



Web Systems and Technologies

Chapter 2.

Hyper Text Markup Language (HTML)

Content

- ❖ Introduction to HTML
- ❖ HTML Structure
- ❖ HTML Basics
- ❖ HTML Tables
- ❖ HTML Forms

```

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

```



HTML Structure

HTML Document Structure in Depth

Introduction to HTML

- ❖ HTML is a MARKUP language
- ❖ Using HTML tags and elements, we can:
 - Control the appearance of the page and the content
 - Publish online documents and retrieve online information using the links inserted in the HTML document
 - Create on-line forms. These forms can be used to collect information about the user, conduct transactions, and so on

Concepts in HTML

❖ Tags

- ❑ Opening tag and closing tag
- ❑ The smallest piece in HTML

❖ Attributes

- ❑ Properties of the tag
- ❑ Size, color, etc...

❖ Elements

- ❑ Combination of opening, closing tag and attributes

HTML Structure

- ❖ HTML is comprised of “elements” and “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>

HTML Tags

- ❖ HTML tag is used to mark the beginning and end of an HTML document

<HTML> . . . </HTML>

- ❖ The HTML tag is comprised of:

<ELEMENT ATTRIBUTE = “value”>

- ❑ Element - identifies the tag
- ❑ Attribute - describes the tag
- ❑ Value - the content that is assigned to the attribute

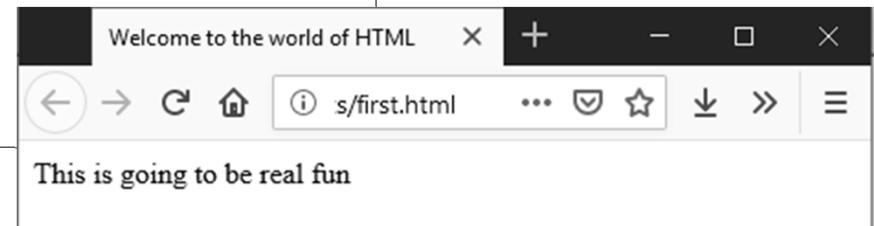
Structure of an HTML document

- The HTML Section
- The Header Section
- The BODY Section

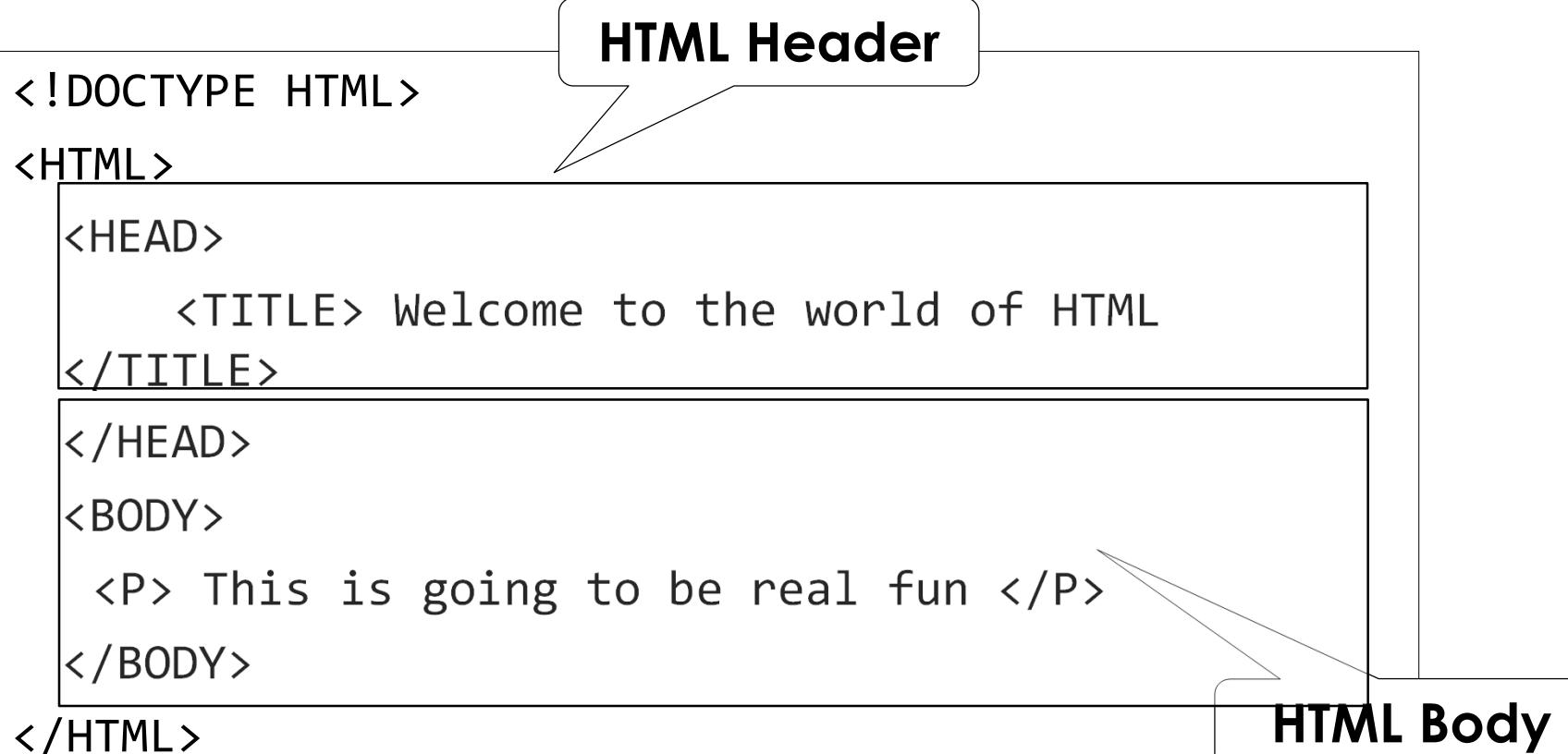
```
<!DOCTYPE HTML>
<HTML>
  <HEAD>
    <TITLE> Welcome to the world of HT
  </TITLE>
  </HEAD>
  <BODY>
    <P> This is going to be real fun </P>
  </BODY>
</HTML>
```

Opening tag

Closing tag



Structure of an HTML document (cont.)



