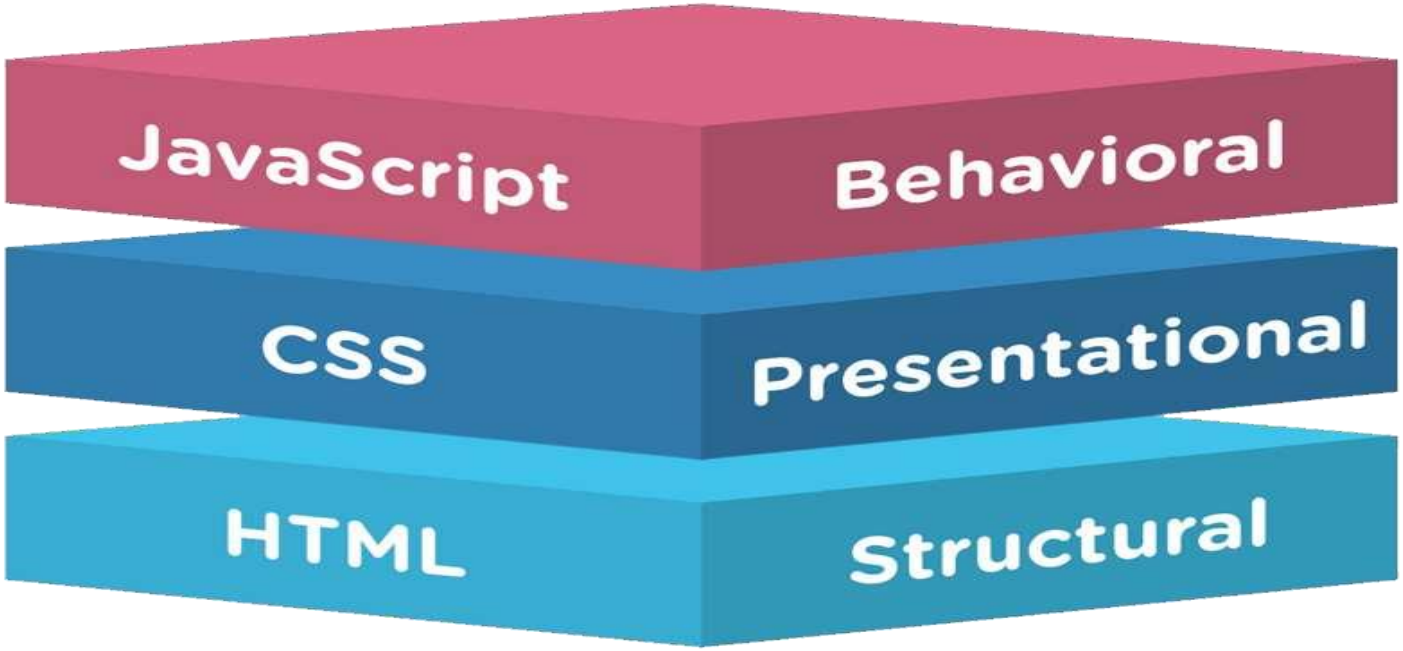
MODULE-1: **INTRODUCTION TO HTML5**

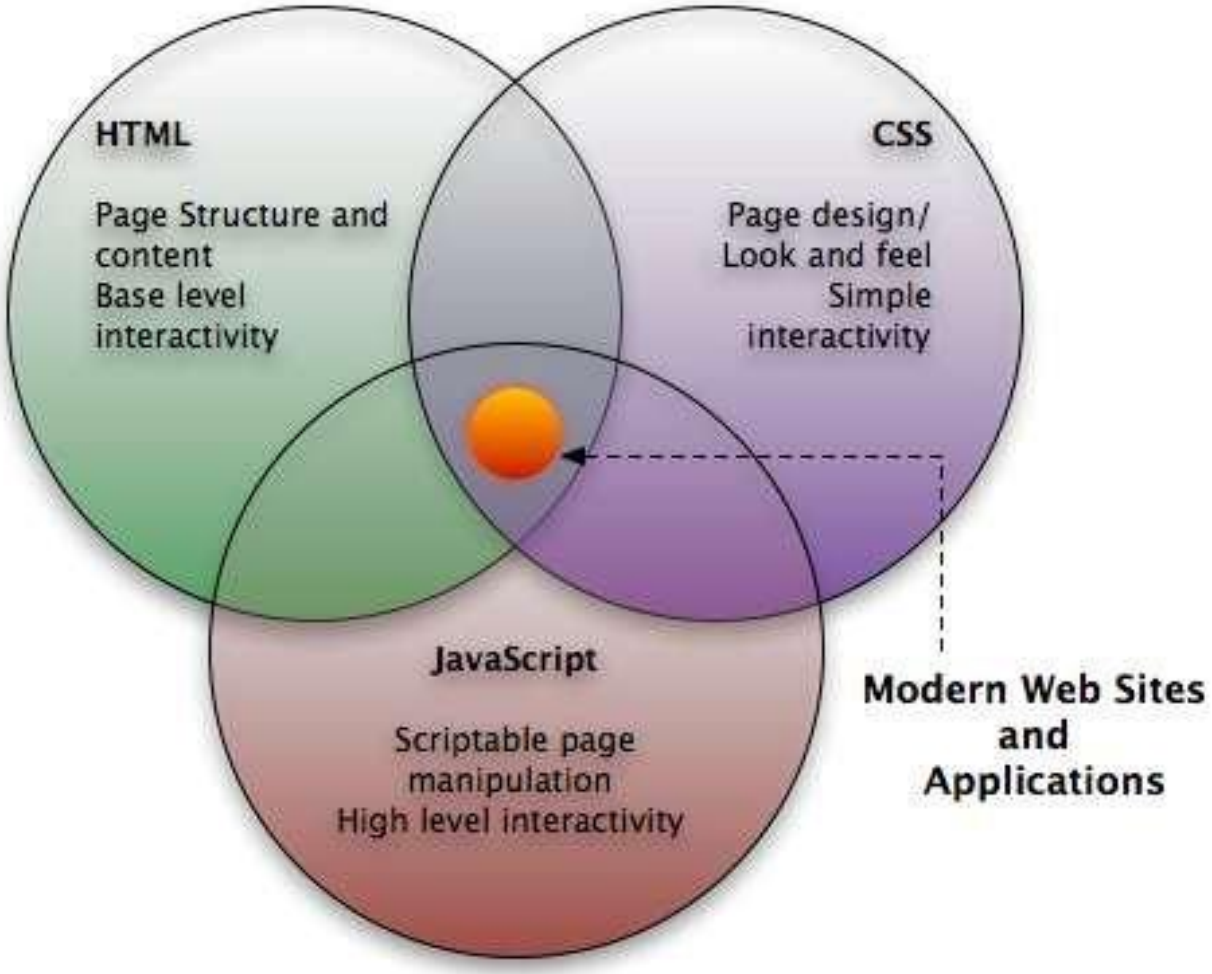
Overview

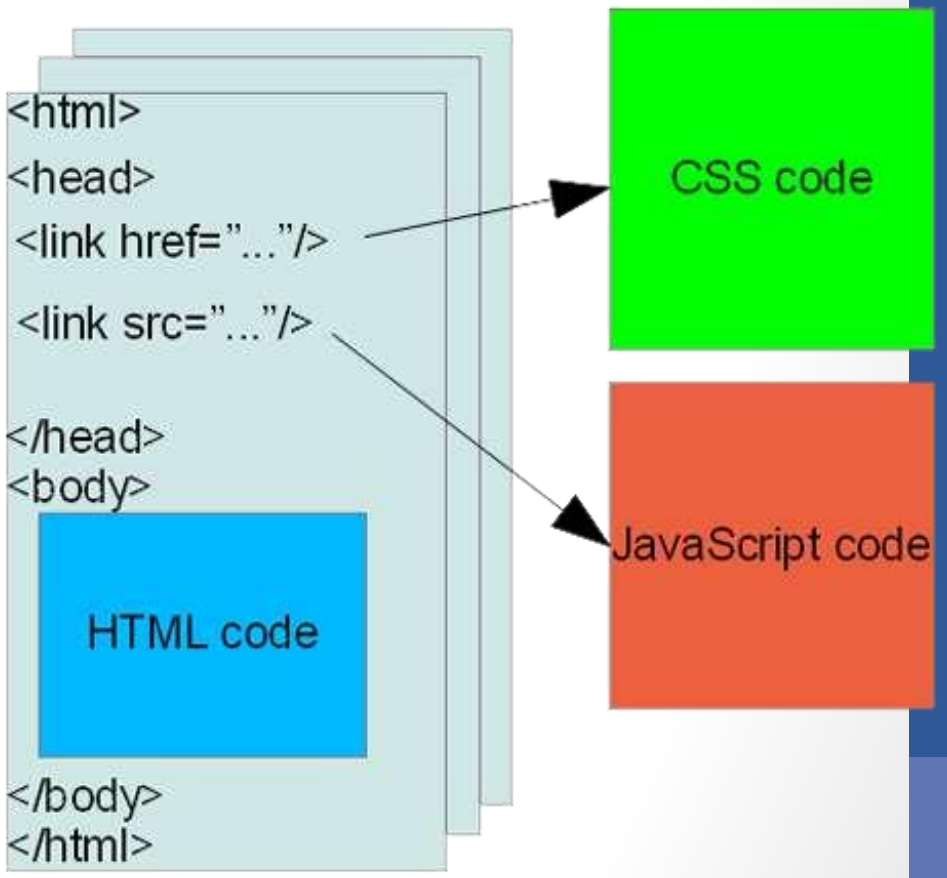
HTML vs CSS vs JAVASCRIPT



Overview

HTML vs CSS vs JAVASCRIPT





HTML is a markup language describes how your content looks in web browser.

Overview

1. Tim Berners-Lee was the author of html, with his team at CERN.
2. The HTML that Tim invented was strongly based on SGML (Standard Generalized Mark-up Language).
3. Hypertext Markup Language (First Version of HTML) was formally published on June 1993.
4. Platform independent.
5. Current version of is HTML5.
6. Markup languages are designed for the processing, definition and presentation of text by set of markup tags.
