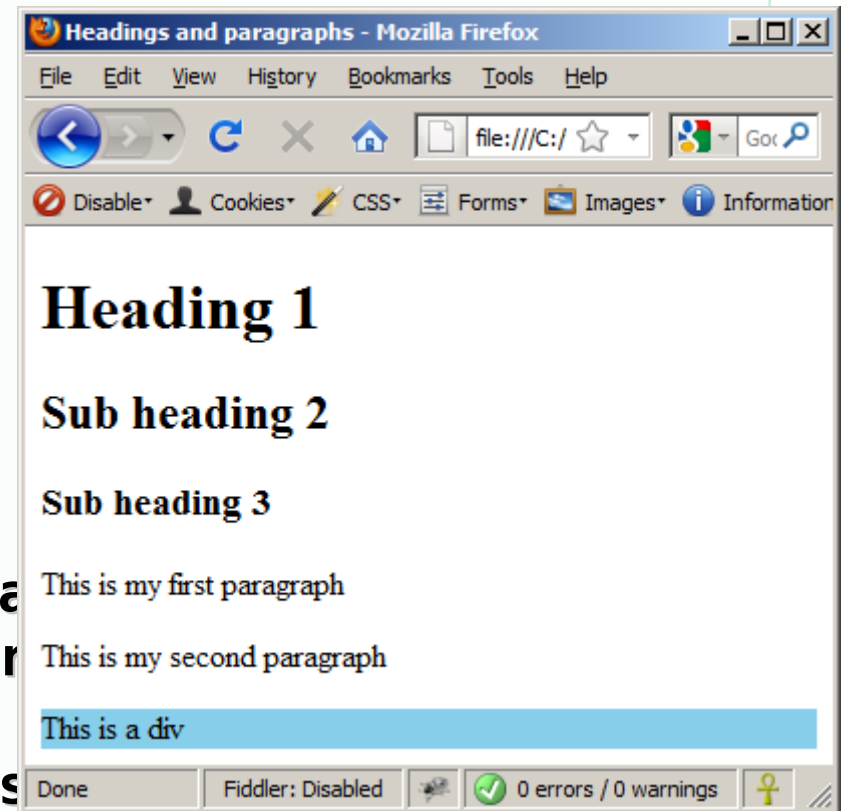
# Headings and Paragraphs –

## headings.html Example (2)

```
<!DOCTYPE HTML>
<html>
  <head><title>Headings and
paragraphs</title></head>
  <body>
    <h1>Heading 1</h1>
    <h2>Sub heading 2</h2>
    <h3>Sub heading 3</h3>

    <p>This is my first para
    <p>This is my second para

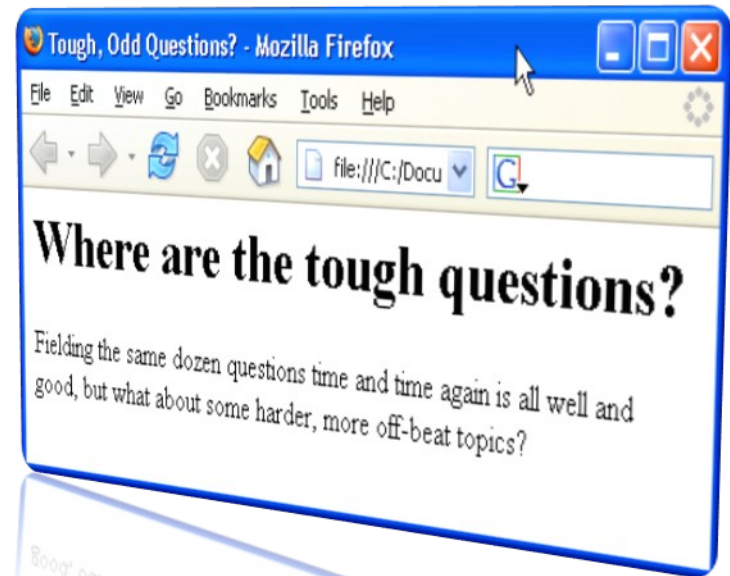
    <div style="background:s
      This is a div</div>
  </body>
</html>
```



```

1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//en"
2 "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
3 <html xmlns="http://www.w3.org/1999/xhtml">
4 <head>
5 <title>Tabview - Demo</title>
6
7 <script src="prototype.js" type="text/javascript"></script>
8 <script src="tabview.js" type="text/javascript"></script>
9
10 <link href="tabview.css" rel="stylesheet" type="text/css" />
11 </head>
12 <body id="body">
13
14 <ul class="tab-collection">
15 <li class="tab" title="Tab1">
16 <h1>Tab 1</h1>
17 
18 </li>
19
20 <li class="tab" title="Tab2">
21 <h1>Tab 2</h1>
22 
23 </li>
24
25 <li class="tab" title="Tab3">
26 <h1>Tab 3</h1>
27 
28 </li>
29 </ul>
30
31 <script type="text/javascript">
32 UI.Tabview.init( 'body', { width: '500px' } );
33 </script>
34
35 </body>
36 </html>
37
38
39
40
41
42
43
44
45
46
47
48
49
50

```



# Introduction to HTML

## HTML Document Structure in Depth

# Preface

- It is important to have the correct vision and attitude towards HTML
  - ⊕ HTML is only about structure, not appearance
  - ⊕ Browsers tolerate invalid HTML code and parse errors – you should not.

# The <!DOCTYPE> Declaration

- HTML documents must start with a document type definition (DTD)
  - ✚ It tells web browsers what type is the served code
  - ✚ Possible versions: HTML 4.01, XHTML 1.0 (Transitional or Strict), XHTML 1.1, HTML 5
- Example:

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

<http://w3.org/QA/2002/04/valid-dtd-list.htm>

|

for a list of possible doctypes

# HTML vs. XHTML



- XHTML is more strict than HTML
  - Tags and attribute names must be in lowercase
  - All tags must be closed (<br/>, <img/>) while HTML allows <br> and <img> and implies missing closing tags (<p>par1 <p>par2)
  - XHTML allows only one root <html> element (HTML allows more than one)



# XHTML vs. HTML (2)

- Many element attributes are deprecated in XHTML, most are moved to CSS
- Attribute minimization is forbidden, e.g.

```
<input type="checkbox" checked>
```

```
<input type="checkbox"  
checked="checked" />
```

- Note: Web browsers load XHTML faster than HTML and valid code faster than invalid!

# The `<head>` Section

- Contains information that doesn't show directly on the viewable page
- Starts after the `<!doctype>` declaration
- Begins with `<head>` and ends with `</head>`
- Contains mandatory single `<title>` tag
- Can contain some other tags, e.g.

✓  `<meta>`

✓  `<script>`

✓  `<style>`

✓  `<!-- comments -->`

# <head> Section: <title> tag

- **Title** should be placed between <head> and </head> tags



- Used to specify a title in the window title bar
- Many Search engines and people rely on titles

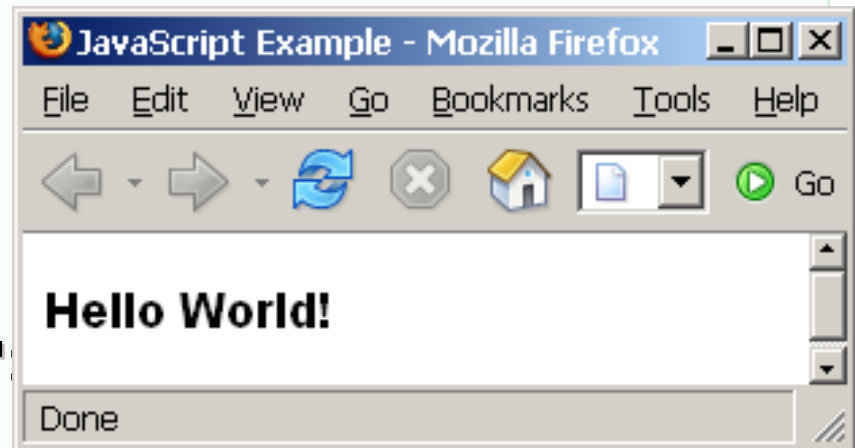
# <head> Section: <script>

- The <script> element is used to embed scripts into an HTML document
  - ✓ Script are executed in the client's Web browser
  - Scripts can live in the <head> and in the <body> sections
- Supported client-side scripting languages:
  - ✓ JavaScript
  - VBScript

# The <script> Tag – Example

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>JavaScript Example</title>
    <script type="text/javascript">
      function sayHello() {
        document.write("<p>Hello
World!</p>");
      }
    </script>
  </head>
  <body>
    <script type=
      "text/javascript"
      sayHello();
    </script>
  </body>
</html>
```

scripts-  
example.html

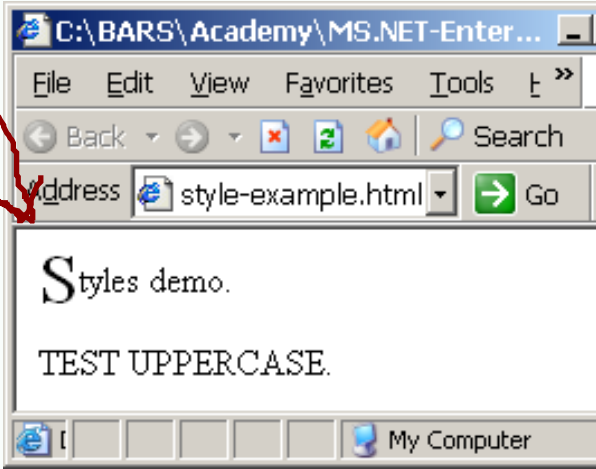


# <head> Section: <style>

- The **<style>** element embeds formatting information (CSS styles) into an HTML page

```
<html>
  <head>
    <style type="text/css">
      p { font-size: 12pt; line-height: 12pt; }
      p:first-letter { font-size: 200%; }
      span { text-transform: uppercase; }
    </style>
  </head>
  <body>
    <p>Styles demo.<br />
      <span>Test uppercase</span>
    </p>
  </body>
</html>
```

style-example.html



# Comments: `<!-- -->` Tag

- Comments can exist anywhere between the `<html></html>` tags
- Comments start with `<!--` and end with `-->`

```
<!-- Telerik Logo (a JPG file) -->  
  
<!-- Hyperlink to the web site -->  
<a href="http://telerik.com/">Telerik</a>  
<!-- Show the news table -->  
<table class="newstable">  
...
```

# <body> Section: Introduction

- The <body> section describes the viewable portion of the page
- Starts after the <head> </head> section
- Begins with <body> and ends with </body>