Tags Attributes

- ❖ Tags can have attributes

- Attributes specify properties and behavior

- 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

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">
```

- See <http://w3.org/QA/2002/04/valid-dtd-list.html> for a list of possible doctypes

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

```
<title>Telerik Academy – Winter Season 2009/2010 </title>
```



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

<head> Section: <meta>

- ❖ Meta tags additionally describe the content contained within the page

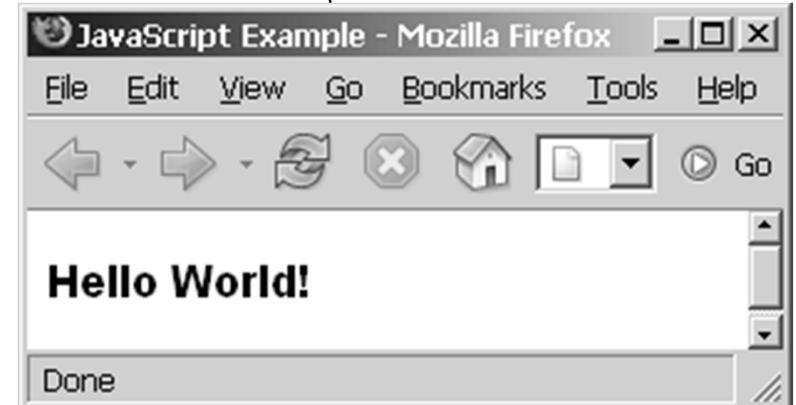
```
<meta name="description" content="HTML tutorial" />  
<meta name="keywords" content="html, web design, styles" />  
<meta name="author" content="Chris Brewer" />  
<meta http-equiv="refresh" content="5;  
url=http://www.telerik.com" />
```

<head> Section: <script>

- ❖ The <script> element is used to embed scripts into an HTML document
 - Scripts 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 (it is not Java!)
 - VBScript
 - JScript

The <script> Tag – Example

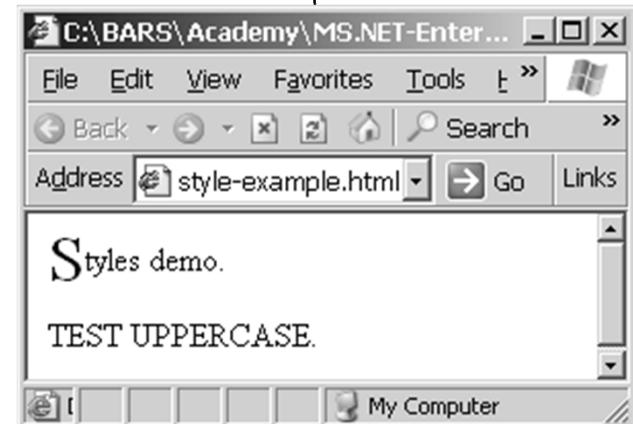
```
<!DOCTYPE HTML>
<html>
  <head>
    <title>JavaScript Example</title>
    <script type="text/javascript">
      function sayHello() {
        document.write("<p>Hello World!</p>");
      }
    </script>
  </head>
  <body>
    <script type="text/javascript">
      sayHello();
    </script>
  </body>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



<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>
```



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>

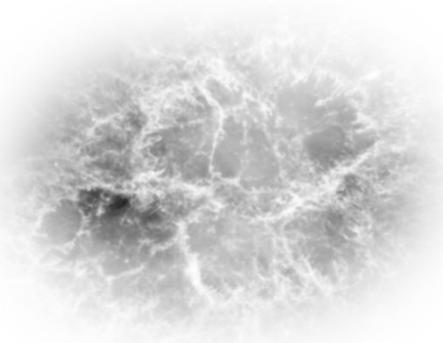
```
<html>
  <head><title>Test page</title></head>
  <body>
    <!-- This is the Web page body -->
  </body>
</html>
```



HTML Basics

Text, Images, Tables, Forms

Row	ROWID	NAME	NUMBER	DATE	FORMAT
0	00000000000000000000000000000000	ALPHATEC	367	2020-11-1994	DD/MM/YY
1	10000000000000000000000000000001	ALPHATEC	382	13/02/1995	DD/MM/YY
2	20000000000000000000000000000002	ALPHATEC	64	15/02/1995	DD/MM/YY
3	30000000000000000000000000000003	ALPHATEC	199	15/02/1995	DD/MM/YY
4	40000000000000000000000000000004	ALPHATEC	355	15/02/1995	DD/MM/YY
5	50000000000000000000000000000005	ALPHATEC	500	15/02/1995	DD/MM/YY
6	60000000000000000000000000000006	ALPHATEC	500	15/02/1995	DD/MM/YY



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>
```

- ❖
new line

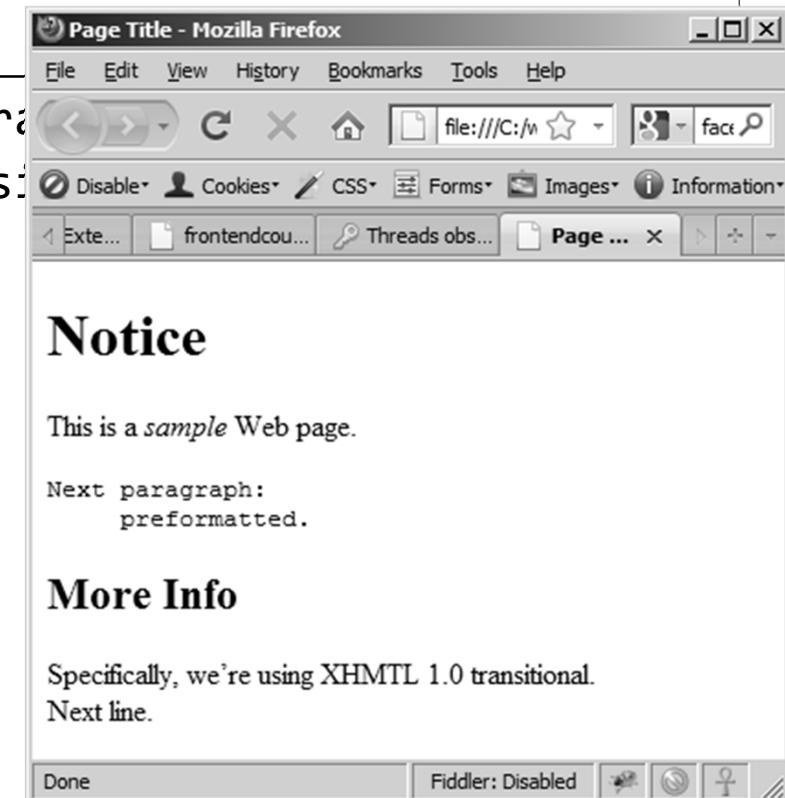
Text Formatting

- ❖ Text formatting tags modify the text between the opening tag and the closing tag
 - Ex. **Hello** makes “Hello” bold

	bold
<i></i>	<i>italicized</i>
<u></u>	<u>underlined</u>
<sup></sup>	Sample ^{superscript}
<sub></sub>	Sample _{subscript}
	strong
	<i>emphasized</i>
<pre></pre>	Preformatted text
<blockquote></blockquote>	Quoted text block
	Deleted text – strike through