7. Allow to embed other scripting languages.

You can write your HTML code in almost any available text editor, including notepad.

Open source text editor

Brackets http://brackets.io/ Notepad++ https://notepad-plus-plus.org/

or

We'll use Eclipse which has built-in HTML Editor.

HTML Document will always be saved in **.html** extension or an **.htm** extension.

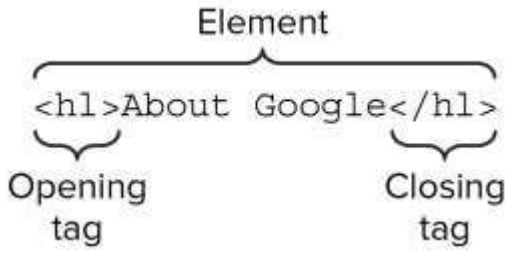
HTML Tags and Elements

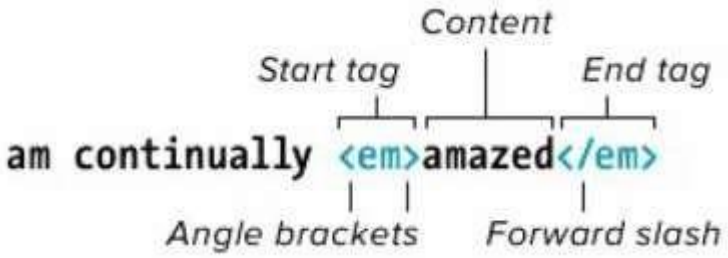
Tags are enclosed in angle brackets < >

For Eg.: <html> Opening Tag, **</html>** Closing Tag.

Element is the combination of (opening & closing Tags and the content between them).