```
<html>
  <head><title>Test page</title></head>
  <body>
    ✓<!-- This is the Web page body -->
  </body>
</html>
```



# Text Formatting

- Text formatting tags modify the text between the opening tag and the closing tag
  - Ex. `<b>Hello</b>` makes “Hello” bold

|                                                    |                                          |
|----------------------------------------------------|------------------------------------------|
| <code>&lt;b&gt;&lt;/b&gt;</code>                   | <b>bold</b>                              |
| <code>&lt;i&gt;&lt;/i&gt;</code>                   | <i>italicized</i>                        |
| <code>&lt;u&gt;&lt;/u&gt;</code>                   | <u>underlined</u>                        |
| <code>&lt;sup&gt;&lt;/sup&gt;</code>               | Sample <sup>superscript</sup>            |
| <code>&lt;sub&gt;&lt;/sub&gt;</code>               | Sample <sub>subscript</sub>              |
| <code>&lt;strong&gt;&lt;/strong&gt;</code>         | <b>strong</b>                            |
| <code>&lt;em&gt;&lt;/em&gt;</code>                 | <i>emphasized</i>                        |
| <code>&lt;pre&gt;&lt;/pre&gt;</code>               | Preformatted text                        |
| <code>&lt;blockquote&gt;&lt;/blockquote&gt;</code> | Quoted text block                        |
| <code>&lt;del&gt;&lt;/del&gt;</code>               | Deleted text – <del>strike-through</del> |

# Text Formatting – Example

text-

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0  
Transitional//EN"  
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-  
transitional.dtd">  
<html>  
  <head>  
    <title>Page Title</title>  
  </head>  
  <body>  
    <h1>Notice</h1>  
    <p>This is a <em>sample</em> Web page.</p>  
    <p><pre>Next paragraph:  
    preformatted.</pre></p>  
    <h2>More Info</h2>  
    <p>Specifically, we're using XHTML 1.0 transitional.<br  
/>  
    Next line.</p>
```

# Text Formatting – Example (2)

text-

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0  
Transitional//EN"
```

```
"http://www.w3.org/TR/xhtml1  
transitional.dtd">
```

```
<html>
```

```
<head>
```

```
<title>Page Title</title>
```

```
</head>
```

```
<body>
```

```
<h1>Notice</h1>
```

```
<p>This is a <em>sample</em>
```

```
<p><pre>Next paragraph:  
preformatted.</pre></p>
```

```
<h2>More Info</h2>
```

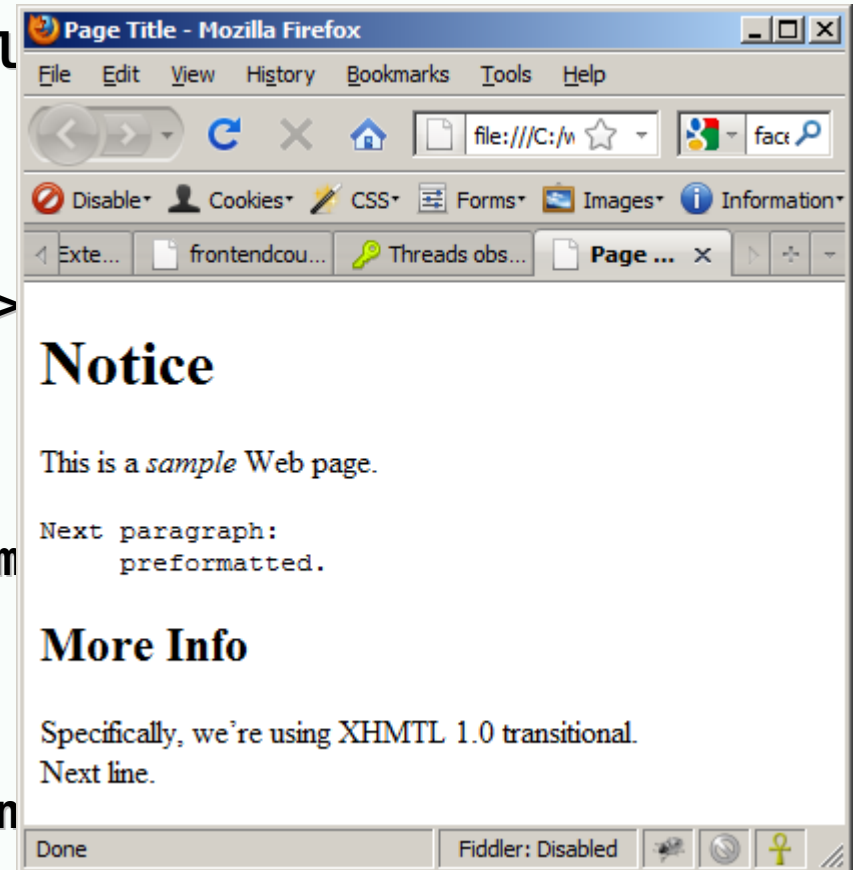
```
<p>Specifically, we're usin
```

```
/>
```

```
Next line.</p>
```

```
</body>
```

```
</html>
```



# Hyperlinks: `<a>` Tag

- Link to a document called `form.html` on the same server in the same directory:

```
<a href="form.html">Fill Our Form</a>
```

- Link to a document called `parent.html` on the same server in the parent directory:

```
<a href=" ../parent.html">Parent</a>
```

- Link to a document called `cat.html` on the same server in the subdirectory `stuff`:

```
<a href="stuff/cat.html">Catalog</a>
```

# Hyperlinks: <a> Tag (2)

- Link to an external Web site:

```
<a href="http://www.devbg.org"
```

```
target="_blank">BARD</a>
```

including "http://", not just  
"www.somesite.com"

- Using the target="\_blank" attribute opens the link in  
a new window

# Hyperlinks: <a> Tag (3)

- Link to a document called `apply-now.html`
  - ✚ On the same server, in same directory
  - ✚ Using an image as a link button:

```
<a href="apply-now.html"></a>
```

# Hyperlinks and Sections

- Link to another location in the same document:

```
<a href="#section1">Go to Introduction</a>
```

...

```
<h2 id="section1">Introduction</h2>
```

- Link to a specific location in another document:

```
<a href="chapter3.html#section3.1.1">Go to  
Section 3.1.1</a>
```

```
<!-- In chapter3.html -->
```

...

```
<div id="section3.1.1">
```

```
  <h3>3.1.1. Technical Background</h3>
```

```
</div>
```

# Images: `<img>` tag

- ♦ Inserting an image with `<img>` tag:

```

```

- ♦ Image attributes:

|               |                                                 |
|---------------|-------------------------------------------------|
| <b>src</b>    | Location of image file (relative or absolute)   |
| <b>alt</b>    | Substitute text for display (e.g. in text mode) |
| <b>height</b> | Number of pixels of the height                  |
| <b>width</b>  | Number of pixels of the width                   |
| <b>border</b> | Size of border, 0 for no border                 |

- ♦ Example:

```

```



# Miscellaneous Tags

- ✓ `<hr />`: Draws a horizontal rule (line):

```
<hr size="5" width="70%" />
```

- `<center></center>`: Deprecated!

```
<center>Hello World!</center>
```

- `<font></font>`: Deprecated!

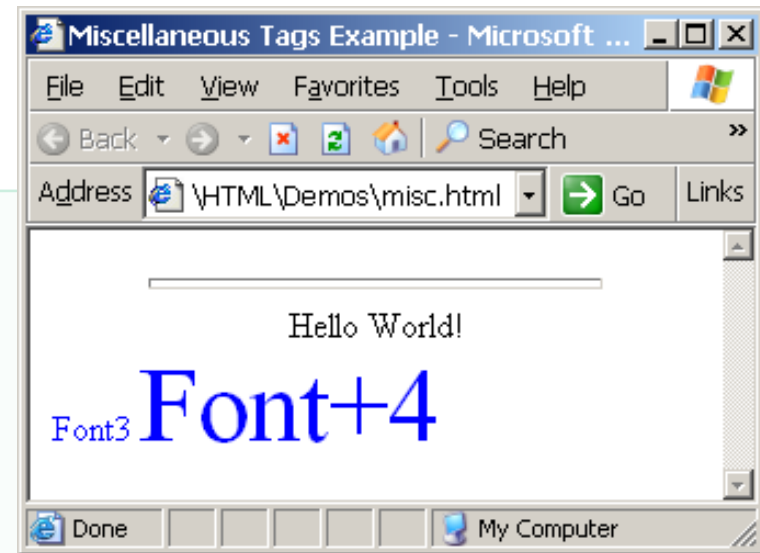
```
<font size="3" color="blue">Font3</font>
```

```
<font size="+4" color="blue">Font+4</font>
```

# Miscellaneous Tags – Example

misc.html

```
<html>
  <head>
    <title>Miscellaneous
  </head>
  <body>
    <hr size="5" width="70%" />
    <center>Hello World!</center>
    <font size="3" color="blue">Font3</font>
    <font size="+4" color="blue">Font+4</font>
  </body>
</html>
```



# Ordered Lists: <ol> Tag

- Create an Ordered List using <ol></ol>:

```
<ol type="1">  
  <li>Apple</li>  
  <li>Orange</li>  
  <li>Grapefruit</li>  
</ol>
```

- Attribute values for type are 1, A, a, I, or i

1. Apple  
2. Orange  
3. Grapefruit

A. Apple  
B. Orange  
C. Grapefruit

a. Apple  
b. Orange  
c. Grapefruit

I. Apple  
II. Orange  
III. Grapefruit

i. Apple  
ii. Orange  
iii. Grapefruit

# Unordered Lists: <ul> Tag


- Create an Unordered List using <ul></ul>:

```
<ul type="disk">  
  <li>Apple</li>  
  <li>Orange</li>  
  <li>Grapefruit</li>  
</ul>
```

- Attribute values for type are:

 disc, circle or square

- 
- Apple
  - Orange
  - Pear

- 
- Apple
  - Orange
  - Pear

- 
- Apple
  - Orange
  - Pear

# Definition lists: <dl> tag

- Create definition lists using <dl>
  - Pairs of text and associated definition; text is in <dt> tag, definition in <dd> tag