Text Formatting – Example

```
<!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>
  </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">BASD</a>
```

- Always use a full URL, including "http://", not just "www.somesite.com"
- Using the target="_blank" attribute opens the link in a new window

- ❖ Link to an e-mail address:

```
<a href="mailto:bugs@example.com?subject=Bug+Report">  
Please report bugs here (by e-mail only)</a>
```

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>
```

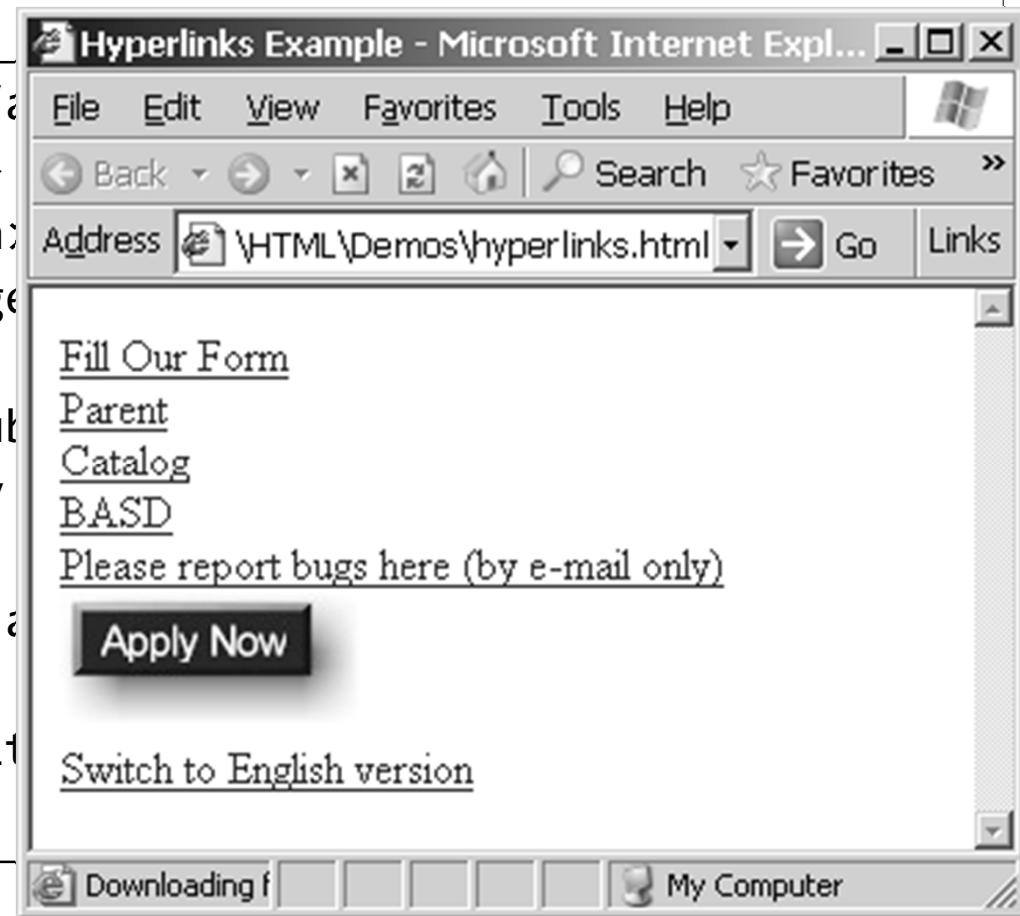
- ❖ Link to a document called `index.html`
 - On the same server, in the subdirectory `english` of the parent directory:

```
<a href="../english/index.html">Switch to English  
version</a>
```

Hyperlinks – Example

hyperlinks.html

```
<a href="form.html">Fill Our Form</a>
<a href="../parent.html">Parent</a>
<a href="stuff/cat.html">Catalog</a>
<a href="http://www.devbg.org" target="BASD">
<br />
<a href="mailto:bugs@example.com?subject=Report">Please report bugs here (by e-mail only)<br />
<a href="apply-now.html"></a> <br />
<a href="../english/index.html">Switch to English version</a> <br />
```



Hyperlinks and Sections

- ❖ Link to another location in the same document:

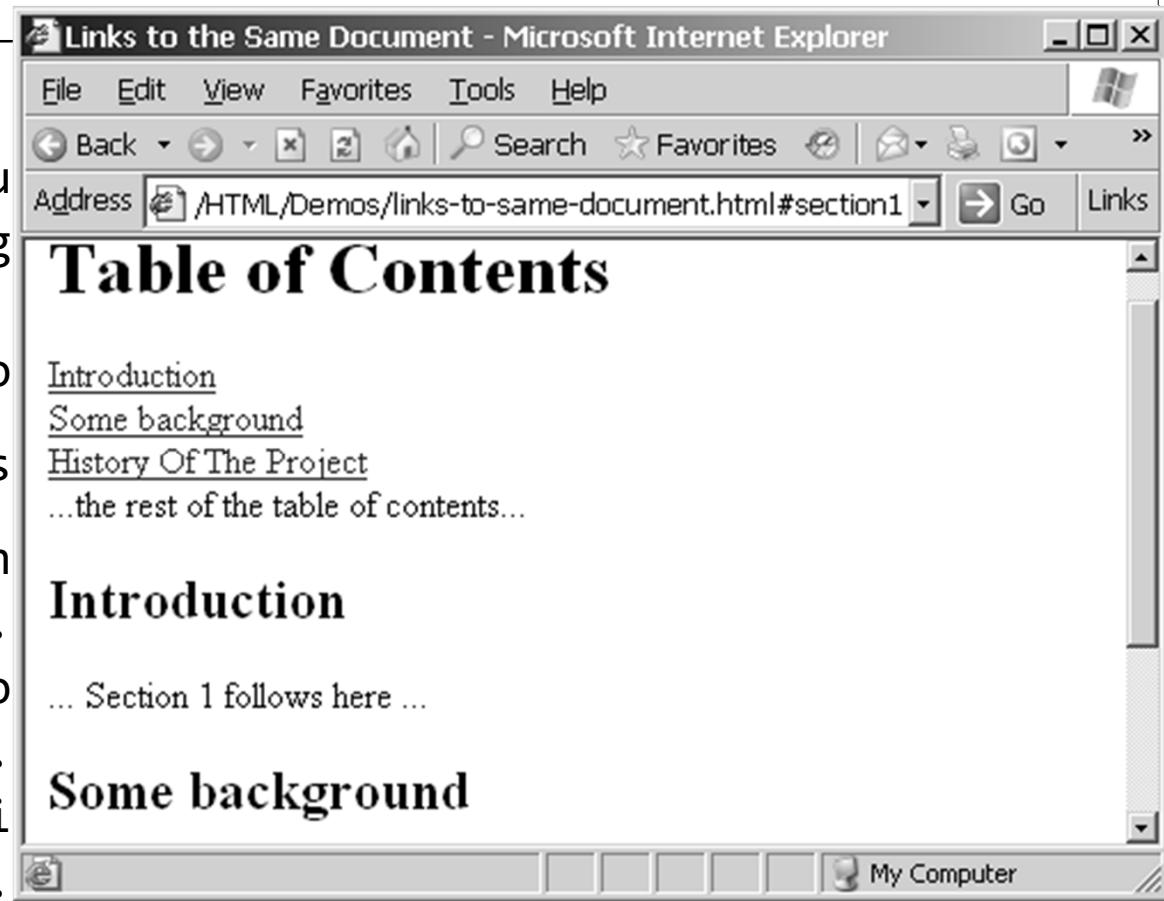
```
<a href="#section1">Go to Introduction</a>  
...  
<h2 id="section1">Introduction</h2>
```

- ❖ 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>
```