For Eg.:





Part of this text is bold. is a PARAGRAPH element that contains a BOLD element

An HTML document is a collection of elements (text/media with context).

Empty tags vs Container tags

Some elements which does not requires **closing tags**, are known as **Empty Tags** or **Elements**.

For Eg.:

 begining of new line. **BR** stands for **BReak**.

<hr /> puts a line across the page. **HR** stands for **H**orizontal **R**ule.

The elements which requires **opening** and **closing tags**, are known as **Container Tags** or **Elements**.

For Eg.: <h1> This is a heading </h1>

 This is a paragraph

HTML Attributes and Values

HTML elements can have attributes which provides additional information about an element.

Always specified in the opening tag and should contained value.

For Eg.:


```
<!DOCTYPE html>
<html>
<head>
<title>Align Attribute Example</title>
</head>
<body>
<p align="left">This is left aligned</p>
<p align="center">This is center aligned</p>
<p align="right">This is right aligned</p>
</body>
</html>
```

This is left aligned

This is center aligned

This is right aligned

Some Important Attributes

Attribute	Options	Function
title	User Defined	"Pop-up" title of the elements.
href	User Defined	The link address is specified in the href attribute opens.
class	User Defined	Classifies an element for use with Cascading Style Sheets.
id	User Defined	Names an element for use with Cascading Style Sheets.
bgcolor	numeric, hexidecimal, RGB values	Places a background color behind an element
background	URL	Places a background image behind an element
align	right, left, center	Horizontally aligns tags
valign	top, middle, bottom	Vertically aligns tags within an HTML element.
width	Numeric Value	Specifies the width of tables, images, or table cells.
height	Numeric Value	Specifies the height of tables, images, or table cells.

Structural Elements

A standard HTML document has two main structural elements

head contains setup information for the browser & the Web page

For E.g., the title for the browser window, style definitions, JavaScript code, …

body contains the actual content to be displayed in the Web page

```
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <title>My first HTML document</title>
</head>
  <body>
    <p> Hello world! </p>
  </body>
</html>
```

Comments and doctype

HTML has a mechanism for embedding comments that are not displayed when the page is rendered in a browser.

Eg.: **<!-- This is comment text -->**

Besides tags, text content, and entities, an HTML document must contain a doctype declaration as the **first line**. **For**

Eg.:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <title>My first HTML document</title>
</head>
  <body>
    <p> Hello world! </p>
  </body>
</html>
```

Current version of HTML is 5 and it makes use of the following declaration: **<!DOCTYPE html>**

<head> and <body> Elements

- The **<head>** element is where you include a **<title>** element (that appears in the title bar of the browser).
- You can also include lots of other type of information in the **<head>** element.
  - Cascading Style sheet information, or a link to an external style sheet (or several).
  - "Meta" data, such as who authored the page, the type of content, and clues that search engines may (or may not) use to help categorize your page.
  - JavaScript code.

- The **<body>** element contains the main bulk of the material to be displayed on the webpage.
  - Paragraphs.
  - Tables and lists.
  - Images.
  - JavaScript code.
  - PHP code can be included here too (if passed through a PHP parser before being served to the client's browser).
  - Other embedded objects (videos, etc).

<head> Elements

Meta tags

The <meta> tag provides metadata about the HTML document.

Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata.

Some examples –

Example 1 - Define keywords for search engines:

```
<meta name="keywords, description " content="HTML, CSS, XML, XHTML, JavaScript">
```

Example 3 - Define the author of a page:

```
<meta name="author" content="Hege Refsnes">
```

Example 4 - Refresh document every 30 seconds:

```
<meta http-equiv="refresh" content="30">
```

<head> Elements (Cont.)

Title Tag

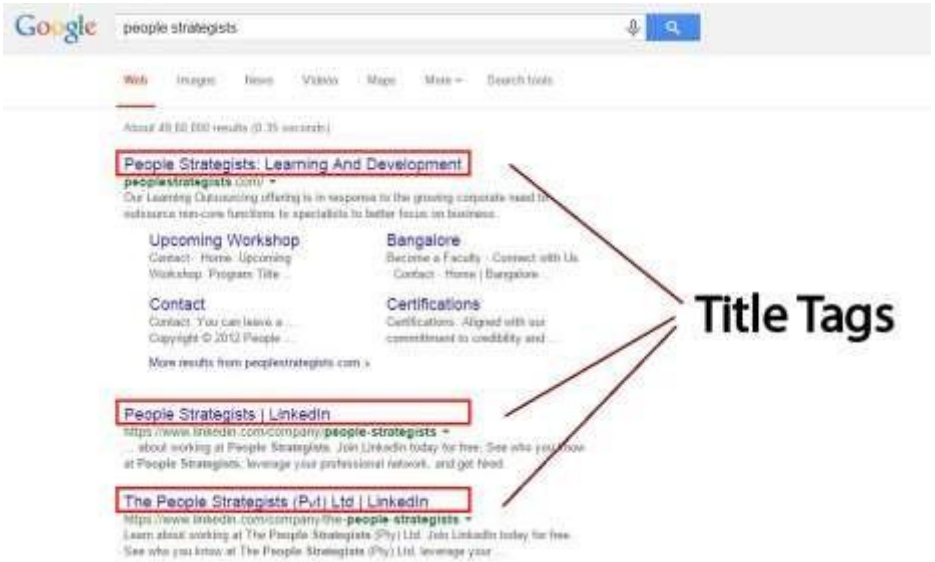
The <title> tag is required in all HTML documents and it defines the title of the document.

The <title> element: Defines a title in the browser toolbar.

Provides a title for the page when it is added to favorites.

Displays a title for the page in search-engine results.

Eg.:



<head> Elements (Cont.)

Link Tag

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

In HTML the <link> tag has no end tag.

Some Imp. Attributes – charset, - To know browser, which character encoding is used.
href, - hyperlink.
rel, - Relation between linked document.
target. – It specifies where to open the linked document.

Example –

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

<head> Elements (Cont.)

Script Tags

The <script> tag is used to define a client-side script, such as a JavaScript.

The <script> element either contains scripting statements, or it points to an external script file through the src attribute.

Example -