```
<dl>  
  <dt>HTML</dt>  
  <dd>A markup language ...</dd>  
  <dt>CSS</dt>  
  <dd>Language used to ...</dd>  
</dl>
```

- Renders without bullets
- Definition is indented

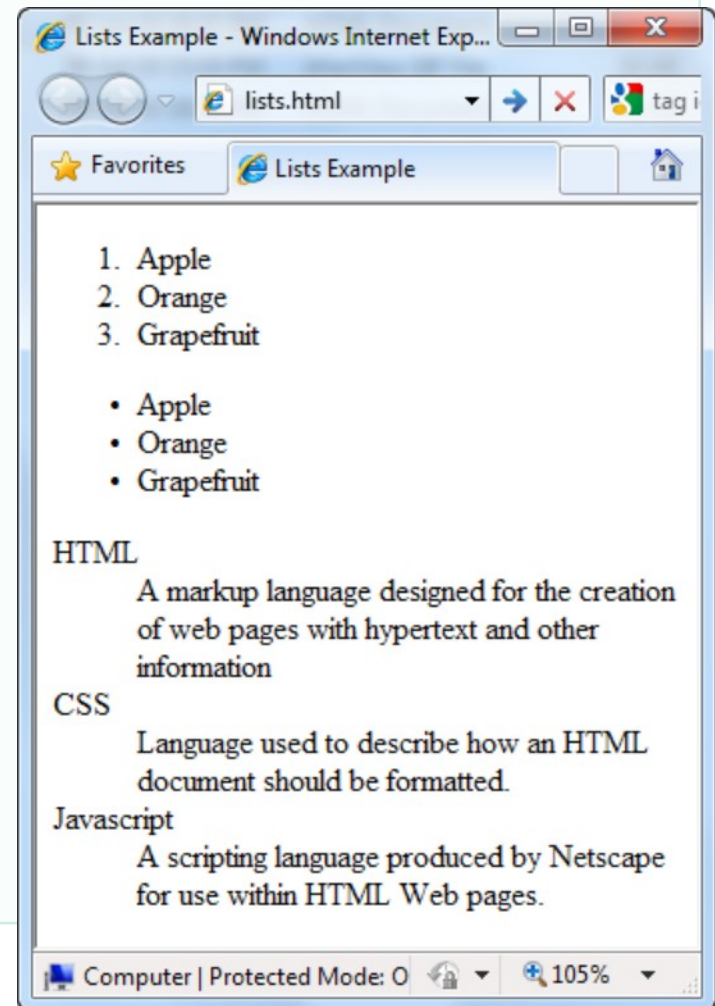
# Lists – Example

```
<ol type="1">
  <li>Apple</li>
  <li>Orange</li>
  <li>Grapefruit</li>
</ol>

<ul type="disc">
  <li>Apple</li>
  <li>Orange</li>
  <li>Grapefruit</li>
</ul>

<dl>
  <dt>HTML</dt>
  <dd>A markup lang...</dd>
</dl>
```

lists.html



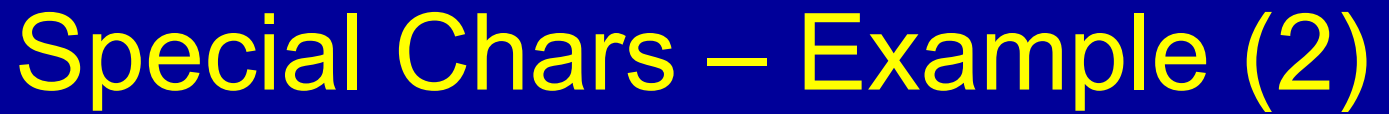
# HTML Special Characters

| Symbol Name               | HTML Entity              | Symbol |
|---------------------------|--------------------------|--------|
| Copyright Sign            | <code>&amp;copy;</code>  | ©      |
| Registered Trademark Sign | <code>&amp;reg;</code>   | ®      |
| Trademark Sign            | <code>&amp;trade;</code> | ™      |
| Less Than                 | <code>&amp;lt;</code>    | <      |
| Greater Than              | <code>&amp;gt;</code>    | >      |
| Ampersand                 | <code>&amp;amp;</code>   | &      |
| Non-breaking Space        | <code>&amp;nbsp;</code>  |        |
| Em Dash                   | <code>&amp;mdash;</code> | —      |
| Quotation Mark            | <code>&amp;quot;</code>  | "      |
| Euro                      | <code>&amp;#8364;</code> | €      |
| British Pound             | <code>&amp;pound;</code> | £      |
| Japanese Yen              | <code>&amp;yen;</code>   | ¥      |



# special- chars.html





special-

**<p>Te**

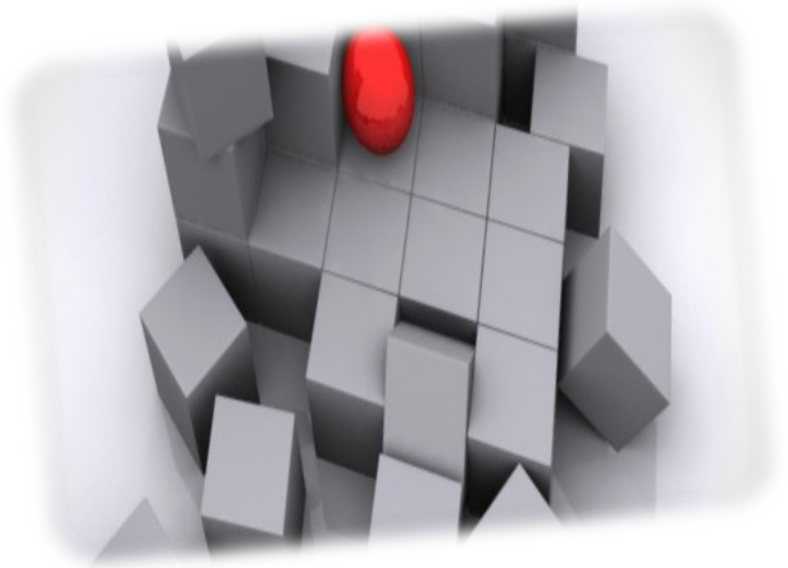


► I prefer hard rock  music 

Telerik Academy™





```
4 <head>
5 <meta http-equiv="Content-Type"
6 <title>Home</title>
7 <link rel="stylesheet" href="sty
8 <style type="text/css">
9 .style1 {
10     color: #FF0000;
11 }
12 </style>
13 </head>

<span class="style1">You will have to p
separate license to use the OpenCube mar
```



# Using **<DIV>** and **<SPAN>** Block and Inline Elements

# Block and Inline Elements

- Block elements add a line break before and after them
  - ✓  `<div>` is a block element
  -  Other block elements are `<table>`, `<hr>`, headings, lists, `<p>` and etc.
- Inline elements don't break the text before and after them
  -  `<span>` is an inline element
  -  Most HTML elements are inline, e.g. `<a>`

# The <div> Tag

- **<div>** creates logical divisions within a page
- Block style element
- Used with CSS
- Example:



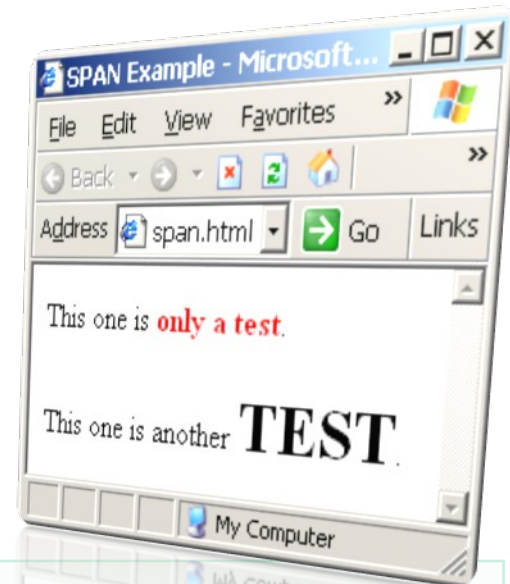
div-and-

```
<div style="font-size:24px; color:red">DIV  
example</div>
```

```
<p>This one is <span style="color:red; font-  
weight:bold">only a test</span>.</p>
```

# The <span> Tag

- Inline style element
- Useful for modifying a specific portion of text
  - Don't create a separate area (paragraph) in the document
- Very useful with CSS



span.html

```
<p>This one is <span style="color:red; font-weight:bold">only a test</span>.</p>
```

```
<p>This one is another <span style="font-size:32px; font-weight:bold">TEST</span>.</p>
```

| US time                           | European date (D/M/Y) & time | Y.M.D date & time      | Dollar   | Chinese money | IP addresses   | Names          | Numbers       |
|-----------------------------------|------------------------------|------------------------|----------|---------------|----------------|----------------|---------------|
|                                   | 29/10/1965                   | 83-03-24               |          | YMB 4         | 98.176.35.80   |                | 26.32 E +03   |
| Fri Mar 22 21:48:49 UTC+0200 1957 |                              | 1967-08-22 06:07:16 PM |          | YMB -81.38    | 162.117.253.34 | dyse chadi     |               |
| Thu 14 Feb 2002 04:24:20 UTC      | 06/07/99 06:46:01 AM         | 81-02-04 09:09:54 AM   |          | YMB -108.83   | 122.205.50.6   | bochai dychai  | -191.45E-05   |
| Monday, May 30, 1994 4:47:31 PM   | 06/09/05 05:11:16 AM         |                        |          | YMB 33.16     |                | dydy baie      | -131.20E+01   |
| 09/28/2000                        | 24/11/1957                   |                        | \$-38.77 | YMB 112.42    | 15.192.151.209 |                |               |
| Mon, 29 Oct 1979 00:44:03 UTC     |                              | 97-08-13 00:01:33 AM   | \$14.5   | YMB -1.75     | 99.93.147.150  | dychai tonchai | -187.28E-05   |
| Sat, 9 Jan 1982 05:45:06 UTC      | 04/06/68                     | 87-10-16               | \$14.66  | YMB 61.14     |                | chite male     | -125.19 E -03 |
| 04/05/75                          |                              | 74-10-20               | \$20.47  |               | 121.169.225.22 | dyna bama      | 138.11E+02    |
| Monday, July 15, 2002 1:05:02 AM  | 01/02/1961 09:40:16 AM       | 2000-03-20             | \$68.84  | YMB 88.19     | 239.133.227.68 | made liete     | 195.44 E +03  |
| this is footer                    | row                          | number                 | ONE!     | asdf          | asdf           | asdf           | asdf          |

# HTML Tables

