HTML- Basics

- *Web is an information system based on hypertext*

- *Web documents are created and formatted via HTML*

- *Used for publishing text in WWW*

- *HTML- HyperText Markup Language*
  - Identify elements of a page so that a browser can render that page on your computer screen
  - Presentation of a document vs. structure
- *HTML files* or *documents*
  - Notepad, MS Frontpage, MS Word, many shareware tools
  - HTML-Kit:

  http://www.chami.com/html-kit
- HTML files
  - `.htm` or `.html` extensions
  - `Main page – index.html | default.html`
- Document rendering - Browser dependent
- HTML Errors- browser tolerance

Introduction

- HTML is comprised of "tags" (Elements)

- Begins with `<html>` and ends with `</html>`

HTML Structure

- Elements (tags) are nested one inside another:

```
<html> <head></head> <body></body> </html>
```
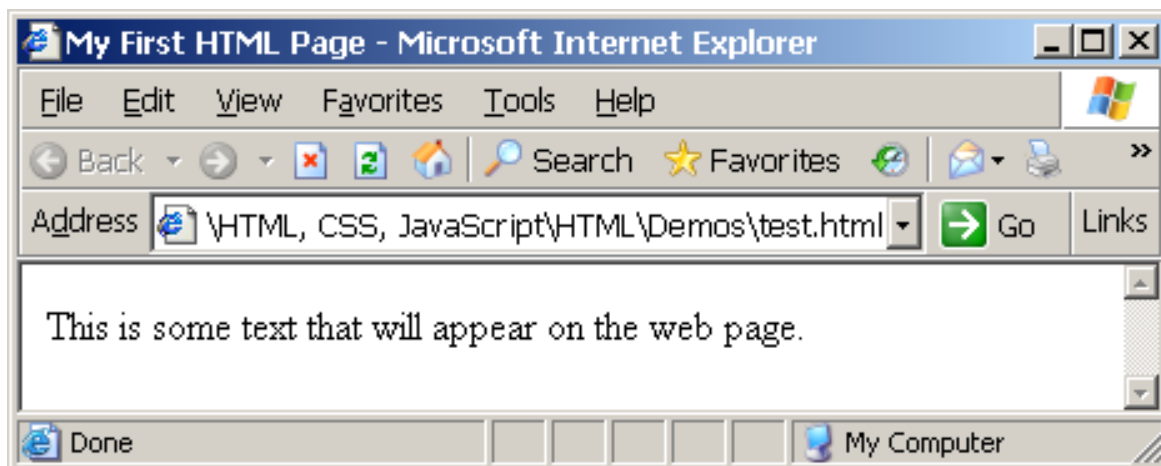
- Tags have attributes:

```
<img src="logo.jpg" alt="logo" />
```

- HTML describes structure using two main sections: `<head>` and `<body>`

First HTML Page

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

My First HTML Page - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   ·   ·   Search   Favorites

Address   \HTML, CSS, JavaScript\HTML\Demos\test.html   Go   Links

This is some text that will appear on the web page.

Done   My Computer

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broadly classified as

- Document Structure Tags

- Formatting Tags

- List Tags

- Hyperlink Tags

- Image and Image Map Tags

- Table Tags

- Form Tags

- Frame Tags

HTML- Tags

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The <!DOCTYPE> Declaration

- HTML documents must start with a document type definition (DTD)
- The <!DOCTYPE> declaration must be the very first thing in your HTML document, before the <html> tag.
- The <!DOCTYPE> declaration is not an HTML tag; it is an instruction to the web browser about what version of HTML the page is written in.
- Example:

<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook V4.1//EN" "docbook.dtd">
<!DOCTYPE book SYSTEM "customdocbook.dtd">

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 **Frameset**//EN" http://www.w3.org/TR/html4/frameset.dtd">

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-**transitional**.dtd">(< Font > Spec available)

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 **Strict**//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"> (< Font > Spec not available)