Links to the Same Document – Example

```
<h1>Table of Contents</h1>  
  
<p><a href="#section1">Introduction</a>  
<a href="#section2">Some background</a>  
<a href="#section2.1">Project History</a>  
...the rest of the table of contents  
  
<!-- The document text follows -->  
  
<h2 id="section1">Introduction</h2>  
... Section 1 follows here ...  
<h2 id="section2">Some background</h2>  
... Section 2 follows here ...  
<h3 id="section2.1">Project History</h3>  
... Section 2.1 follows here .
```



Images: tag

- ❖ Inserting an image with tag:

```

```

- ❖ Image attributes:

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

- ❖ Example:

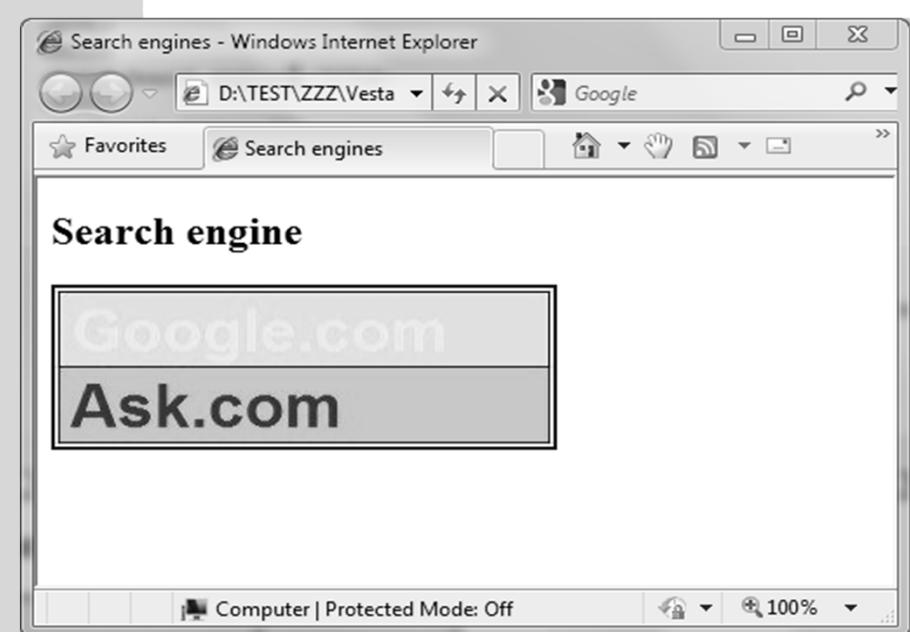
```

```

Image maps

- ❖ There are different areas that act as links in an image.
 - Map element
 - AREA element

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
"http://www.w3.org/TR/xhtml1/loose.dtd">  
  
<HTML><HEAD>  
<TITLE>Search engines</TITLE>  
<BODY>  
  
<H2>Search engines</H2>  
  
<MAP name="searchmap">  
  
  <AREA href="http://www.google.com" alt="Google" shape="rect"  
        coords="0,0,170,35"/>  
  
  <AREA href="http://www.ask.com" alt="Ask" shape="rect"  
        coords="0,28,170,70"/>  
  
</MAP>  
  
  
  
</BODY>  
</HTML>
```



OBJECT element

- ❖ DATA: url of the resource
- ❖ WIDTH
- ❖ HEIGHT
- ❖ NAME
- ❖ TYPE: media type

Audio & Video

❖ Media Tags

□ <audio>

✧ Attributes: autoplay, controls, loop, src

□ <video>

✧ Attributes: autoplay, controls, loop, height, width, src

```
<audio width="360" height="240" controls= "controls" >
<source src="someSong.mp3" type="audio/mp3">
</source>
  Audio tag is not supported
</audio>
```

Embed Tag – New Syntax

- ❖ <embed>

- Defines embedded content, such as a plug-in

- ❖ Attributes

- src="url"
 - type="type"

```
<embed src="helloworld.swf" />
```

Miscellaneous Tags

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

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

- ❖ <center></center>: Deprecated!

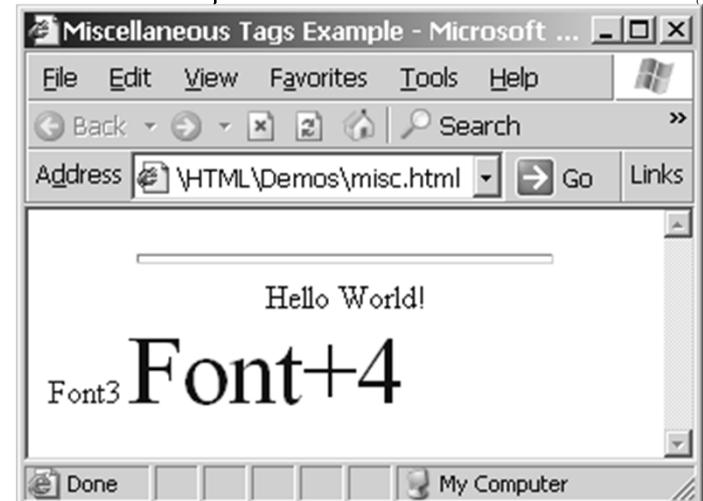
```
<center>Hello World!</center>
```

- ❖ : Deprecated!