```

<html>
<head>
<title>How To Create HTML Tables</title>
</head>
<body>
<table border=1 cellspacing=0 cellpadding=0>
<tr>
<td width=110 valign=top>
<br>upper left corner
</td>
<td width=110 valign=top>
<br>upper right corner
</td>
</tr>
<tr>
<td width=110 valign=top>
<br>left center cell
</td>
<td width=110 valign=top>
<br>right center cell
</td>
</tr>
<tr>
<td width=110 valign=top>
<br>lower left corner
</td>
<td width=110 valign=top>
<br>lower right corner
</td>
</tr>
</table>
</body>
</html>

```

| Title | Title | Title | Title | Title | Title |
|-------|-------|-------|-------|-------|-------|
| Data  | Data  | Data  | Data  | Data  | Data  |
| Data  | Data  | Data  | Data  | Data  | Data  |
| Data  | Data  | Data  | Data  | Data  | Data  |
| Data  | Data  | Data  | Data  | Data  | Data  |
| Data  | Data  | Data  | Data  | Data  | Data  |

- Tables represent tabular data
  - A table consists of one or several rows
  - Each row has one or more columns
- Tables comprised of several core tags:
  - <table></table>: begin / end the table
  - <tr></tr>: create a table row
  - <td></td>: create tabular data (cell)
- Tables should not be used for layout. Use CSS floats and positioning styles instead

# HTML Tables (2)

- Start and end of a table

```
<table> ... </table>
```

- Start and end of a row

```
<tr> ... </tr>
```

- Start and end of a cell in a row

```
<td> ... </td>
```

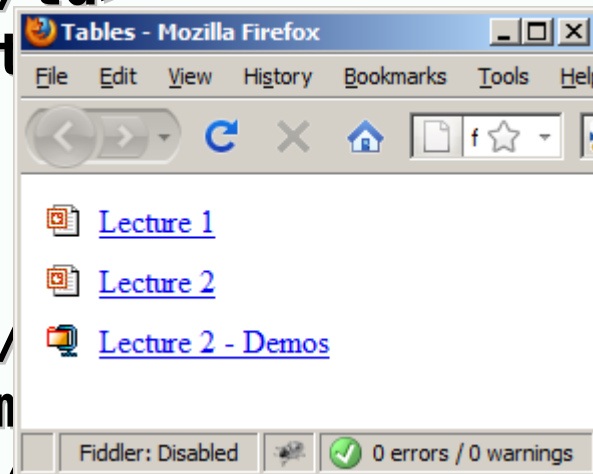


# Simple HTML Tables – Example





```
<table cellpadding="0" cellspacing="5">
  <tr>
    <td></td>
    <td><a href="lecture1.ppt">Lecture
1</a></td>
  </tr>
  <tr>
    <td></td>
    <td><a href="lecture2.ppt">Lecture
2</a></td>
  </tr>
  <tr>
    <td></td>
    <td><a href="lecture2-demos.zip">
      Lecture 2 - Demos</a></td>
  </tr>
</table>
```

# Simple HTML Tables – Example (2)

```
<table cellpadding="0" cellspacing="5">
  <tr>
    <td></td>
    <td><a href="lecture1.ppt">Lecture
1</a></td>
  </tr>
  <tr>
    <td></td>
    <td><a href="lecture2.ppt">Lecture
2</a></td>
  </tr>
  <tr>
    <td></td>
    <td><a href="lecture2-demos.zip">Lecture 2 - Demos</a></td>
  </tr>
</table>
```



# Complete HTML Tables

- Table rows split into three semantic sections:  
header body and footer
  - ✓  `<thead>` denotes table header and contains `<th>` elements, instead of `<td>` elements
  - ✓  `<tbody>` denotes collection of table rows that contain the very data
  -  `<tfoot>` denotes table footer but comes BEFORE the `<tbody>` tag
  -  `<colgroup>` and `<col>` define columns (most often used to set column widths)

# Complete HTML Table: Example

```
<table>
  <colgroup>
    <col style="width:100px" /><col />
  </colgroup>
  <thead>
    <tr><th>Column 1</th><th>Column 2</th></tr>
  </thead>
  <tfoot>
    <tr><td>Footer 1</td><td>Footer 2</td></tr>
  </tfoot>
  <tbody>
    <tr><td>Cell 1.1</td><td>Cell 1.2</td></tr>
    <tr><td>Cell 2.1</td><td>Cell 2.2</td></tr>
  </tbody>
</table>
```

**columns**

**header**

**th**

**footer**

**Last comes the body (data)**

1

2

3

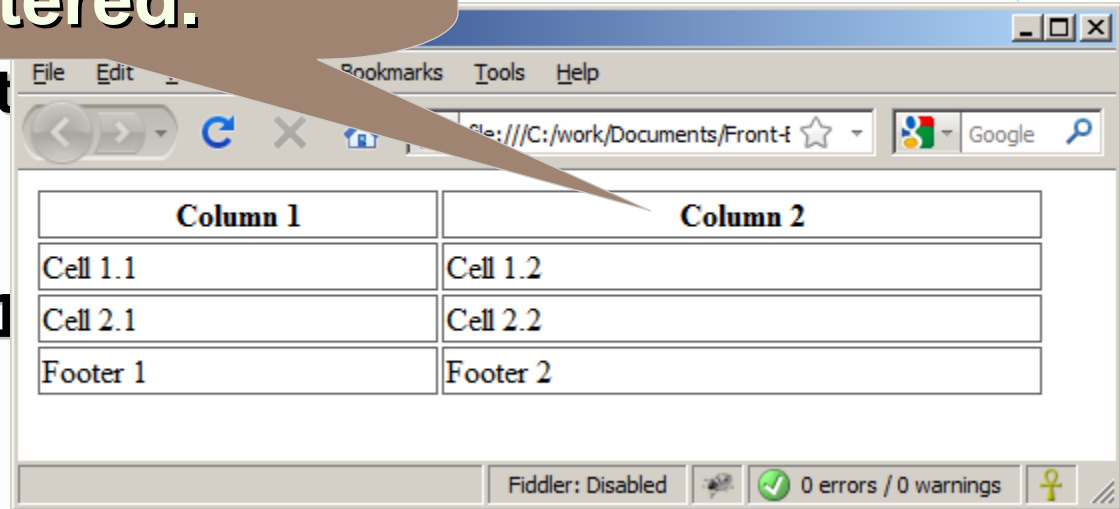
# Complete HTML Table:

(2)

By default, header text is bold and centered.

table-full.html

```
<table>
<colgroup>
  <col style="width: 50%;">
</colgroup>
<thead>
  <tr><th>Column 1</th>
</thead>
<tfoot>
  <tr><td>Footer 1</td><td>Footer 2</td></tr>
</tfoot>
<tbody>
  <tr><td>Cell 1.1</td><td>Cell 1.2</td></tr>
  <tr><td>Cell 2.1</td><td>Cell 2.2</td></tr>
</tbody>
</table>
```



| Column 1 | Column 2 |
|----------|----------|
| Cell 1.1 | Cell 1.2 |
| Cell 2.1 | Cell 2.2 |
| Footer 1 | Footer 2 |

Although the footer is before the data in the code, it is displayed last

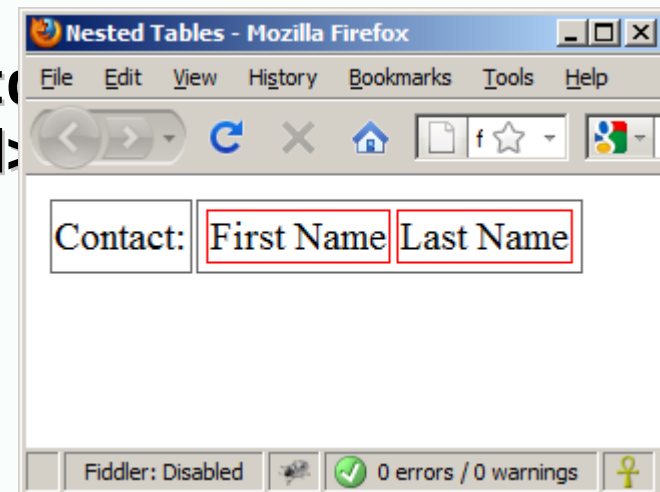
```
</td></tr>
</td></tr>
```

# Nested Tables

- Table data “cells” (`<td>`) can contain nested tables (tables within tables):

```
<table>
  <tr>
    <td>Contact:</td>
    <td>
      <table>
        <tr>
          <td>First Name</td>
          <td>Last Name</td>
        </tr>
      </table>
    </td>
  </tr>
</table>
```

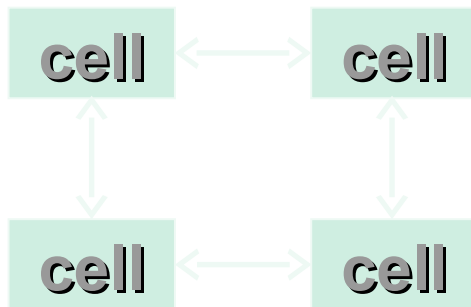
nested-  
tables.html



# Cell Spacing and Padding

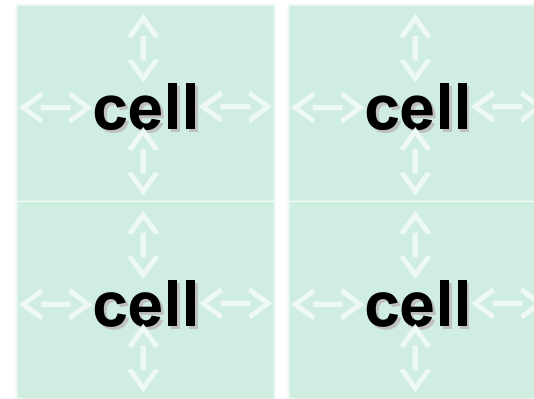
- Tables have two important attributes:

- ◆ **cellspacing**



- ◆ **Defines the empty space between cells**

- ◆ **cellpadding**



- ◆ **Defines the empty space around the cell content**

# Cell Spacing and Padding – Example

table-