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>`
  - `<link>`

<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"/Reply-to/Expires/set-
cookie content="5; url=http://www.telerik.com"
/>
```
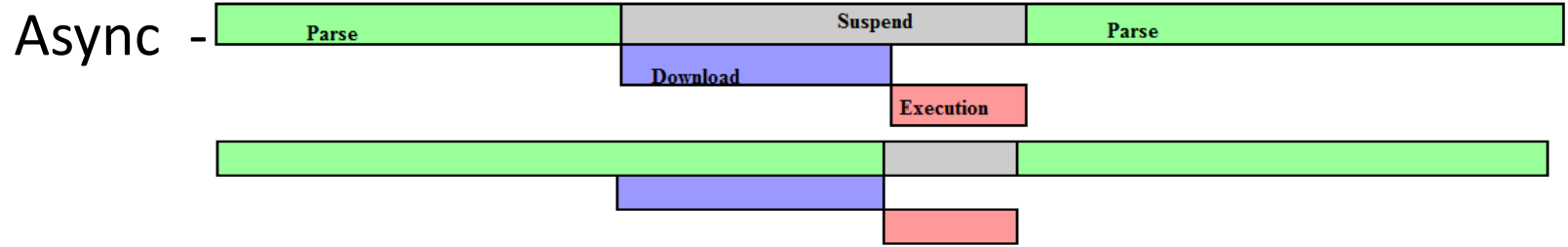
<head> Section: <script>

- 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 (it is not Java!)
  - VBScript
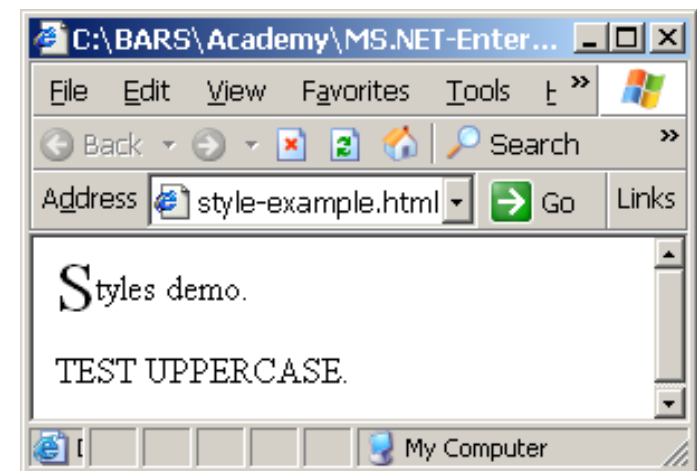 - Jscript

type="text/javascript"

src="javascript.js

<script src="demo_defer.js" defer></script>

Async -

<head> Section: <style>

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

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

style-example.html

```html
<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>
```

C:\BARS\Academy\MS.NET-Enter...

File   Edit   View   Favorites   Tools   H »

Back ▾ ▾   Search »

Address style-example.html ▾ Go   Links

Styles demo.

TEST UPPERCASE.

My Computer

<head> Section: <link>

- The <link> tag defines a link between a document and an external resource.

- The <link> tag is used to link to external style sheets.

<head>

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

</head>

Comments: <!-- --> Tag

- Comments can exist anywhere between the `<html></html>` tags

- Comments start with `<!--` and end with `-->`

```
<!-- Telerik Logo (a JPG file) -->
<img src="logo.jpg" alt="Telerik Logo">
<!-- 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

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

Headings and Paragraphs

Heading Tags (h1-h6)

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

paragraph Tag

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

Section (div and span)

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

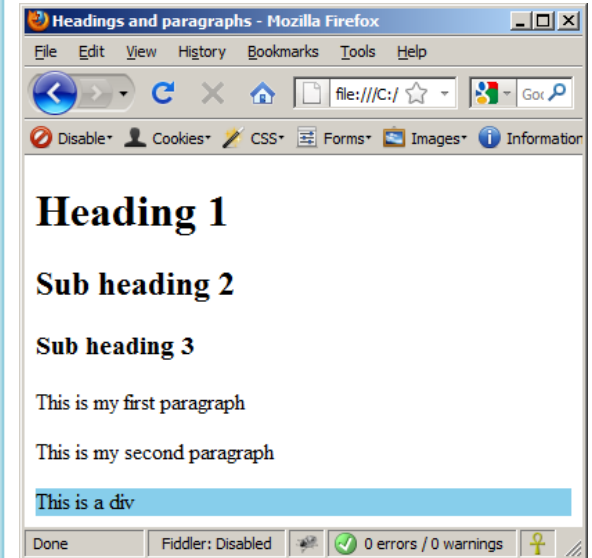# HTML Tags -Headings and Paragraph

```
<!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>
```

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"><img
  src="apply-now-button.jpg" /></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 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:**

```
<img src="/img/basd-logo.png">
```

◆ **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:**

```
<img src="./php.png" alt="PHP Logo" />
```

HTML- Image Maps

- Image with clickable areas.
- <map> tag - define a client-side image-map.
- attribute of the <map> element is associated with the <img>'s usemap attribute and creates a relationship between the image and the map.
- The <map> element contains a number of <area> elements, that defines the clickable areas in the image map.

Image Map- Example

```
<!DOCTYPE html>
<html>
<body>

<p>Click on the sun or on one of the planets to watch it closer:</p>

<img src="planets.gif" width="145" height="126" alt="Planets" usemap="#planetmap">

<map name="planetmap">
  <area shape="rect" coords="0,0,82,126" alt="Sun" href="sun.htm">
  <area shape="circle" coords="90,58,3" alt="Mercury" href="mercur.htm">
  <area shape="circle" coords="124,58,8" alt="Venus" href="venus.htm">
</map>

</body>
</html>
```
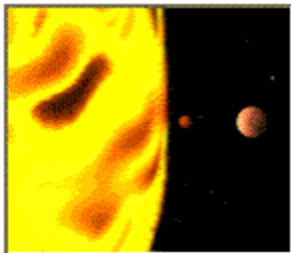
Click on the sun or on one of the planets to watch it closer:

Clicking on Larger Circle --→
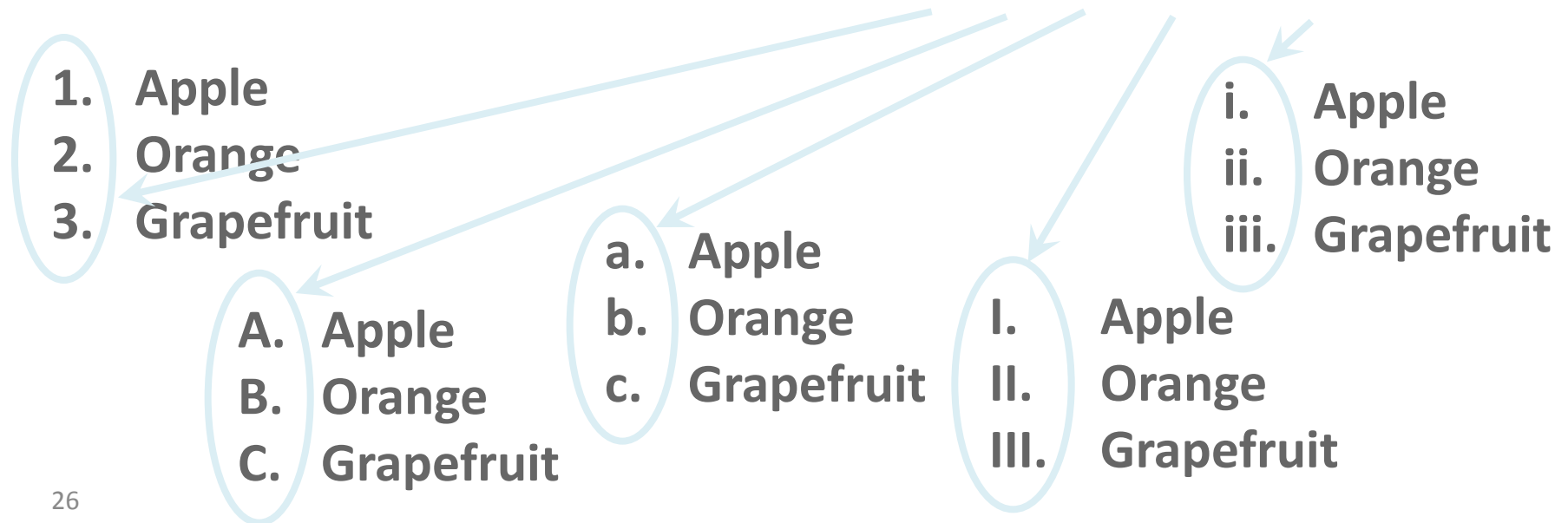
Ordered Lists: <ol> Tag

- 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
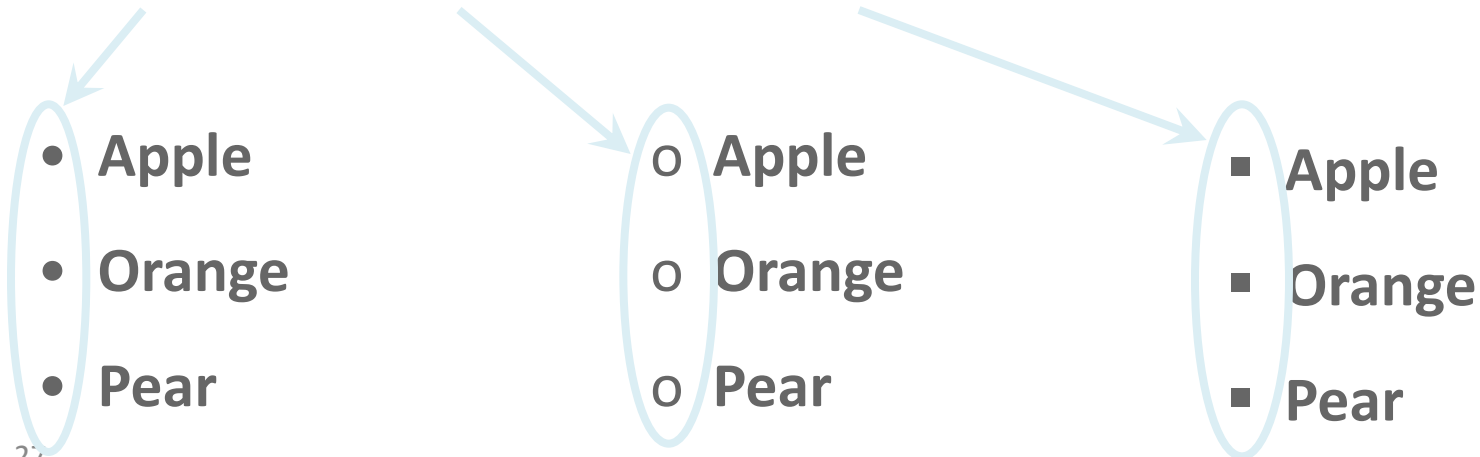
Unordered Lists: <ul> Tag