```
<html>
<head>
<title>Align Attribute Example</title>
</head>
<body>

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

<script>document.getElementById("demo").innerHTML
= "Hello JavaScript!"; </script>

</body>
</html>
```

Hello JavaScript!

<head> Elements (Cont.)

Style Tag

The <style> tag is used to define style information for an HTML document.

Inside the <style> element you specify how HTML elements should render in a browser.

Example-

```
<html>
<head>
h1 {color:red;}
p {color:blue;}
</head>
<body>
<h1>A heading</h1>
<p>A paragraph.</p>
</body>
</html>
```

This is a heading

This is a paragraph.

Elements for the BODY section

Block-level elements

The BODY of a document consists of multiple block elements. If plain text is found inside the body, it is assumed to be inside a paragraph P. See the syntax rules for an explanation of the syntax used in the overview.

Headings

H1 - Level 1 header
H2 - Level 2 header
H3 - Level 3 header
H4 - Level 4 header
H5 - Level 5 header
H6 - Level 6 header

Text containers

P - Paragraph
PRE - Preformatted text
BLOCKQUOTE - Large quotation
ADDRESS - Address information

Text Level Elements

Logical Markups
Physical Markups
Special Markups

Lists

UL - Unordered list
OL - Ordered list
DIR - Directory list
MENU - Menu item list
LI - List item
DL - Definition list
    DT - Definition term
    DD- Definition

Others

DIV - Logical division
CENTER - Centered division
FORM - Input form
HR - Horizontal rule
TABLE - Tables

Elements for the BODY section

Headings

There are 6 types of heading tags.

Eg.: –

```
<html>
<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
<p><b>Tip:</b> Use h1 to h6 elements only for headings. Do not use them just to make text bold or big. Use other tags for that.</p>
</body>
</html>
```

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Tip: Use h1 to h6 elements only for headings. Do not use them just to make text bold or big. Use other tags for that.

Elements for the BODY section (Cont.)

<p> - Paragraph Tag and <pre> - Preformatted Tag

<p> Tag - Another way to structure your text in paragraph forms.

<Pre> Tag - is used to apply structural exactness.

Eg.:

```
<html>
<body>
<p>This is a paragraph of  text.</p>
<p>This is a second paragraph of  text.</p>
<pre>This is preformatted text with       exact space,
line and breaks.</pre>
</body>
</html>
```

This is a paragraph of text.

This is a second paragraph of text.

```
This is preformatted text with          exact space,
line and breaks.
```

Elements for the BODY section (Cont.)

<blockquote> Tag and <address> Tag

Blockquote Tag - Indicates that the enclosed text is an extended quotation.

Address Tag - Address Information of the Author/Owner.

Eg.:

```
<html>
<body>
<blockquote cite="http://http:/;vit.ac.in">
  <p>This is a quotation taken from the People Strategists.</p>
</blockquote>

<address>
Written by
<a href="mailto: info@vit.ac.in">VIT
Chennai</a>.<br>
Visit us at:<br>
www.vit.ac.in<br>
L8, Tower1, Umiya Business Bay,<br>
Outer Ring Road, Bangalore.
</address>
</body>
</html>
```

This is a quotation taken from the People Strategists.

Written by VIT Chennai.
Visit us at: www.vit.ac.in

L8, Tower1, Umiya Business Bay,
Outer ring road, Bangalore.

Elements for the BODY section (Cont.)

Text Formatting Elements

Physical markup
TT - Teletype
I - Italics
B - Bold
U - Underline
STRIKE - Strikeout
BIG - Larger text
SMALL - Smaller text
SUB - Subscript
SUP - Superscript

Logical markup
EM - Emphasized text
STRONG - Strongly emphasized
DFN - Definition of a term
CODE - Code fragment
SAMP - Sample text
KBD - Keyboard input
VAR - Variable
CITE - Short citation

Special markup
A - Anchor
IMG - Image
BASEFONT - Default font size
APPLET - Java applet
PARAM - Parameters for Java applet
FONT - Font modification
BR - Line break
MAP - Client-side imagemap
AREA - Hotzone in imagemap

Physical tag: These tags are used to provide the visual appearance to the text.
Logical tag: These tags are used to add some **logical** or semantic value to the text. These tags are used to indicate to the visually impaired that there is some emphasizes on the text

Elements for the BODY section (Cont.)

Text Formatting Elements (Physical Markup)

Tag	Description
….	- bold.
……	- italic.
<u>….</u>	- underline.
<strike>…</strike>	- strikethrough.
_{….}	- subscript.
^{….}	- superscript.
<big>….</big>	- bigger font (one font size bigger).
….	- small font (one font size smaller).
<tt>….</tt>	- typewriter (monospaced).

Elements for the BODY section (Cont.)

Text Formatting Elements (Physical Markup)

```
<html>
<body>
<b> Snapdeal Academy. </b> <br>
<i> Java Training. </i> <br>
<u> Powered by - PeopleStrategists. </u> <br>
<strike> Text. </strike> <br>
<small> Copyright &copy Jasper Infotech Pvt.Ltd. </small>
<sub> Subscipt. </sub>
<sup> Superscript. </sup>
</body>
</html>
```

Snapdeal Academy.

Java Training.

Powered by - PeopleStrategists.

~~Text.~~

Copyright © Jasper Infotech Pvt.Ltd. Subscipt. Superscript.

Elements for the BODY section (Cont.)

Text Formatting Elements (Logical Markup)

Tag		Description
	-	Emphasized
	-	Strongly emphasized
<dfn>	-	A definition
<code>	-	Represents computer code
<kbd>	-	keyboard characters
<var>	-	Program variable
<cite>	-	A citation

Elements for the BODY section (Cont.)

Text Formatting Elements (Logical Markup)