```
<font size="3" color="blue">Font3</font>
<font size="+4" color="blue">Font+4</font>
```

Miscellaneous Tags – Example

```
<html>
  <head>
    <title>Miscellaneous Tags Example</title>
  </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: Tag

❖ Create an Ordered List using :

```
<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

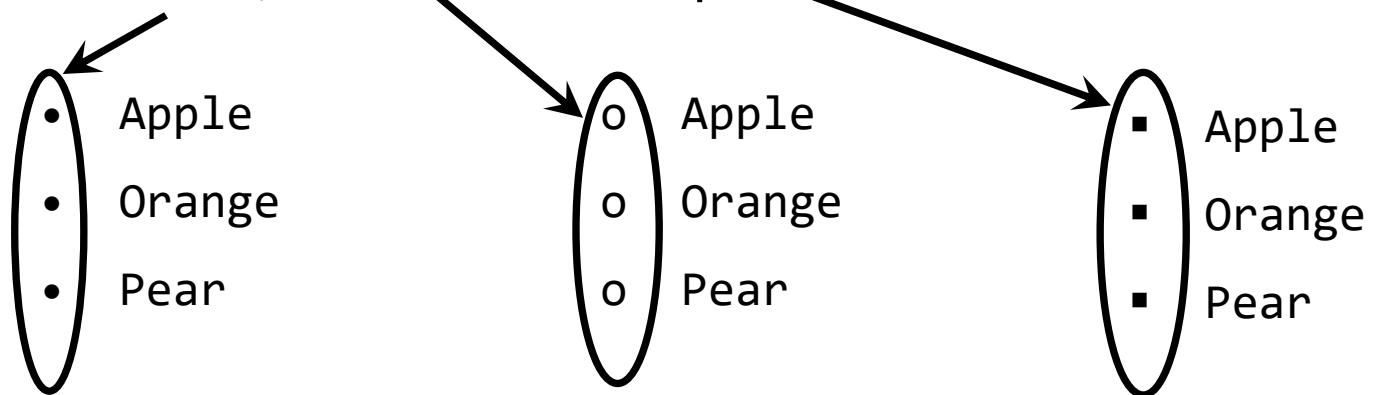
Unordered Lists: Tag

- ❖ Create an Unordered List using :

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

- ❖ Attribute values for **type** are:

□ disc, circle or square



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>
```

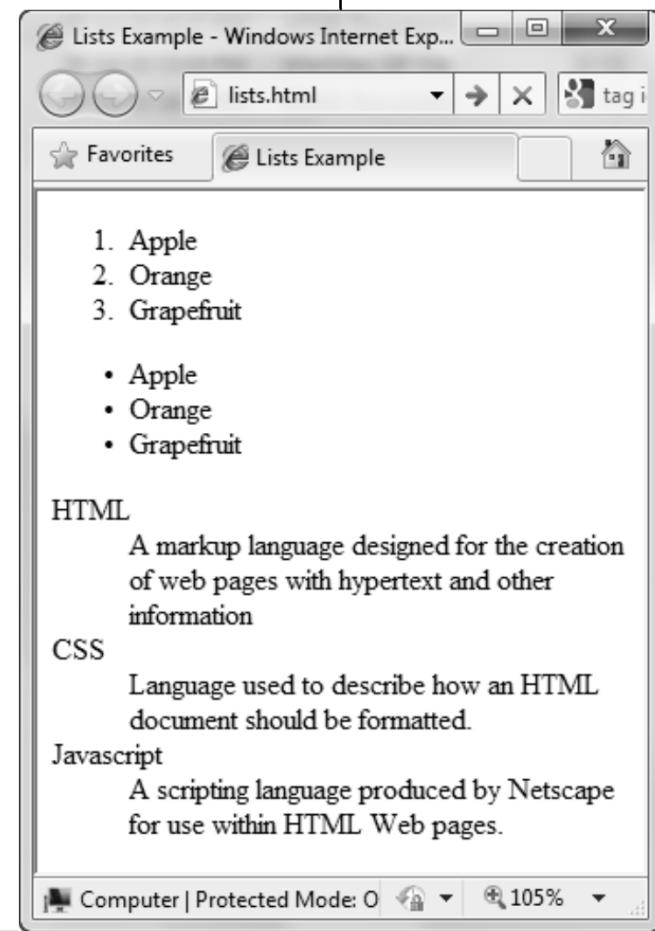
- ❑ Renders without bullets
 - ❑ Definition is indented

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>
```

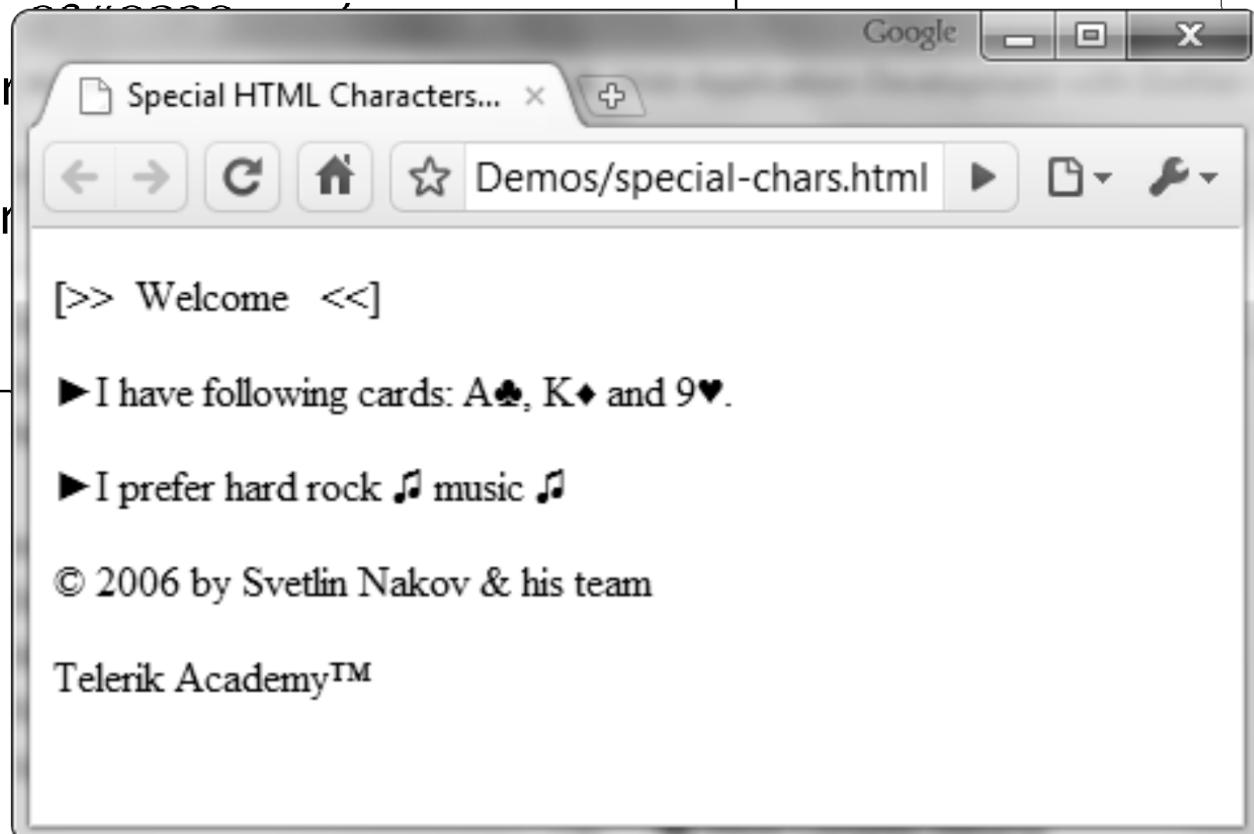


HTML Special Characters

Symbol Name	HTML Entity	Symbol
Copyright Sign	©	©
Registered Trademark Sign	®	®
Trademark Sign	™	™
Less Than	<	<
Greater Than	>	>
Ampersand	&	&
Non-breaking Space	 	
Em Dash	—	—
Quotation Mark	"	"
Euro	€	€
British Pound	£	£
Japanese Yen	¥	¥

Special Chars – Example