- Create an Unordered List using :

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

- Attribute values for `type` are:

  - `disc`, `circle` or `square`

- **Apple**

- **Orange**

- **Pear**

o **Apple**

o **Orange**

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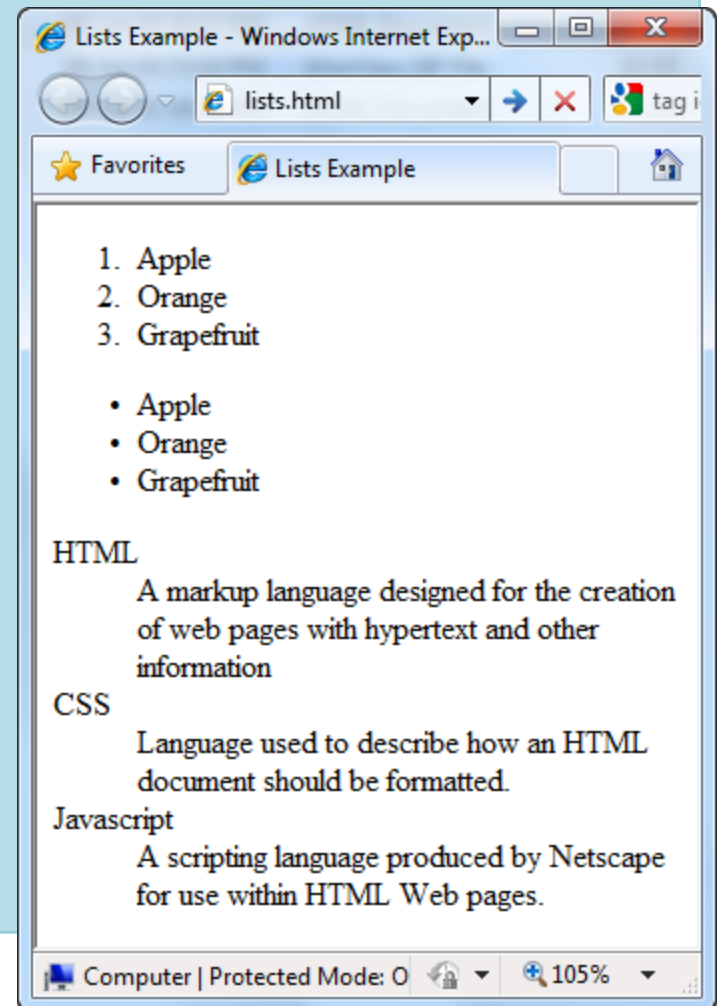
```
<ol type="1">
    <li>Apple</li>
    <li>Orange</li>
    <li>Grapefruit</li>
</ol>

<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

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>` 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
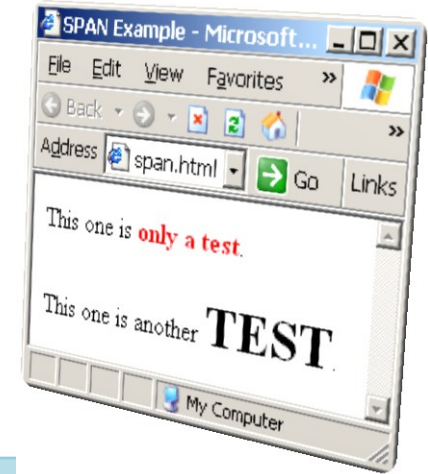
- Used with CSS

- Example:

div-and-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>
```

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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>
```

HTML Tables

The top table:

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	
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 balie	-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 malie	- 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 bama	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

Notepad window (htmltable1 - Notepad):