```
<html>
<title>Table Cells</title>
<body>
  <table cellspacing="15" cellpadding="0">
    <tr><td>First</td>
    <td>Second</td></tr>
  </table>
  <br/>
  <table cellspacing="0" cellpadding="10">
    <tr><td>First</td><td>Second</td></tr>
  </table>
</body>
</html>
```

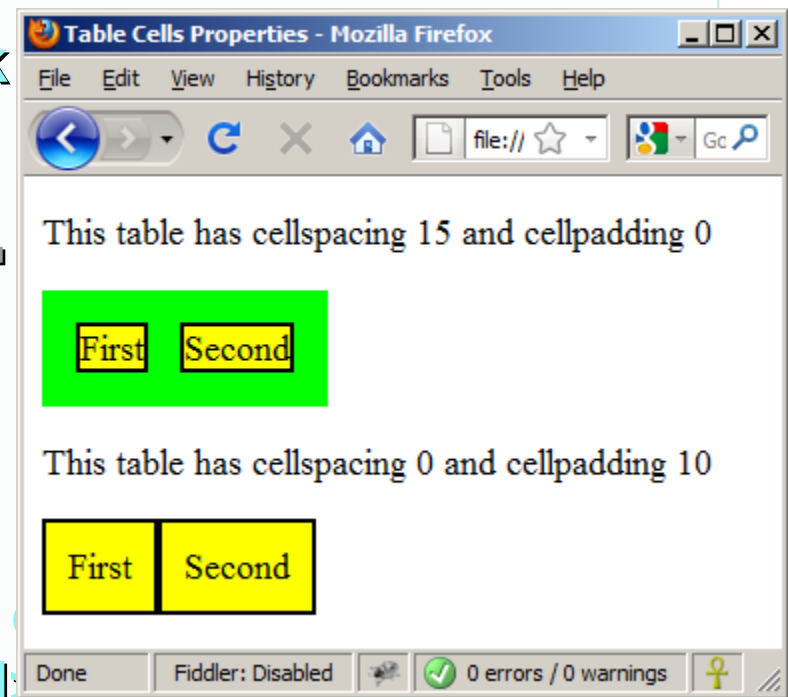


# Cell Spacing and Padding –

## Example (2)

```
<html>
  <head><title>Table Cells</title>
</head>
<body>
  <table cellpadding="15" cellspacing="0">
    <tr><td>First</td><td>Second</td></tr>
  </table>
  <br/>
  <table cellpadding="0" cellspacing="15">
    <tr><td>First</td><td>Second</td></tr>
  </table>
</body>
</html>
```

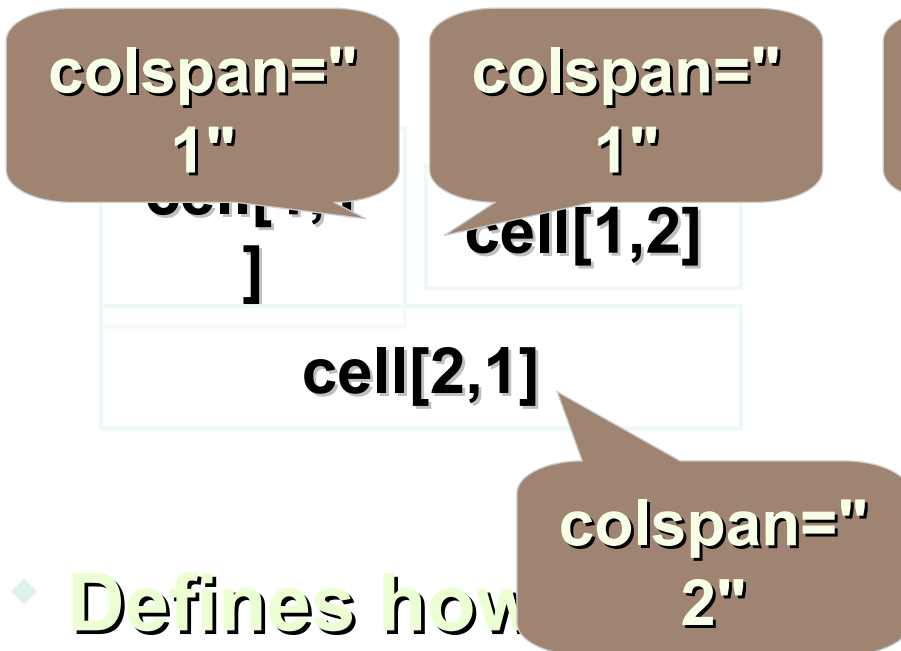
table-  
cells.html



# Column and Row Span

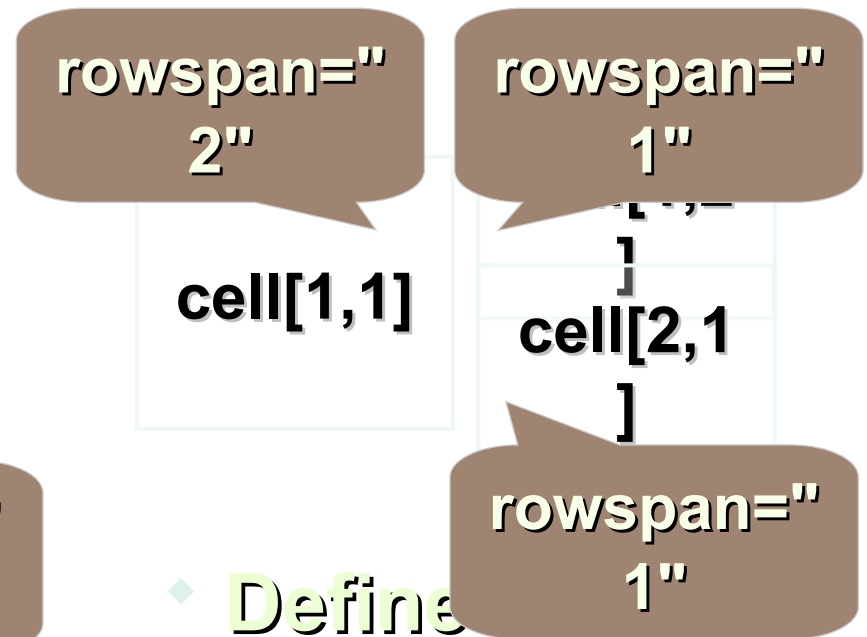
- Table cells have two important attributes:

## ◆ colspan



- Defines how many columns the cell occupies

## ◆ rowspan



- Defines how many rows the cell occupies

# Column and Row Span – Example

## table-colspan-rowspan.html

```
<table cellpadding="0">
  <tr class="1"><td>Cell[1,1]</td>
    <td colspan="2">Cell[2,1]</td></tr>
  <tr class="2"><td>Cell[1,2]</td>
    <td rowspan="2">Cell[2,2]</td>
    <td>Cell[3,2]</td></tr>
  <tr class="3"><td>Cell[1,3]</td>
    <td>Cell[2,3]</td></tr>
</table>
```

# Column and Row Span –

## Example (2)

```
<table cellpadding="0">
  <tr class="1"><td>Cell[1,1]</td>
    <td colspan="2">Cell[2,1]</td></tr>
  <tr class="2"><td>Cell[1,2]</td>
    <td rowspan="2">Cell[2,2]</td>
    <td>Cell[3,2]</td></tr>
  <tr class="3">
    <td>Cell[1,3]</td>
    <td>Cell[2,3]</td></tr>
</table>
```

|           |           |           |
|-----------|-----------|-----------|
| Cell[1,1] | Cell[2,1] |           |
| Cell[1,2] | Cell[2,2] | Cell[3,2] |
| Cell[1,3] |           | Cell[2,3] |



# HTML Forms

## Entering User Data from a Web Page



# HTML Forms

- Forms are the primary method for gathering data from site visitors
- Create a form block with

```
<form></form>
```

- Example:

The “method” attribute tells how the form data should be sent – via GET or POST request

```
<form name="myForm" method="post"  
action="path/to/some-script.php">  
...  
</form>
```

The "action" attribute tells where the form data should be sent

# Form Fields

- Single-line text input fields:

```
<input type="text" id="FirstName"  
value="This is a text field" />
```

- Multi-line textarea fields:

```
<textarea id="Comments">This is a multi-  
line text field</textarea>
```

- Hidden fields contain data not shown to the user:

```
<input type="hidden" id="Account"  
value="This is a hidden text field" />
```

● Often used by JavaScript code

# Fieldsets

- Fieldsets are used to enclose a group of related form fields:

```
<form method="post" action="form.aspx">
  <fieldset>
    <legend>Client Details</legend>
    <input type="text" id="Name" />
    <input type="text" id="Phone" />
  </fieldset>
  <fieldset>
    <legend>Order Details</legend>
    <input type="text" id="Quantity" />
    <textarea cols="40" rows="10"
      id="Remarks"></textarea>
  </fieldset>
</form>
```

- The `<legend>` is the fieldset's title.



# Form Input Controls

- Checkboxes:

```
<input type="checkbox" id="fruit"  
value="apple" />
```

- Radio buttons:

```
<input type="radio" id="title"  
value="Mr." />
```

- Radio buttons can be grouped, allowing only one to be selected from a group:

```
<input type="radio" id="city"  
value="Lom" />  
<input type="radio" id="city"  
value="Ruse" />
```

# Other Form Controls

- Dropdown menus:

```
<select id="gender">  
  <option value="Value 1"  
    selected="selected">Male</option>  
  <option value="Value 2">Female</option>  
  <option value="Value 3">Other</option>  
</select>
```

- Submit button:

```
<input type="submit" id="submitBtn"  
value="Apply Now" />
```

# Other Form Controls (2)

- Reset button – brings the form to its initial state

```
<input type="reset" name="resetBtn"  
value="Reset the form" />
```

- Image button – acts like submit but image is displayed and click coordinates are sent

```
<input type="image" src="submit.gif"  
name="submitBtn" alt="Submit" />
```

- Ordinary button – used for Javascript, no default action

```
<button type="button"  
onclick="myFunction()">Try it</button>
```

# Other Form Controls (3)

- Password input – a text field which masks the entered text with \* signs

```
<input type="password" id="pass" />
```

- Multiple select field – displays the list of items in multiple lines, instead of one

```
<select id="products"  
multiple="multiple">  
  <option value="Value 1"  
    selected="selected">keyboard</option>  
  <option value="Value 2">mouse</option>  
  <option value="Value  
3">speakers</option>  
</select>
```

# Other Form Controls (4)

- File input – a field used for uploading files

```
<input type="file" id="photo" />
```

- When used, it requires the form element to have a specific attribute:

```
<form enctype="multipart/form-data">  
...  
    <input type="file" id="photo" />  
...  
</form>
```

# Labels

- Form labels are used to associate an explanatory text to a form field using the field's ID.