```
<p>[&gt;&gt;&nbsp;&nbsp;Welcome  
  &nbsp;&nbsp;&lt;&lt;]</p>  
<p>I have following cards:  
  A, K and 9  
<p>I prefer hard rock music   
<p> 2006 by Svetlin Nakov & his team</p>  
<p>Telerik Academy</p>
```

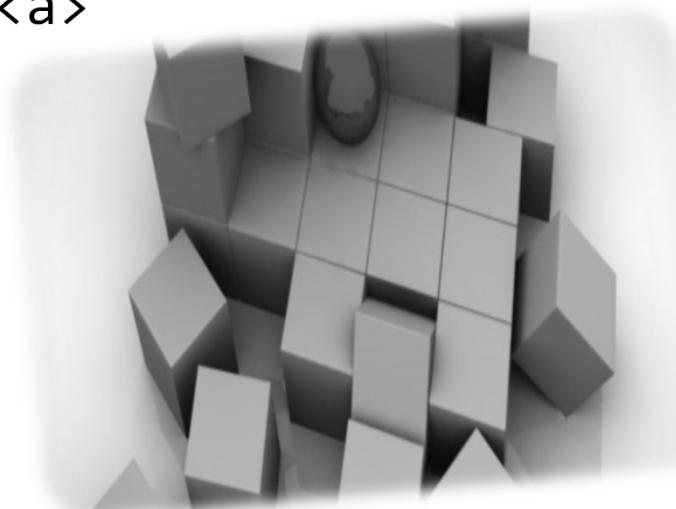


Block and Inline Elements

- ❖ 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
 - is an inline element
 - Most HTML elements are inline, e.g. <a>

```
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>
14
```

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



The <div> Tag

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

div-and-span.html

```
<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>
```

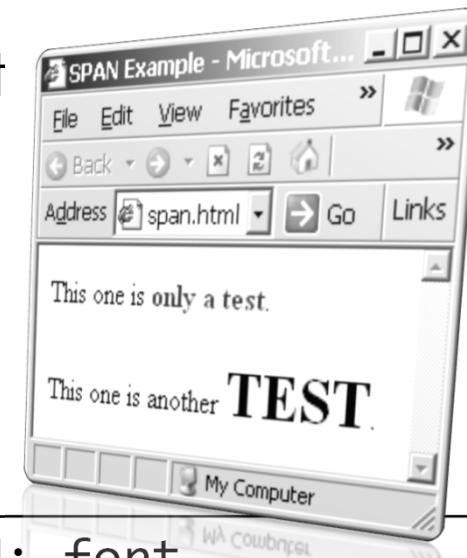


The Tag

- ❖ 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>
```



DIV with The Structure of a Web Page

- ❖ A sample layout structure of a Web Page



The "HTML 4 and Before" Way

- ❖ Using divs with IDs
 - The IDs are needed for styling

```
<html>
<head> ... </head>
<body>
  <div id="header"> ... </div>
  <div id="navigation"> ... </div>
  <div id="sidebar"> ... </div>
  <div id="content"> ... </div>
  <div id="footer"> ... </div>
</body>
</html>
```

The HTML 5 Way

- ❖ In HTML 5 there are semantic tags for layout
 - <nav>, <header>, <footer>, <section>

```
<html>
<head> ... </head>
<body>
  <header> ... </header>
  <nav> ... </nav>
  <aside> ... </aside>
  <section> ... </section>
  <footer> ... </footer>
</body>
</html>
```

HTML Tables

HTMLTable1 - Notepad

```

<html>
<head>
<title>How To Create HTML Tables</title>
</head>
<body>
<table border=1 cellpadding=0 cellspacing=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>

```

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 chidi	
Fri, 14 Feb 2002 04:24:20 UTC	06/07/99 06:46:01 AM	\$1-02-04 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 balle	-131.20E+01
09/28/2000	24/11/1957			\$-38.77	YMB 112.42	15.192.151.209	
		97-08-13 00:01:33 AM	\$14.5	YMB -1.75	99.93.147.150	dychai tonchai	-187.28E-05
Mon, 29 Oct 1979 00:44:03 UTC		87-10-16	\$14.66	YMB 61.14		chite male	-125.19 E -03
Sat, 9 Jan 1982 05:45:06 UTC	04/06/68	74-10-20	\$20.47		121.169.225.22	dyma banna	138.11E+02
04/05/75		2000-03-20	\$68.84	YMB 88.19	239.133.227.68	made liete	195.44 E +03
Monday, July 15, 2002 1:05:02 AM	01/02/1961 09:40:16 AM		\$97.9	YMB 44.28	223.66.228.116	mava sete	-107
This is footer	row	number	ONE!	adsf	adsf	adsf	adsf

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

HTML Tables

- ❖ 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 cellspacing="0" cellpadding="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>           columns
  <col style="width:100px" /><col />
</colgroup>
<thead>             header
  <tr><th>Column 1</th><th>Column 2</th></tr>
</thead>
<tfoot>             footer
  <tr><td>Footer 1</td><td>Footer 2</td></tr>
</tfoot>
<tbody>             Last comes the body (data)
  <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>
```

Complete HTML Table: Example (2)