```
<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>
```

Sample colored table:

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

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

Simple HTML Tables – Example (2)

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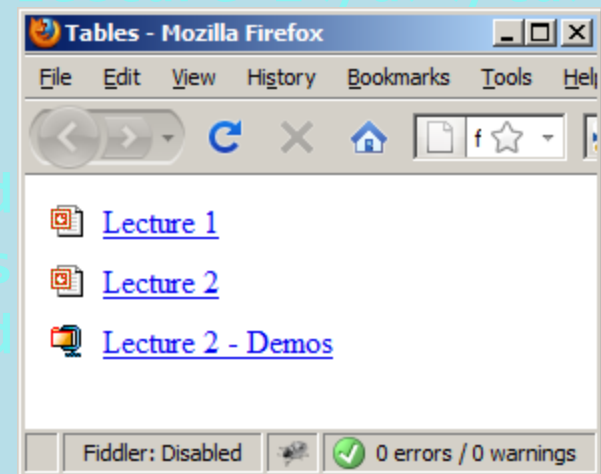
HTML Tables

- 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
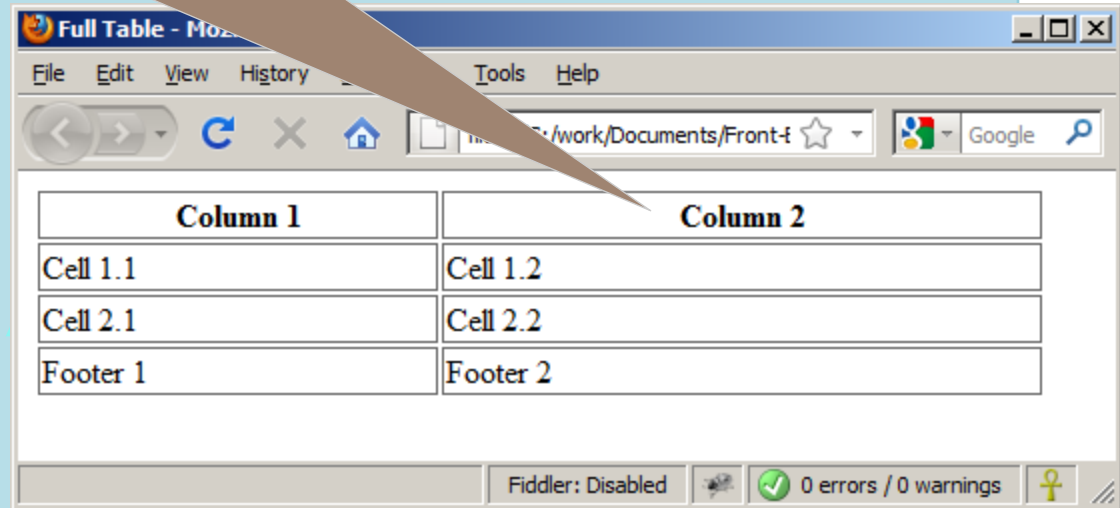
Last comes the body (data)

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Complete HTML Table

By default, header text is bold and centered.

table-full.html

```
<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>Ce                d></tr>
  <tr><td>Ce                d></tr>
</tbody>
</table>
```

Full Table - Moz...

File   Edit   View   History   Tools   Help

...work/Documents/Front-... | Google

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

Fiddler: Disabled   0 errors / 0 warnings

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>                                    nested-tables.html
  <tr>
    <td>Contact:</td>
    <td>
      <table>
        <tr>
          <td>First Name</td>
          <td>Last Name</td>
        </tr>
      </table>
    </td>
  </tr>
</table>
```
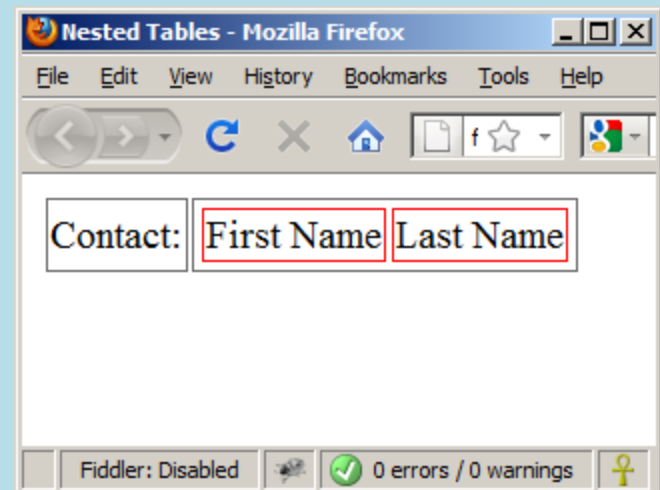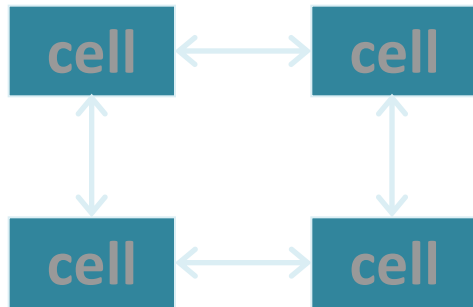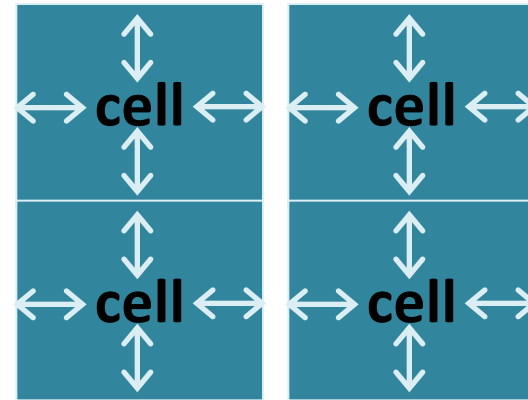
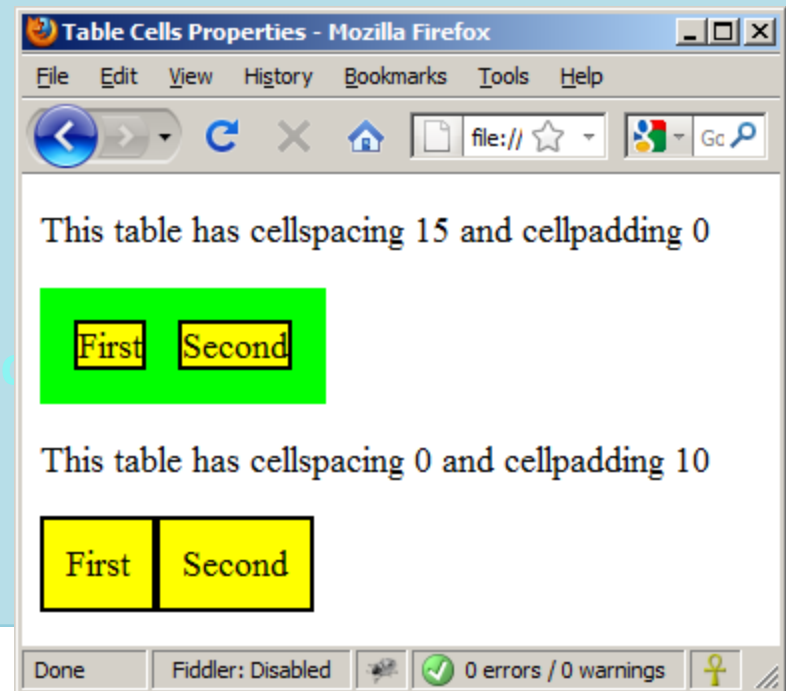# Cell Spacing and Padding