```
<html>
<body>
<em> Snapdeal Academy. </em> <br>
<strong> Java Training. </strong > <br>
<dfn> Powered by - PeopleStrategists. </dfn > <br>
<code> Text. </code> <br>
<kbd> Subscipt. </kbd>
<var> Superscript. </var>
<cite> Superscript. </cite>
</body>
</html>
```

Snapdeal Academy.
Java Training.
Powered by - PeopleStrategists.
Text.
Subscipt. *Superscript. Superscript.*

Elements for the BODY section (Cont.)

Text Formatting Elements (Special markup)

Links and Navigation

Anchor Element-

An anchor can be used to create a link to another document (with the href attribute).

Types –

External : Welcome to PeopleStrategists

Internal : contact

Image Tag-

The syntax for the tag to insert image into the webpage is-

<img src="url" alt="alternate text">

Eg.: <img src="\images\snapdealacademy.jpg" alt="Snapdeal Academy">

Elements for the BODY section (Cont.)

Unordered List and Odered Lists

Unordered Lists - tag. Item lists in <li> tag. The list items will be marked with bullets.

Ordered Lists - tag. Item lists in <li> tag. . The list items will be marked with numbers.

Eg.:

```
<html>
<body>
<h2>Unordered List </h2>
<ul>
  <li>Java</li>
  <li>Python</li>
  <li>Ruby</li>
</ul>
<h2>Ordered List </h2>
<ol>
  <li>Java</li>
  <li>Python</li>
  <li>Ruby</li>
</ol>
</body>
</html>
```

Unordered List

- Java
- Python
- Ruby

Ordered List

1. Java
2. Python
3. Ruby

Elements for the BODY section (Cont.) - TABLE

- Tables: present information
- Organize data into rows and columns
- `table` element:<table></table>

<table> Tag : **<tr>** **T**able **R**ow - Defines a new row,
<td> **T**able **D**ata - Defines a single cell,
<th> **T**able **H**eadings - Defines header cell.

Attributes	Description
border	specifies the table's border width in pixels
summary	describes the table's contents (obsolete in HTML5)
Caption (sub element)	describes the table's content and helps text-based browsers interpret table data

- Head section (header cell, defined with a `thead` element)
  - Contains header information such as column names

- Foot section (defined with a `tfoot` element)

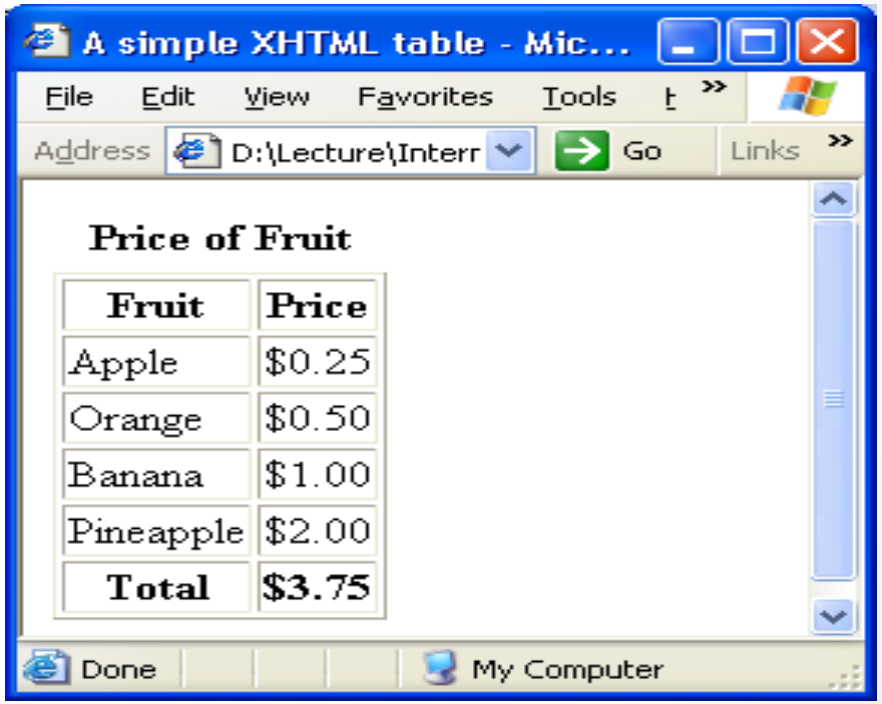
Sub-elements (for thead & tfoot)	Description
tr	individual table row
th	columns in the head section

- Table body (defined with a `tbody` element)

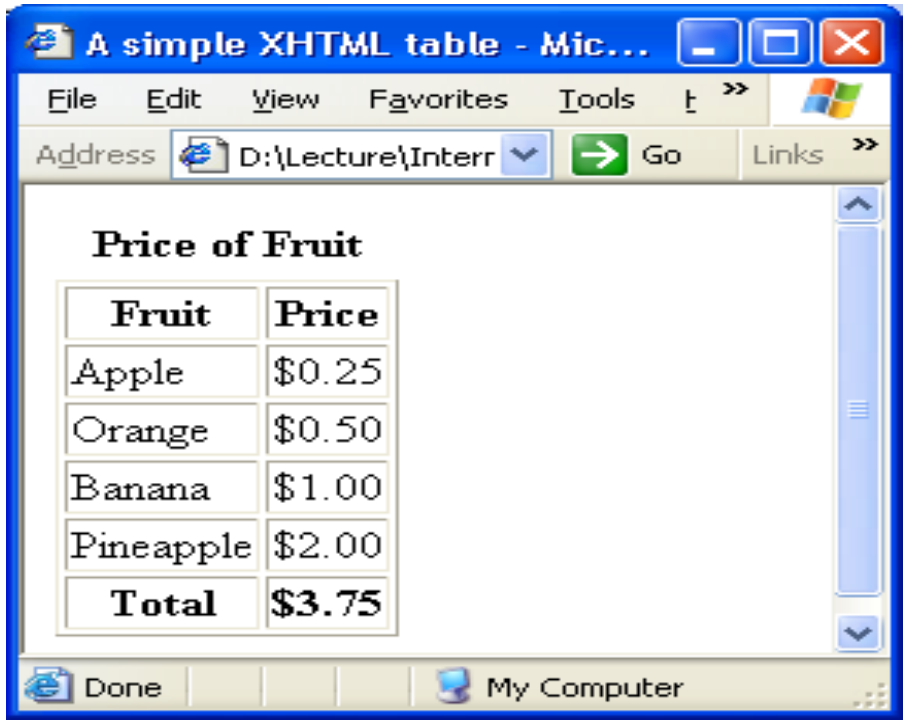
- Data cells (defined with `td` element)

Example1: HTML Table: table1.html