```
<table>
<colgroup>
  <col style="width
</colgroup>
<thead>
  <tr><th>Column 1<
</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>
```

A screenshot of Mozilla Firefox displaying a table titled "Full Table". The window title bar says "Full Table - Mozilla Firefox". The address bar shows "file:///C:/work/Documents/Front". The table has two columns: "Column 1" and "Column 2". It contains four rows: Row 1 has "Cell 1.1" in Column 1 and "Cell 1.2" in Column 2; Row 2 has "Cell 2.1" in Column 1 and "Cell 2.2" in Column 2; Row 3 has "Footer 1" in Column 1 and "Footer 2" in Column 2. The browser interface includes a menu bar (File, Edit, View, History, Bookmarks, Tools, Help), a toolbar with icons for back, forward, search, and home, and a status bar at the bottom indicating "Fiddler: Disabled" and "0 errors / 0 warnings".

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

By default, header text is bold and centered.

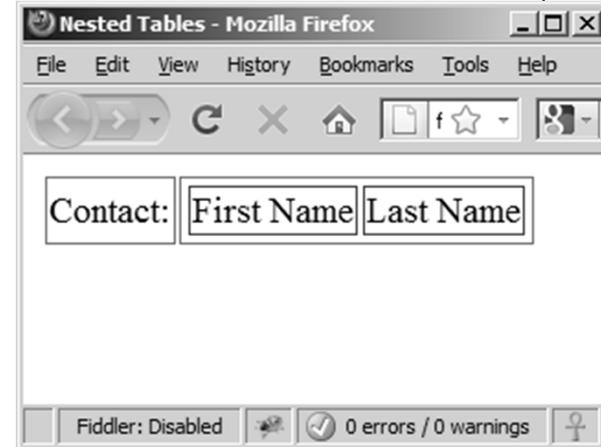
Although the footer is before the data in the code, it is displayed last

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>
```

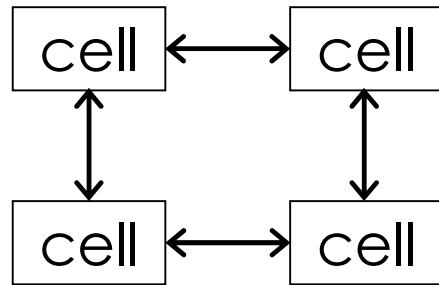
nested-tables.html



Cell Spacing and Padding

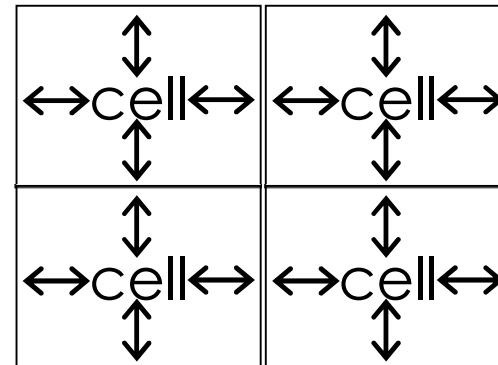
- ❖ Tables have two important attributes:

- ◆ cellspacing



- ◆ Defines the empty space between cells

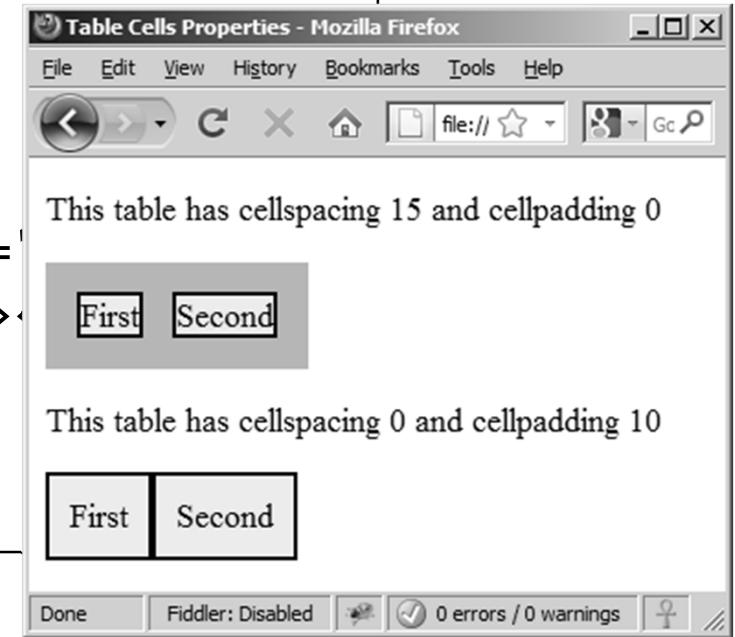
- ◆ cellpadding



- ◆ Defines the empty space around the cell content

Cell Spacing and Padding – Example

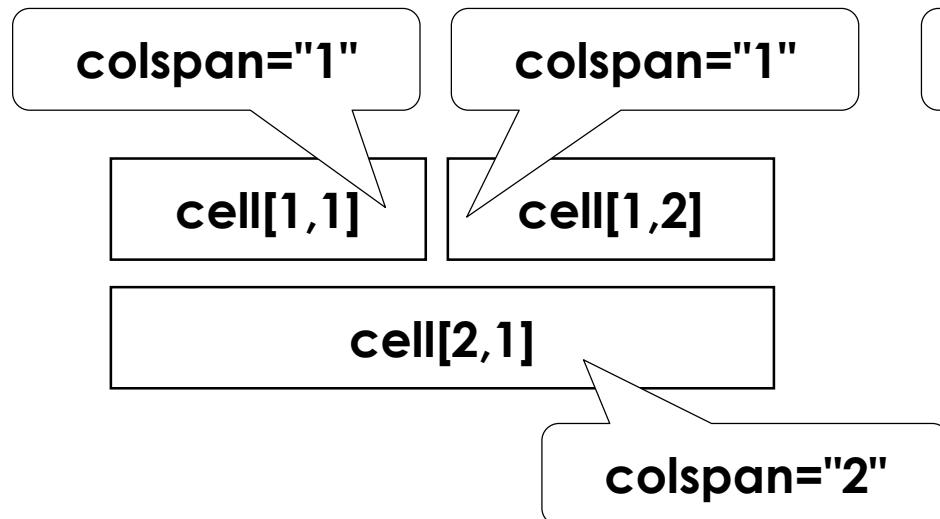
```
<html>
<head><title>Table Cells</title></head>
<body>
  <table cellspacing="15" cellpadding="0">
    <tr><td>First</td>
    <td>Second</td></tr>
  </table>
  <br/>
  <table cellspacing="0" cellpadding="10">
    <tr><td>First</td><td>Second</td>
  </table>
</body>
</html>
```