- Tables have two important attributes:

◆ **cellspacing**

| cell | | cell |

| cell | | cell |

◆ Defines the empty space between cells

◆ **cellpadding**

| cell | cell |
| cell | cell |

◆ Defines the empty space around the cell content

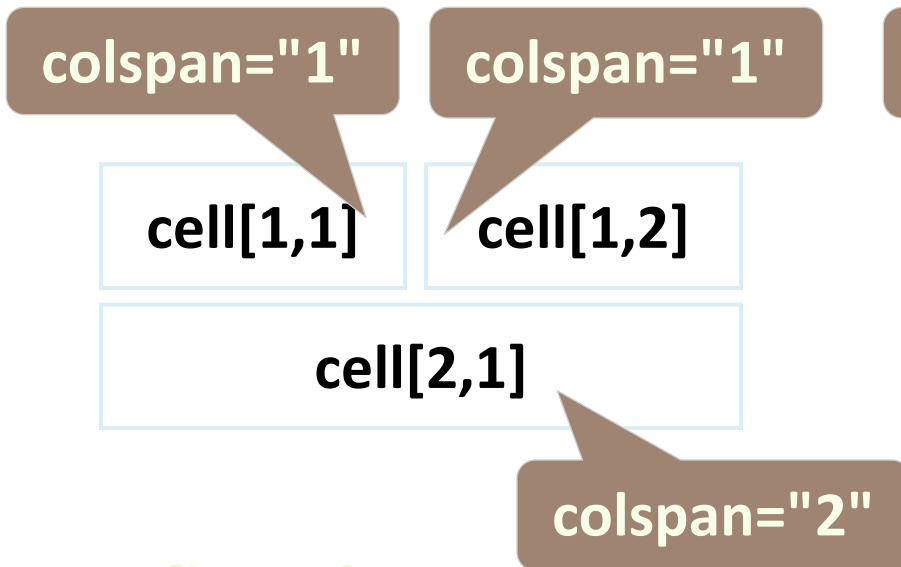# Cell Spacing and Padding – Example (2)

table-cells.html

```html
<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"
      <tr><td>First</td><td
    </table>
  </body>
</html>
```
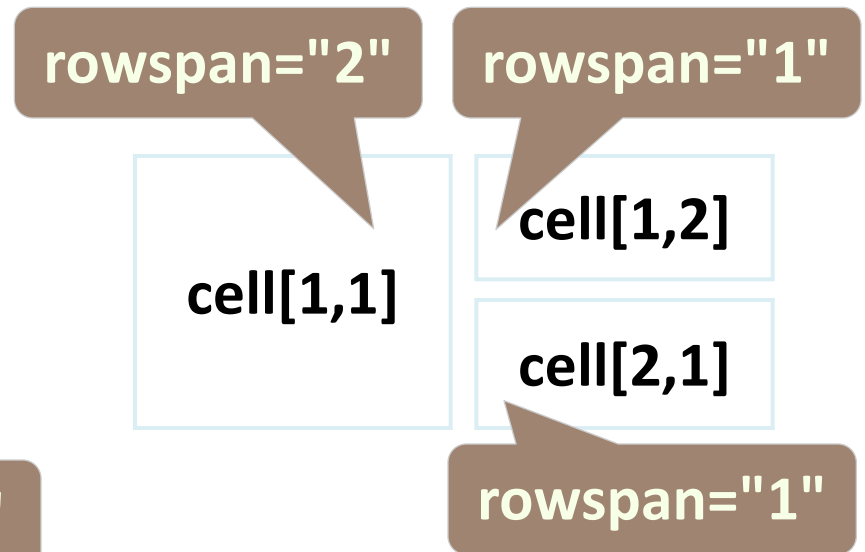