```
<label for="fn">First Name</label>  
<input type="text" id="fn" />
```

- Clicking on a label focuses its associated field (checkboxes are toggled, radio buttons are checked)
- Labels are both a usability and accessibility feature and are required in order to pass accessibility validation.

# HTML Forms – Example

## form.html

```
<form method="post" action="apply-now.php">
  <input name="subject" type="hidden" value="Class" />
  <fieldset><legend>Academic information</legend>
    <label for="degree">Degree</label>
    <select name="degree" id="degree">
      <option value="BA">Bachelor of Art</option>
      <option value="BS">Bachelor of Science</option>
      <option value="MBA" selected="selected">Master of
        Business Administration</option>
    </select>
    <br />
    <label for="studentid">Student ID</label>
    <input type="password" name="studentid" />
  </fieldset>
  <fieldset><legend>Personal Details</legend>
    <label for="fname">First Name</label>
    <input type="text" name="fname" id="fname" />
    <br />
    <label for="lname">Last Name</label>
    <input type="text" name="lname" id="lname" />
```

# HTML Forms – Example (2)

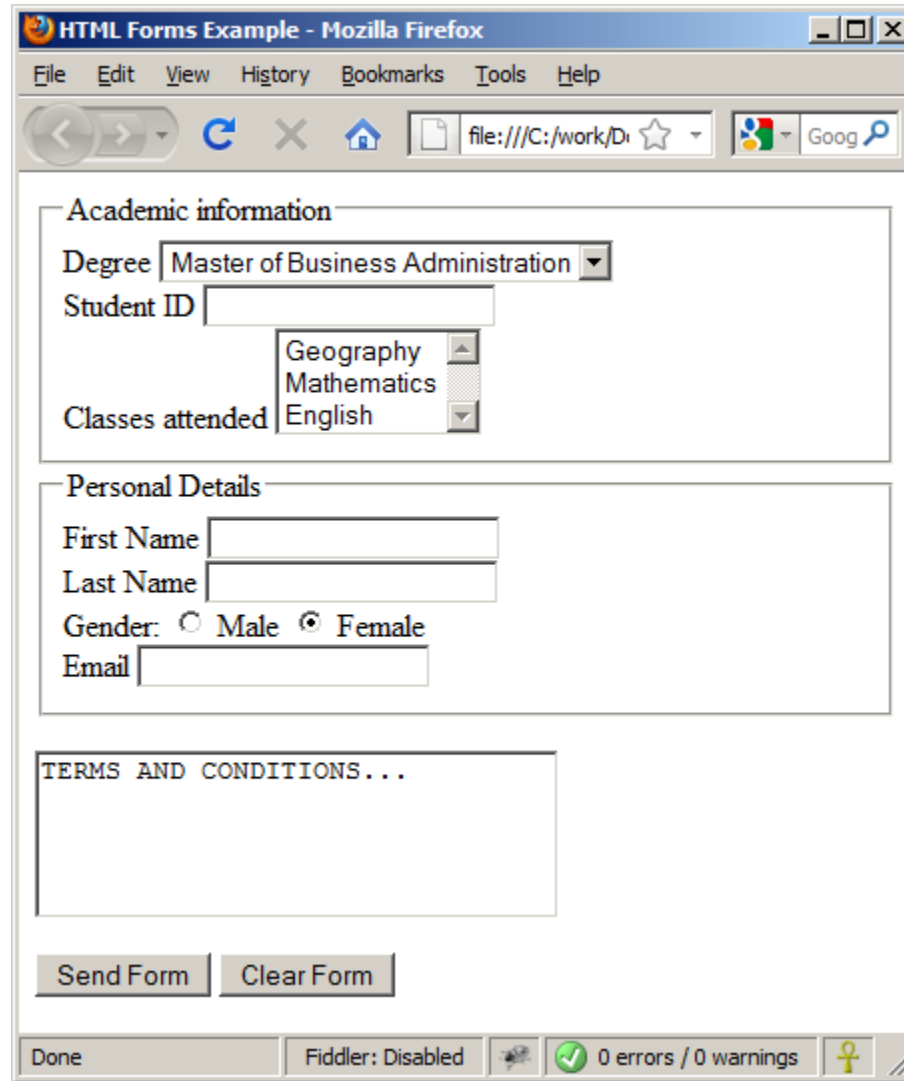
## form.html (continued)

```
<br />
  Gender:
    <input name="gender" type="radio" id="gm"
value="m" />
    <label for="gm">Male</label>
    <input name="gender" type="radio" id="gf"
value="f" />
    <label for="gf">Female</label>
  <br />
  <label for="email">Email</label>
  <input type="text" name="email" id="email" />
</fieldset>
<p>
  <textarea name="terms" cols="30" rows="4"
    readonly="readonly">TERMS AND
CONDITIONS...</textarea>
</p>
<p>
  <input type="submit" name="submit" value="Send
Form" />
  <input type="reset" value="Clear Form" />
</p>
```



# HTML Forms – Example (3)

## form.html (continued)



HTML Forms Example - Mozilla Firefox

File Edit View History Bookmarks Tools Help

file:///C:/work/Di

Goog

Academic information

Degree Master of Business Administration

Student ID

Classes attended Geography  
Mathematics  
English

Personal Details

First Name

Last Name

Gender: ☐ Male ☒ Female

Email

TERMS AND CONDITIONS...

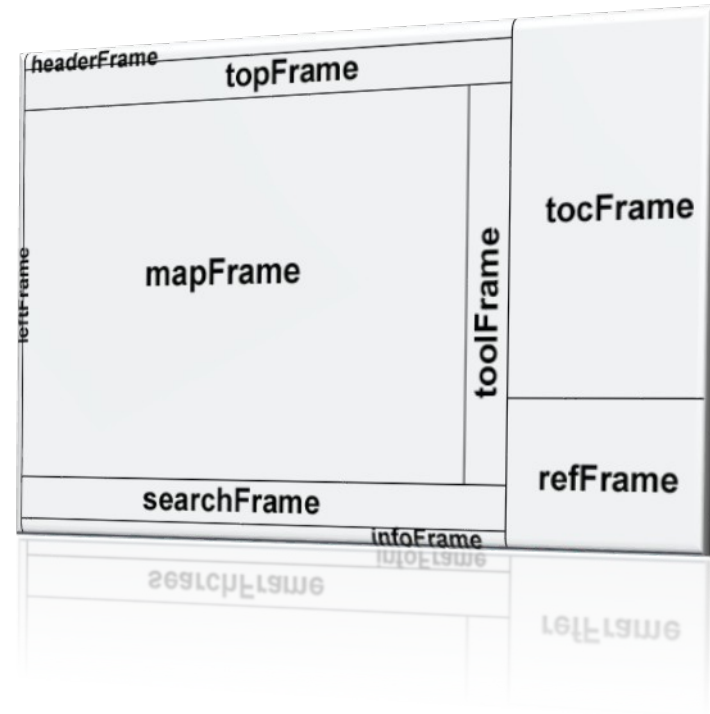
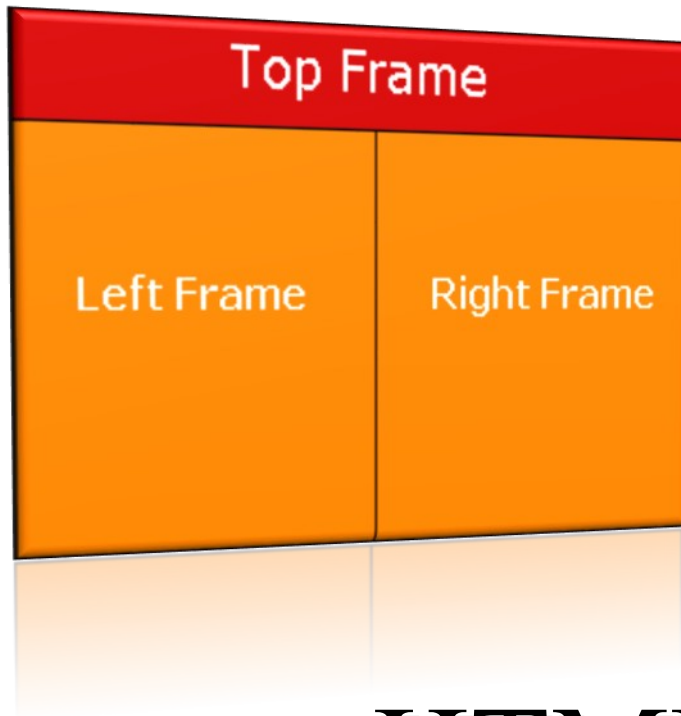
Send Form Clear Form

Done Fiddler: Disabled 0 errors / 0 warnings

# TabIndex

- The tabindex HTML attribute controls the order in which form fields and hyperlinks are focused when repeatedly pressing the TAB key
  - `tabindex="0"` (zero) - "natural" order
  - If  $X > Y$ , then elements with `tabindex="X"` are iterated before elements with `tabindex="Y"`
  - Elements with negative tabindex are skipped, however, this is not defined in the standard

```
<input type="text" tabindex="10" />
```



# HTML Frames

`<frameset>`, `<frame>` and `<iframe>`

# HTML Frames

- Frames provide a way to show multiple HTML documents in a single Web page
- The page can be split into separate views (frames) horizontally and vertically
- Frames were popular in the early ages of HTML development, but now their usage is rejected
- Frames are not supported by all user agents (browsers, search engines, etc.)
  - ✚ A `<noframes>` element is used to provide content for non-compatible agents.

# HTML Frames – Demo

frames.ht  
ml