```
<table border = "1" width = "40%"
      summary = "This table provides information about the price of fruit">

    <caption><strong>Price of Fruit</strong></caption>

    <thead>
       <tr>
         <th>Fruit</th>
         <th>Price</th>
       </tr>
     </thead>

    <tfoot>
       <tr>
         <th>Total</th>
         <th>$3.75</th>
       </tr>
     </tfoot>
```



```
 <tbody>
   <tr>
     <td>Apple</td>
     <td>$0.25</td>
   </tr>

   <tr>
     <td>Orange</td>
     <td>$0.50</td>
   </tr>

   <tr>
     <td>Banana</td>
     <td>$1.00</td>
   </tr>

   <tr>
     <td>Pineapple</td>
     <td>$2.00</td>
   </tr>
  </tbody>

</table>
```



4.3 Intermediate HTML Tables &Formatting

- Element `colgroup`: groups and formats columns

- Element `col`:

attributes	Description
align	determines the alignment of text in the column
span	determines how many columns the col element formats

- `tr and th attributes:`

attributes	Description
`rowspan,colspan`	specify the number of rows or columns occupied by a cell

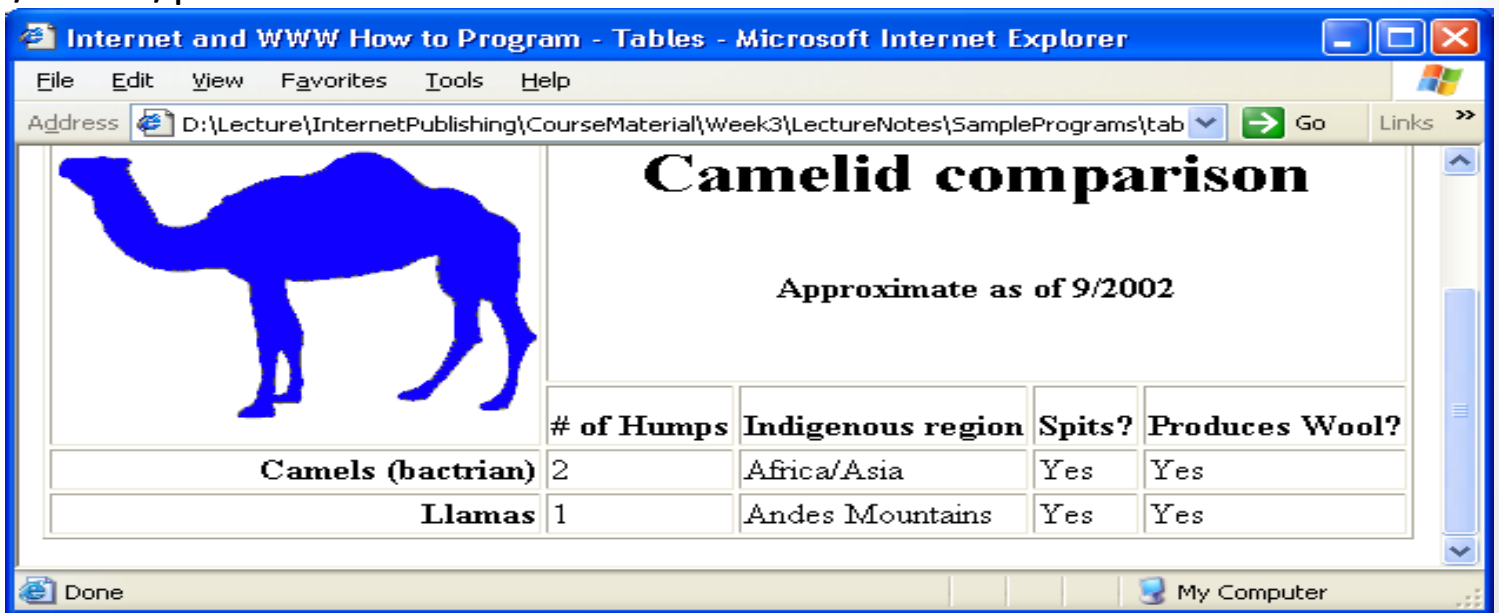
`valign`
`= top`
`= middle`
`= bottom`
`= baseline`
	aligns data vertically

Example2: Complex HTML table: table2.html

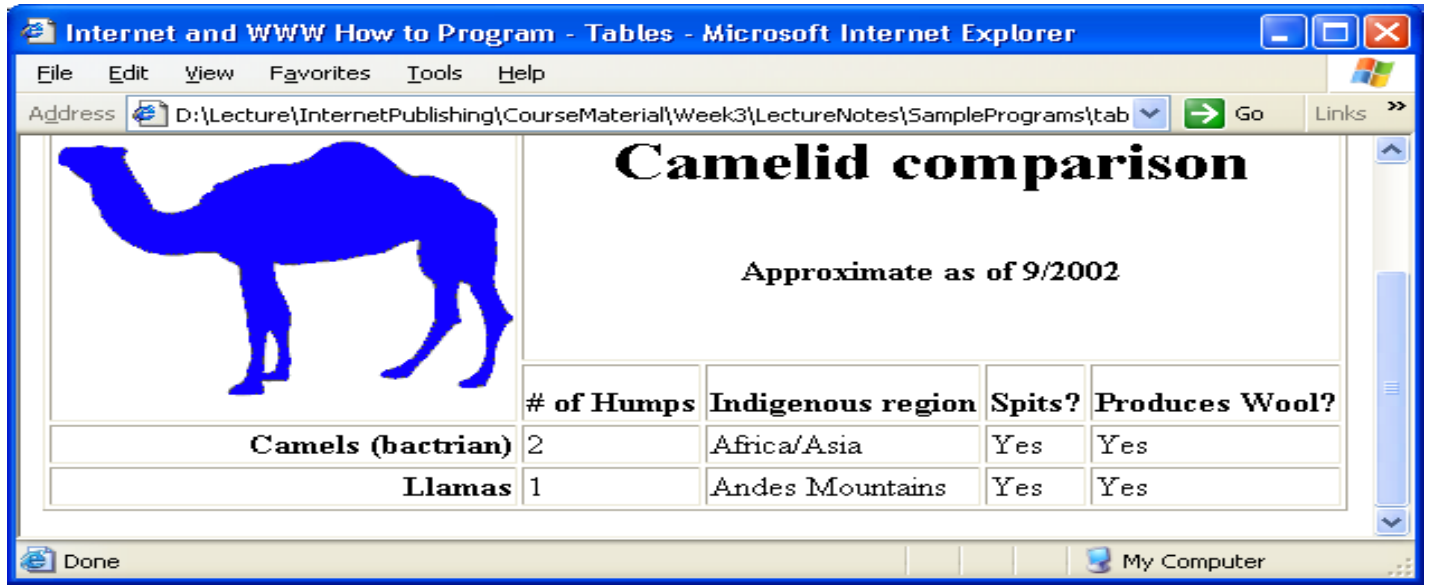
```
<table border = "1">
    <colgroup> <col align = "right" span = "1" /> </colgroup>