Table Cells Properties - Mozilla Firefox

File   Edit   View   History   Bookmarks   Tools   Help

This table has cellspacing 15 and cellpadding 0

First   Second

This table has cellspacing 0 and cellpadding 10

First   Second

Done   Fiddler: Disabled   0 errors / 0 warnings

Column and Row Span

- Table cells have two important attributes:

◆ **colspan**

◆ **rowspan**

colspan="1"	colspan="1"
cell[1,1]	cell[1,2]
cell[2,1]	

colspan="2"

rowspan="2"	rowspan="1"
cell[1,1]	cell[1,2]
	cell[2,1]

rowspan="1"

◆ Defines how many columns the cell occupies

◆ Defines how many rows the cell occupies

Column and Row Span – Example (2)

table-colspan-rowspan.html

```html
<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[3,2]
Cell[1,3]		Cell[2,3]

SIMPLE EXAMPLE

```
<table>
<tr>
<th>Name</th>
<th>Favorite Color</th>
</tr>
<tr>
<td>Bob</td>
<td>Yellow</td>
</tr>
 <tr>
<td>Michelle</td>
 <td>Purple</td>
</tr>
</table>
```

Table Creation-Exercise

- Create a table as shown below using table tags

A test table with merged cells			
	Average		Red eyes
	height	weight	
Males	1.9	0.003	40%
Females	1.7	0.002	43%

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>
```

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

Form Fields

- Single-line text input fields:

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

- Multi-line textarea fields:

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

- Hidden fields contain data not shown to the user:

```
<input type="hidden" name="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" 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" />
```

Other Form Controls

- 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>
```

- Submit button:

```
<input type="submit" name="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

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

Other Form Controls (3)

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

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

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

```
<select name="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" name="photo" />
```
  - When used, it requires the form element to have a specific attribute:

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

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" />
```
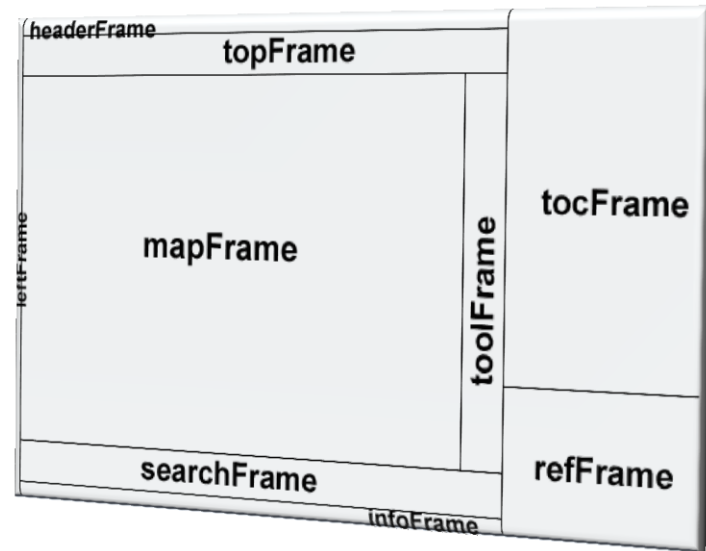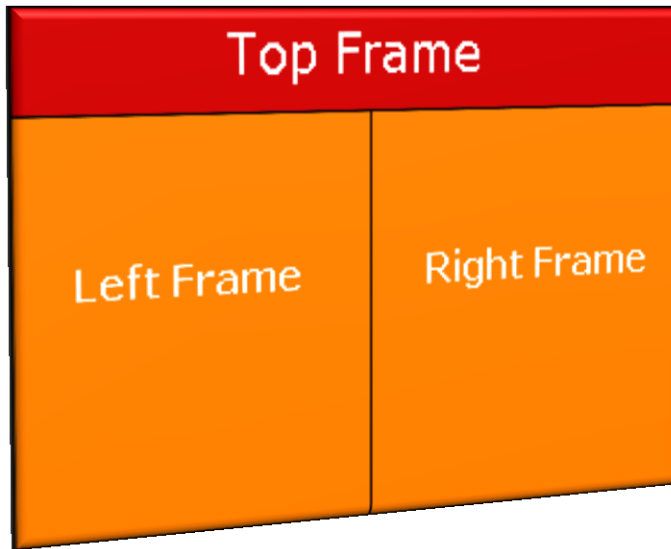
HTML Frames

<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