```
<html>
  <head><title>Frames Example</title></head>
  <frameset cols="180px,*,150px">
    <frame src="left.html" />
    <frame src="middle.html" />
    <frame src="right.html" />
  </frameset>
</html>
```

- ♦ Note the target attribute applied to the **<a>** elements in the left frame.

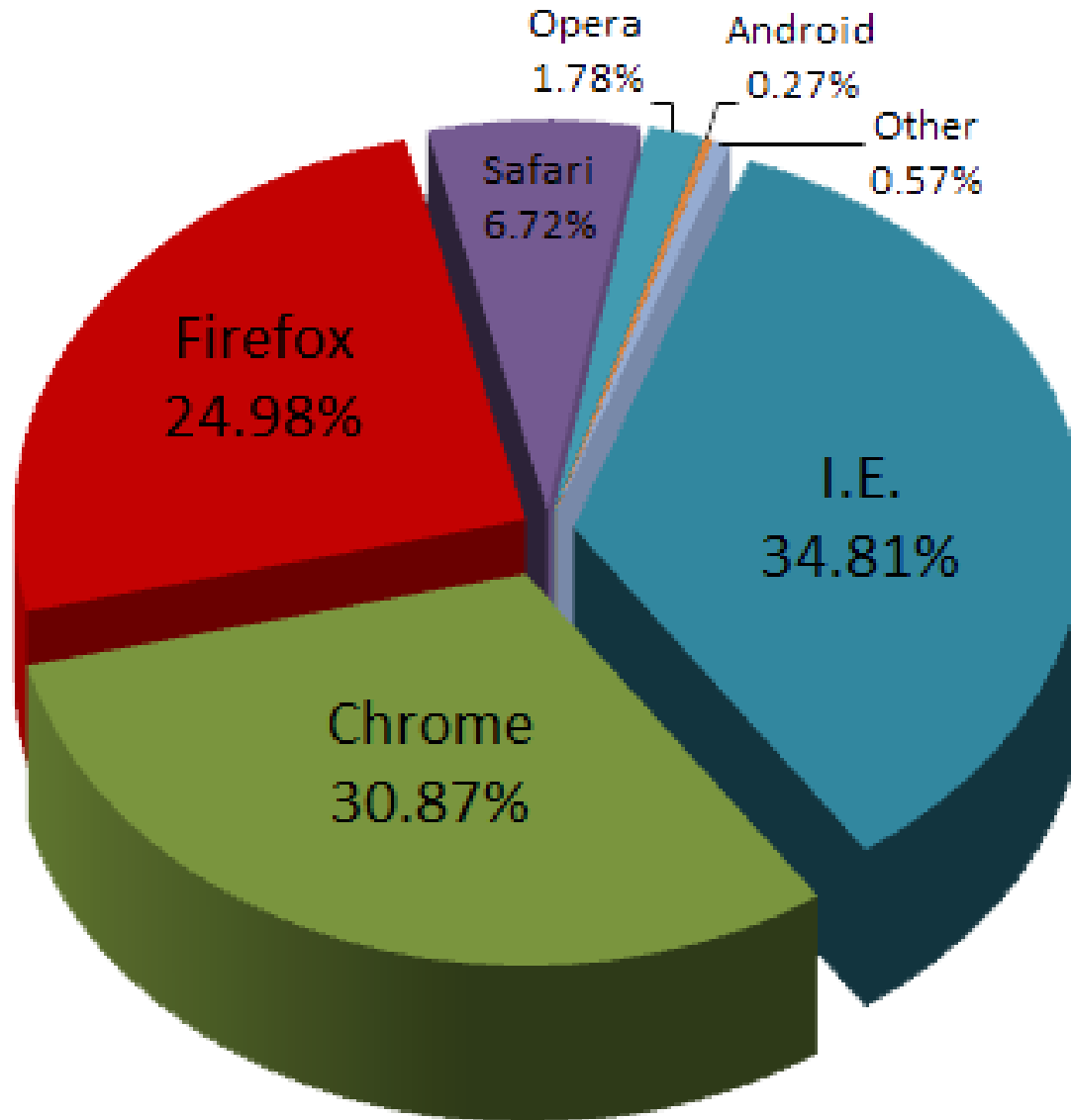
# First Popular Web Browser

**Mosaic** was developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois Urbana-Champaign beginning in late 1992.

Mosaic was the web browser which led to the Internet boom of the 1990s.



# Web Browser usage -2012



# Internet / Protocols / WWW

- What is the Internet?
  - ▲ a network of networks – an inter-network, or Internet
  
- What are Internet protocols?
  - ▲ the rules for transferring information between programs
  - ▲ HTTP - hypertext transfer protocol
  - ▲ FTP - file transfer protocol
  - ▲ SMTP – simple mail transfer protocol
  
- What is the World Wide Web?
  - ▲ a set of HTML pages accessible using the HTTP protocol



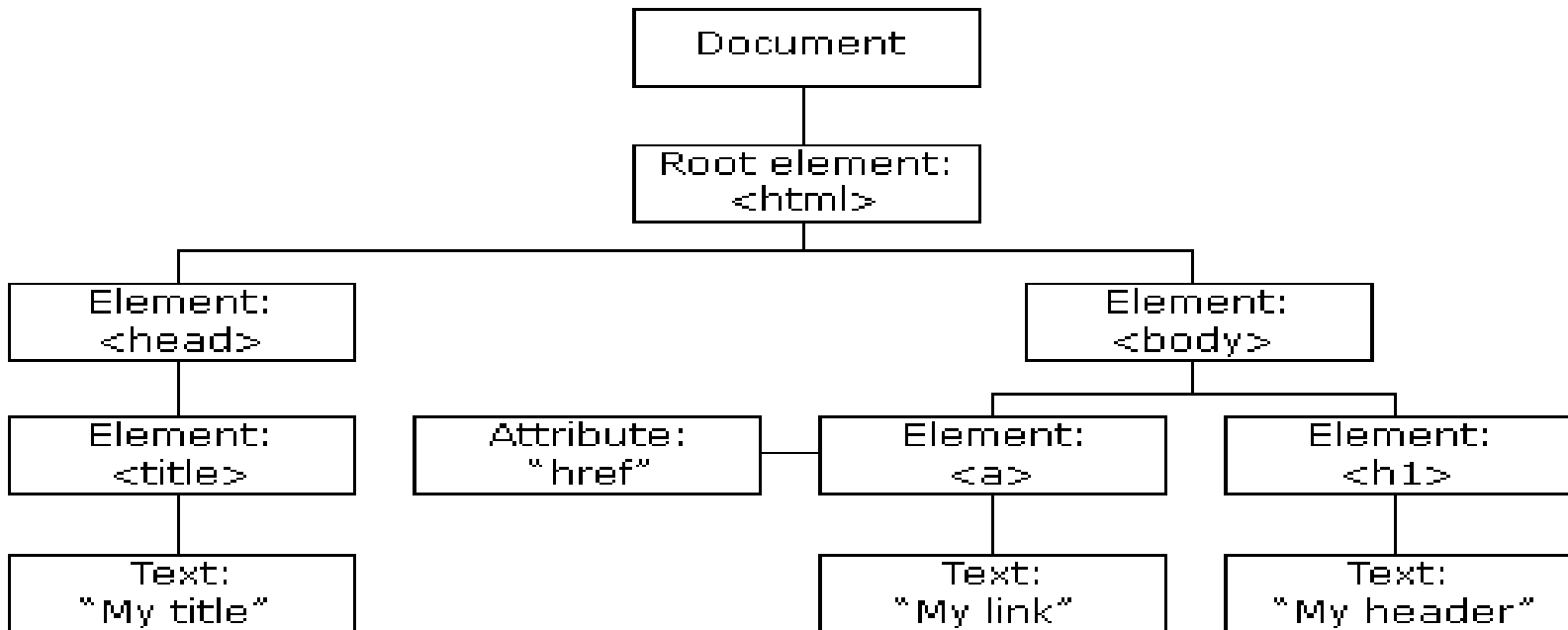
# Java Script

# What is JavaScript?

- ☐ JavaScript was designed to add interactivity to HTML pages
- ☐ JavaScript is a **scripting** language
- ☐ A scripting language is a **lightweight programming** language
- ☐ JavaScript is usually embedded directly into HTML pages
- ☐ JavaScript is an **interpreted language** (means that scripts execute without preliminary compilation)
- ☐ Everyone can use JavaScript without **purchasing a license**

# HTML DOM (Document Object Model)

- The **HTML DOM (Document Object Model)**
- When a web page is loaded, the browser creates a **Document Object Model** of the page.
- The **HTML DOM** model is constructed as a tree of **Objects**:



# HTML DOM (Document Object Model)

With the HTML DOM, JavaScript can access all the elements of an HTML document.

**With a programmable object model, JavaScript gets all the power it needs to create dynamic HTML:**

- ❖ JavaScript can change all the HTML elements in the page
- ❖ JavaScript can change all the HTML attributes in the page
- ❖ JavaScript can change all the CSS styles in the page
- ❖ JavaScript can react to all the events in the page

# Finding HTML Elements

## Finding HTML Elements

- Often, with JavaScript, you want to manipulate HTML elements.
- To do so, you have to find the elements first.
- Finding HTML elements by id

## Finding HTML Elements by Id

```
var x=document.getElementById("intro");
```

# Programming Constructs

- Variables
  - ✚ Named elements that can change value
- Data types
  - ✚ Integer, floating-point, Boolean, string
- Operators
  - ✚ Assignment, comparison, arithmetic, Boolean, string, special
- Control statements
  - ✚ Conditions, loops
- Keywords
  - Reserved words with special meaning

# JavaScript Variables

Variables are "containers" for storing information.

## JavaScript Variables

- As with algebra, JavaScript variables are used to hold values or expressions.
- A variable can have a short name, like `x`, or a more descriptive name, like `carname`.

Rules for JavaScript variable names:

- Variable names are case sensitive (`y` and `Y` are two different variables)
- Variable names must begin with a letter or the underscore character.

**Note:** Because JavaScript is case-sensitive, variable names are case-sensitive.

# Java script

```
<html>
```

```
<body>
```

```
<h1>What Can JavaScript Do?</h1>
```

```
<p id="demo">JavaScript can change HTML content.</p>
```

```
<button type="button"
```

```
onclick="document.getElementById('demo').innerHTML = 'Hello  
JavaScript!'">
```

```
Click Me!</button>
```

```
</body>
```

```
</html>
```



# Javascript Cont...

```
<html>
```

```
<body>
```

```
<p>This example calls a function which performs a calculation, and returns the  
  result:</p>
```

```
<p id="demo"></p>
```

```
<script>
```

```
function myFunction(a, b) {  
  return a * b;  
}
```

```
document.getElementById("demo").innerHTML = myFunction(4, 3);
```

```
</script>
```

```
</body>
```

```
</html>
```

# Javascript Cont...

## For Loop Example

```
<html>
<body>
<p id="demo"></p>
<script>
cars = ["BMW", "Volvo", "Saab", "Ford"];
text = "";
var i;
for (i = 0; i < cars.length; i++) {
    text += cars[i] + "<br>";
}
document.getElementById("demo").innerHTML = text;
</script>
</body>
</html>
```

# Javascript Cont...

## While / do while loop:

```
while (i < 10) {  
    text += "The number is " + i;  
    i++;  
}
```

---

```
do {  
    text += "The number is " + i;  
    i++;  
}  
while (i < 10);
```

# Javascript Cont...

## Array Demo:

```
<html>
```

```
<body>
```

```
<p id="demo"></p>
```

```
<script>
```

```
var cars = ["Saab", "Volvo", "BMW"];
```

```
document.getElementById("demo").innerHTML = cars[0];
```

```
</script>
```

```
</body>
```

```
</html>
```

# Javascript Cont...

| Operator | Description                       |
|----------|-----------------------------------|
| ==       | equal to                          |
| ===      | equal value and equal type        |
| !=       | not equal                         |
| !==      | not equal value or not equal type |
| >        | greater than                      |
| <        | less than                         |
| >=       | greater than or equal to          |
| <=       | less than or equal to             |

# Javascript Cont...

| Operator | Description |
|----------|-------------|
| &&       | and         |
|          | or          |
| !        | not         |

# Javascript Cont...