      <thead>
          <tr>
              <th rowspan = "2">
                 <img src = "camel.gif" width = "205"
                    height = "167" alt = "Picture of a camel" />
               </th>
              <th colspan = "4" valign = "top">
                 <h1>Camelid comparison</h1><br />
                    <p>Approximate as of 9/2002</p>
              </th>
           </tr>
```

merge two rows

merge four columns



```
    <tr valign = "bottom">
      <th># of Humps</th>
      <th>Indigenous region</th>
      <th>Spits?</th>
      <th>Produces Wool?</th>
    </tr>
</thead>
<tbody>
    <tr>
      <th>Camels (bactrian)</th>
      <td>2</td>
      <td>Africa/Asia</td>
      <td>Yes</td>
      <td>Yes</td>
    </tr>
    <tr>
      <th>Llamas</th>
      <td>1</td>
      <td>Andes Mountains</td>
      <td>Yes</td>
      <td>Yes</td>
    </tr>
  </tbody>
</table>
```



Elements for the BODY section (Cont.)

Div Tag

** tag –** Used to defines a division or a section in an HTML document. And to group block-elements to format them with CSS.

Eg.:

```
<html>
<body>
<div style="color:#00FF00">
  <h2>Vellore Institute Of Technology</h2>
  <p>Welcome to HTML</p>
</div>
</body>
</html>
```

Vellore Institute Of Technology

Welcome to HTML.

Div Tag

- The tag defines a division or a section in an HTML document.
- The tag is used to group block-elements to format them with styles.
- The element is very often used together with CSS, to layout a web page.
- **Attributes:** id, width, height, title,style
- For the purpose of this example, we have included the *style* attribute in order to color our div tag in order to bring a stronger visualization for our viewers.
- When HTML first began, web creators only had two choices. A, table layout or frame. The div element provides a 3rd alternative, since a div can contain any/every other type of html element within its beginning and ending tag.