```
<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>
```

Inline Frames: `<iframe>`

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

iframe-demo.html

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

HTML-Colors

- HTML supports 140 standard color names
- Set the Background color, Text color, Border color
- colors can be specified in different ways:
  - By color names

    <div style="background-color:red">

    <h1 style="color:white">Heading</h1>

  - As RGB values

    <div style="background-color:rgb(255,0,0)"></div>

    <div style="background-color:rgb(255,255,0)"></div>

    <h1 style="color:rgb(255,0,0)">Heading</h1>

  - As hexadecimal values

    <div style="background-color:#ff0000"></div>

    <h1 style="color:#ff0000">Heading</h1>

HTML-Layout

- Four different ways to create multicolumn layouts.

    » HTML tables

    designed only to display tabular data

    was not designed to be a layout tool

    » CSS float property

    web layouts using the CSS float and clear property.

    CSS framework

    W3.CSS or Bootstrap.

    CSS flexbox

    new layout mode in CSS3.

    different screen sizes and

    different display devices.

HTML-Layout-Elements

Websites often display content in multiple columns (like a magazine or newspaper).

HTML5 offers new semantic elements that define the different parts of a web page:

<header>
<nav>

<section>	<aside>
<article>	

<footer>
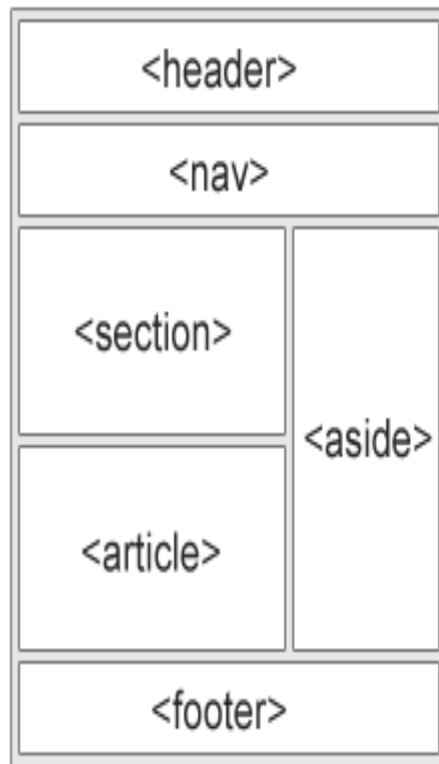
- <header> - Defines a header for a document or a section
- <nav> - Defines a container for navigation links
- <section> - Defines a section in a document
- <article> - Defines an independent self-contained article
- <aside> - Defines content aside from the content (like a sidebar)
- <footer> - Defines a footer for a document or a section
- <details> - Defines additional details
- <summary> - Defines a heading for the <details> element

HTML-Media

- Multimedia on the web is sound, music, videos, movies, and animations.

- Multimedia elements (like audio or video) are stored in media files.

- Type of the file-File Extensions

- .mpeg, .avi - video

- .mp3,.midi - audio
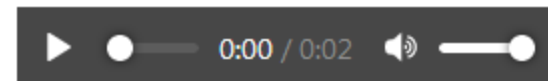
HTML-Video , Audio

```html
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
Your browser does not support the video tag.
</video>
```
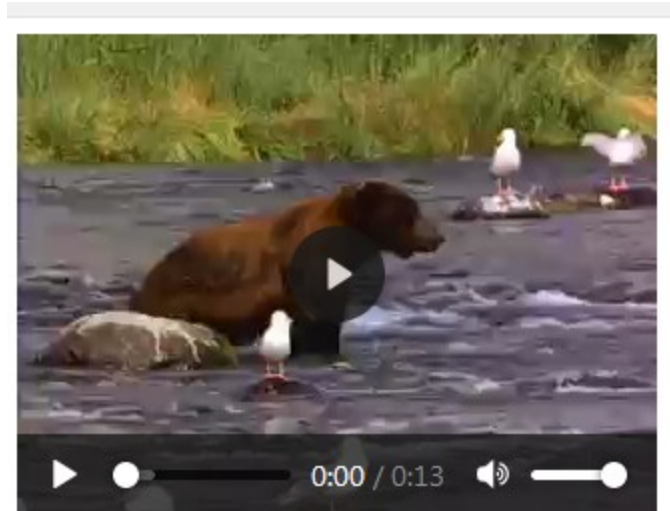


```html
<!DOCTYPE html>
<html>
<body>

<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>

</body>
</html>
```

HTML-You Tube

- Not all Browsers Support different video formats.
- Conversion to browser acceptable formats is a time consuming process

To play your video on a web page, do the following:

- Upload the video to YouTube
- Take a note of the video id
- Define an <iframe> element in your web page
- Let the src attribute point to the video URL
- Use the width and height attributes to specify the dimension of the player
- Add any other parameters to the URL (see below)

```
<iframe width="420" height="315"
src="https://www.youtube.com/embed/tgbNymZ7vqY">
</iframe>
```

HTML-URL Encode

- URLs can only be sent over the Internet using the ASCII character-set.

- If a URL contains characters outside the ASCII set, the URL has to be converted.

- URL encoding converts non-ASCII characters into a format that can be transmitted over the Internet.

- URL encoding replaces non-ASCII characters with a "%" followed by hexadecimal digits.

- URLs cannot contain spaces. URL encoding normally replaces a space with a plus (+) sign, or %20.