```
<html>
<body>
<p>Click the button to display what day it is today:</p>
<button onclick="myFunction()">Try it</button>
<p id="demo"></p>
<script>
function myFunction() {
    var day;
    switch (new Date().getDay()) {
        case 0:
            day = "Sunday";
            break;
```

# Javascript Cont...

case 1:

```
    day = "Monday";
```

```
    break;
```

case 2:

```
    day = "Tuesday";
```

```
    break;
```

case 3:

```
    day = "Wednesday";
```

```
    break;
```

case 4:

```
    day = "Thursday";
```

```
    break;
```



# Javascript Cont...

case 5:

```
    day = "Friday";
```

```
    break;
```

case 6:

```
    day = "Saturday";
```

```
    break;
```

```
}
```

```
document.getElementById("demo").innerHTML = "Today is " + day;
```

```
}
```

```
</script>
```

```
</body>
```

```
</html>
```

## JavaScript - Catching Errors

- When browsing Web pages on the internet, we all have seen a JavaScript alert box telling us there is a runtime error and asking "Do you wish to debug?". Error message like this may be useful for developers but not for users. When users see errors, they often leave the Web page.

```
try
{
    //Run some code here
}
catch(err)
{
    //Handle errors here
}
```

# Ex: Try Catch

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<p>Please input a number between 5 and 10:</p>
```

```
<input id="demo" type="text">
```

```
<button type="button" onclick="myFunction()">Test Input</button>
```

```
<p id="message"></p>
```

<script>

```
function myFunction() {  
    var message, x;  
    message = document.getElementById("message");  
    message.innerHTML = "";  
    x = document.getElementById("demo").value;  
    try {  
        if(x == "") throw "empty";  
        if(isNaN(x)) throw "not a number";  
        x = Number(x);  
        if(x < 5) throw "too low";  
        if(x > 10) throw "too high";  
    }  
}
```

```
catch(err) {  
    message.innerHTML = "Input is " + err;  
}  
}  
</script>  
</body>  
</html>
```

# CSS: Cascading Style Sheets

# CSS:-Adding Style to HTML

There are **three ways** of providing styling information for the Web browsers.

- External style sheet
- Internal style sheet
- Inline style

## Benefits:

- Authors and Web site managers may share style sheets across a number of documents (and sites).
- Authors may change the style sheet without requiring modifications to the document.
- User agents may load style sheets selectively (based on media descriptions).

# External (Linking) style sheet

- You can separate style sheets from HTML documents. Style sheet files are imported to HTML documents by **<link>**.

## [example.html]

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

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

```
</head>
```

```
<body>
```

```
<h1>This is a heading</h1>
```

```
<p>This is a paragraph.</p>
```

```
</body>
```

```
</html>
```



# External (Linking) style sheet

- "myStyle.css"

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

```
h1 {  
    color: navy;  
    margin-left: 20px;  
}
```

# Internal style sheet

- You can put style sheet rules in the head of the document by **<style>**.

## [example.html]

```
<head>
  <style>
    p { color: red; font-size:120%; }
  </style>
</head>
<body>
  <p>This is a paragraph</p>
</body>
```

# Inline style sheet

- The start tags can contain style sheet rules directly in HTML documents by **the style attribute**.

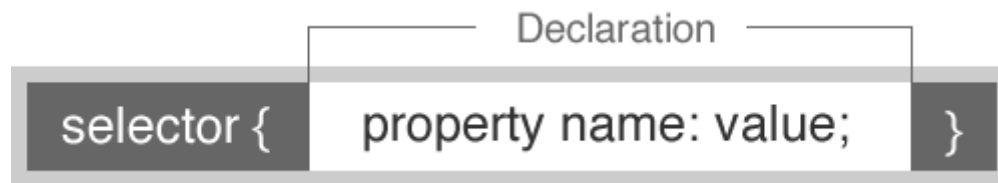
**[example.html]**

```
<p style="color: red; font-size:120%; ">
```

```
This is a paragraph</p>
```

## Point of the syntax

- This syntax has **two parts**, the selector and the declaration.



**Selector:** Specifies the target of styling.

**Declaration:** Specifies the property and value.

- Declaration is contained between {" ... "}
- Declaration end with a semicolon.

```
p{ color: red; }
```

Selectors are specify the target of styling. Selectors may range from simple element names to rich contextual representations.

## Kind of selector

- Type selector
- Class selector
- ID selector
- Grouping

# Type selector

A type selector is the name of HTML Tag.

## [index.html]

- `<p>This is a paragraph</p>`
- `<p>This is a paragraph</p>`
- `<p>This is a paragraph</p>`

## [style.css]

- `p{ color: red; font-size: 12px; }`

# Class selector

Class selector is used for one or more elements. It is described the value of class attribute of HTML document with **".(period)"**.

**[index.html]**

```
<p class="red">This is a paragraph</p>
```

```
<p class="blue">This is a paragraph</p>
```

```
<p class="red">This is a paragraph</p>
```

```
<p class="blue">This is a paragraph</p>
```

**[style.css]**

```
p{ font-size: 12px; }
```

```
.red{ color: red; }
```

```
.blue{ color: blue; }
```

# ID selector

- ID selector is used for unique element. It is described the value of ID attribute of HTML document with "#".

## [index.html]

- `<p class="red">This is a paragraph</p>`
- `<p class="blue">This is a paragraph</p>`
- `<p class="red" id="small">This is a paragraph</p>`

## [style.css]

- `p{ font-size: 12px; }`
- `.red{ color: red; }`
- `.blue{ color: blue; }`
- `#small{ font-size: 9px; }`



# Grouping

- A comma-separated list of selectors represents the union of all elements selected by each of the individual selectors in the list.

## [index.html]

<h1>This is a heading</h1>

<h2>This is a heading</h2>

<h3>This is a heading</h3>

<h4>This is a heading</h4>

## [style.css]

**h1, h2, h3, h4**{ color: red; font-size: 12px; }

# DHTML

# Dynamic HTML

Dynamic HTML, or DHTML, is an umbrella term for a collection of technologies used together to create interactive and animated web sites by using a combination of :

- a static markup language (such as **HTML**),
- a client-side scripting language (such as **JavaScript**),
- a presentation definition language (such as **CSS**), and the **Document Object Model**.

- DHTML is not a technology in and of itself; rather, it is the product of three related and complementary technologies: HTML, Cascading Style Sheets (CSS), and script.
- To allow scripts and components to access features of HTML and CSS, the contents of the document were represented as objects in a programming model known as the Document Object Model (DOM).

# Differences between HTML and DHTML

- **HTML**

1. It is referred as a static HTML and static in nature.
2. A plain page without any styles and Scripts called as HTML.
3. HTML sites will be slow upon client-side technologies.

**DHTML**

1. It is referred as a dynamic HTML and dynamic in nature.
2. A page with HTML, CSS, DOM and Scripts called as DHTML.
3. DHTML sites will be fast enough upon client-side technologies.

# Short Questions

1. By which property you can select one Radio Button among multiple?
2. Give the names of four Button control present in Standard Toolbox?
3. Write code for a html table that will have one row and one column?
4. How to add JavaScript file reference in the web page?
5. What is external Style Sheet? How do you link it with a HTML Page?
6. How to write bulleted point in HTML using tag?
7. What is the alt property in `<img>` tag and give the full syntax of this tag ?

# Long Questions

1. How a web page runs on a Client server architecture explain?
2. What are HTML Tags and write the steps of add CSS.
3. What is Java Script? Why it is helpful to add JS code in a web form.
4. What is HTML Page? Explain all Important Tags with a practical example.
5. Design the HTML website for a company with some linked pages and explain all pages with their use?
6. What is Cascading Style Sheets and describe all Selectors with their use and examples?
7. What is DHTML. Explain the role of it.

# Research Problem

## **Combinatorial pattern matching in images and audio.**

The signal processing community has traditionally addressed the problem of measuring the similarity between two images or audio segments (or parts thereof) despite of slight differences due to scale, orientation, lighting, stretching, etc. (in the first case) or timing, volume, tone, noise, etc. (in the second case). They have used an approach where the object is seen as a continuous signal to be processed.



# Research Problem Contd...

- A recent alternative approach to pattern matching in audio and images relies on combinatory rather than on signal processing. The audio or image is seen as a one or two dimensional text, where one or two dimensional patterns are sought. Several results on searching images permitting rotations, scaling, pixel differences and stretching have been obtained, in many of which we have been involved. The same has happened in searching music files, using techniques derived from the large body of knowledge acquired in the field of pattern matching of biological sequences.
- Ref: <http://www.cwr.cl/areas.html>

# Resources: Online

## W3C Website

1. <http://www.w3.org/Style/CSS/> (CSS)
2. <http://www.w3.org/DOM/> (DOM)
3. <http://www.w3.org/MarkUp/> (HTML/XHTML)

## css-discuss listserv

1. <http://www.css-discuss.org/>

## css-discuss Wiki

1. <http://css-discuss.incutio.com/>

## JavaScript Message Board

1. <http://www.aspmessageboard.com/forum/jscript.asp>

## XMLHttpRequest() Information

1. <http://developer.apple.com/internet/webcontent/xmlhttpreq.html>
2. <http://www.xml.com/lpt/a/2005/02/09/xml-http-request.html>

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2. **Stephen Walther, “ASP.NET 4”, Pearson Education.**
3. Ethan Cerami, “Web Services”, O'Reilly Media, 2002.
4. Achyut S Godbole and Atul Kahate, “Web Technologies”, Tata McGraw Hill.
5. Heith Morneau, “Active Server Pages “, Vikas Publishing House.

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