Column and Row Span

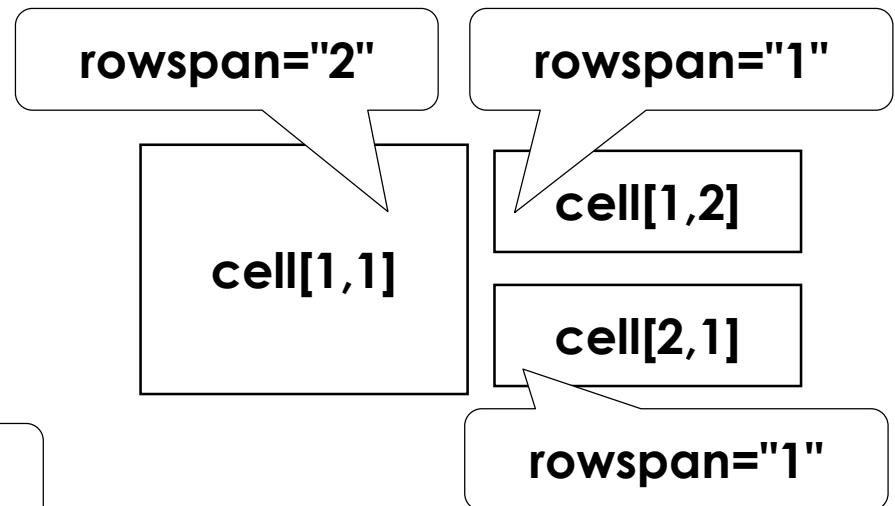
- ❖ Table cells have two important attributes:

- ◆ **colspan**



- ◆ Defines how many columns the cell occupies

- ◆ **rowspan**



- ◆ Defines how many rows the cell occupies

Column and Row Span – Example

```
<table cellspacing="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[1,3]	Cell[2,3]



HTML Forms

Entering User Data from a Web Page



What are HTML Forms?

- ❖ The primary method for gathering data from site visitors
- ❖ HTML Forms can contain
 - Text fields for the user to type
 - Buttons for interactions like "Register", "Login", "Search"
 - Menus, Sliders, etc...
- ❖ Check Google, Yahoo, Facebook
 - Google search field is a simple Text field

How to Create Forms?

- ❖ Create a form block with

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

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

- ❖ Example:

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

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

Text Fields

- ❖ Single-line text input fields:

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

- ❖ Multi-line text input fields (textarea):

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

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

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

Buttons

- ❖ Reset button – brings the form to its initial state

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

- ❖ Submit button:

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

- ❖ 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 – no default action, used with JS

```
<input type="button" value="click me" />
```

Checkboxes and Radio Buttons

- ❖ Checkboxes:

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

- ❖ Radio buttons:

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

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

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

Select Fields

- ❖ Dropdown menus:

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

- ❖ Multiple-choice menus

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

Hidden Fields

- ❖ Hidden fields contain invisible data

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

- ❑ Not shown to the user
- ❑ Used by JavaScript and server-side code
 - ✧ ViewState, SessionState, etc..

File Input

- ❖ File input – a field used for uploading files
 - When used, it requires the form element to have a specific attribute:

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

Labels

- ❖ 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.

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.

HTML Forms – Example

```
<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)

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

HTML Forms – Example (3)

form.html (continued)

HTML Forms Example - Mozilla Firefox

File Edit View History Bookmarks Tools Help

file:///C:/work/D file:///C:/work/D

Academic information

Degree Master of Business Administration

Student ID

Classes attended

Personal Details

First Name

Last Name

Gender: Male Female

Email

TERMS AND CONDITIONS...

Send Form Clear Form

Done Fiddler: Disabled 0 errors / 0 warnings

Attributes from HTML 5

❖ Autocomplete

- The browser stores the previously typed values
- Brings them back on a later visit on the same page

❖ Autofocus

- The field becomes on focus on page load

❖ Required

- The field is required to be filled/selected

Input Fields with Validation

❖ Email – provides a simple validation for email

- Can be passed a pattern for validation
- On a mobile device brings the email keyboard

```
<input type="email" required="true"  
pattern="[^ @]*@[^ @].[^ @]"/>
```

❖ URL – has validation for url

- On a mobile device brings the url keyboard

```
<input type="url" required="true" />
```

❖ Telephone

- Brings the numbers keyboard

```
<input type="tel" required="true" />
```

Range and Spinbox

- ❖ Restricts users to enter only numbers
 - Additional attributes min, max and step and value
 - Can become Spinbox or Slider, depending on the input type

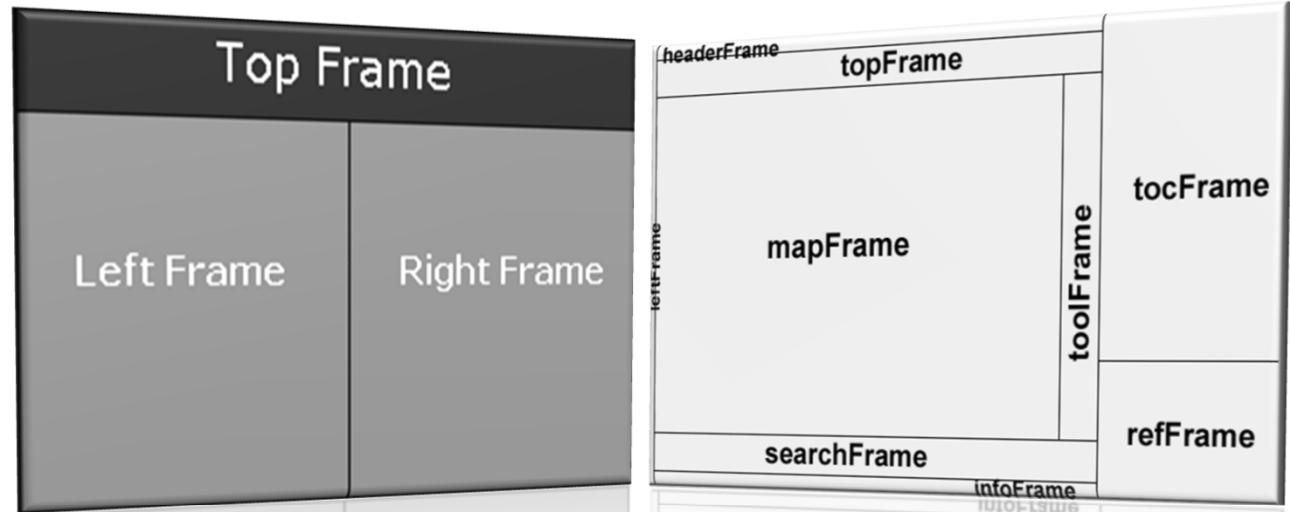
```
<input type="range" min="0" max="100" />
<input type="number" min="0" max="100" />
```
 - Have some differences on different browsers
 - Sliders and Spinboxes do not work on Firefox
 - ✧ Shown as regular textboxes

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 $\text{tabindex} = X$ are iterated before elements with $\text{tabindex} = Y$
 - Elements with negative tabindex are skipped, however, this is not defined in the standard

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

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.

Inline Frames: <iframe>

- ❖ Inline frames provide a way to show one website inside another website:

```
<iframe name="iframeGoogle" width="600" height="400"  
src="http://www.google.com" frameborder="yes"  
scrolling="yes"></iframe>
```

Have a
Question?