```
<body>
<div style="color:#00FF00">
  <h3>This is a header</h3>
  <p>This is a paragraph.</p>
<h5>Content Articles</h5>
<p>This paragraph would be your content  paragraph with
 all of your readable material.</p>
</div>
                    <div id="menu" align="right" style="color:#FF0000“>Links:<a
                        href="">HOME</a> |  <a href="">CONTACT</a> |  <a
                                    href="">ABOUT</a> |</div><br>
<div style="background: green">
<h5 >SEARCH LINKS</h5>
<a target="_blank" href="http://www.google.com">Google</a>
</div> </body>
```

Frames

- Frames are a relatively new addition to the HTML standard. First introduced in Netscape Navigator 2.0. (Not Supported in HTML5)

Objectives:

Upon completing this section, you should be able to:

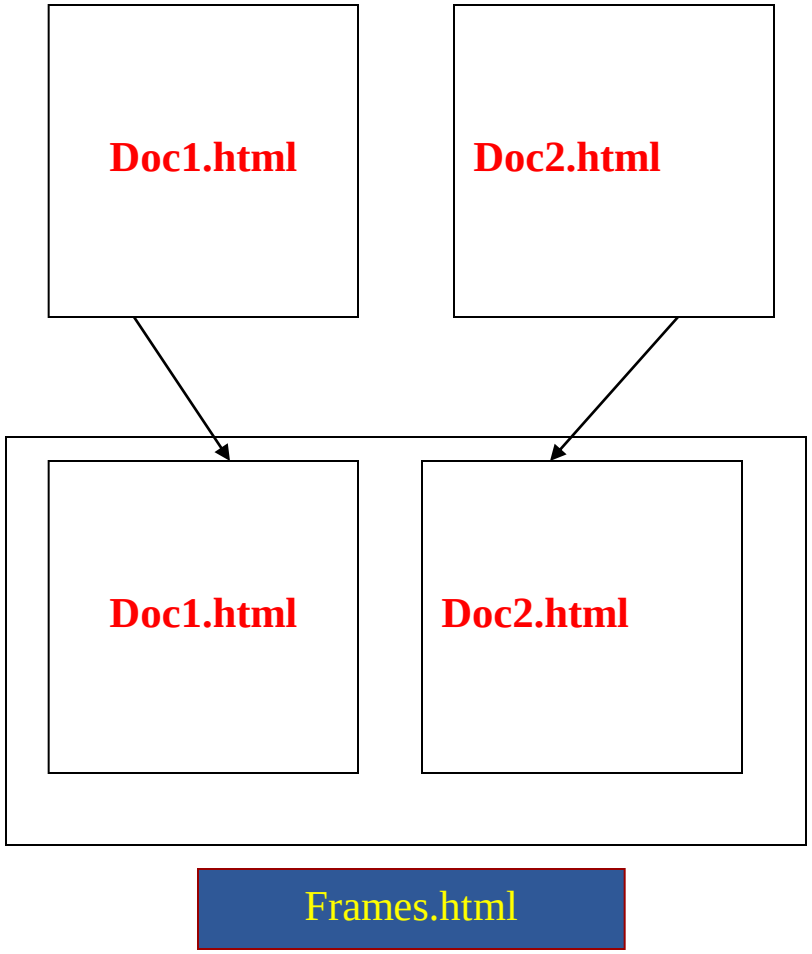
- Create a Frame based page.
- Work with the Frameset, Frame, and Noframes elements.
- Use the attributes of the Frames elements to control the display.
- Set Targets appropriately.

Frames

- A framed page is actually made up of multiple HTML pages. There is one HTML document that describes how to break up the single browser window into multiple windowpanes. Each windowpane is filled with an HTML document.

- For Example to make a framed page with a windowpane on the left and one on the right requires three HTML pages. ***Doc1.html*** and ***Doc2.html*** are the pages that contain content. ***Frames.html*** is the page that describes the division of the single browser window into two windowpanes.

Frames



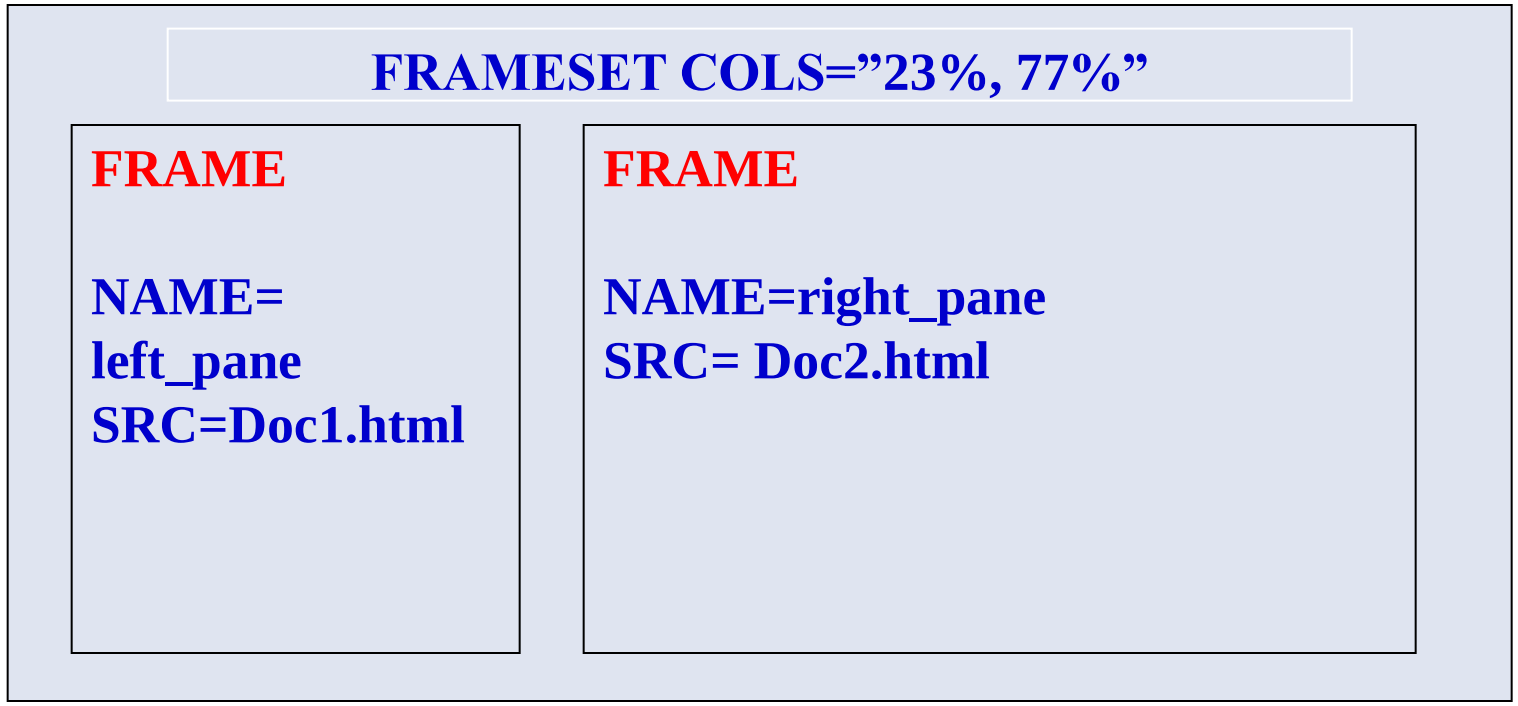
Frame Page Architecture

- A **<FRAMESET>** element is placed in the html document before the **<BODY>** element. The **<FRAMESET>** describes the amount of screen real estate given to each windowpane by dividing the screen into **ROWS** or **COLS**.
- The **<FRAMESET>** will then contain **<FRAME>** elements, **one per division** of the browser window.
- Note: Because there is no **BODY** container, FRAMESET pages can't have background images and background colors associated with them.

Frame Page Architecture

```
<HTML>
<HEAD>
<TITLE> Framed Page </TITLE>
<FRAMeSET COLS="23%,77%">
<FRAME SRC="Doc1.html">
<FRAME SRC="Doc2.html">
</FRAMeSET >
</HEAD>

</HTML>
```

The Diagram below is a graphical view of the document described above



<FRAMESET> Container

<FRAMESET> ***:*** The FRAMESET element creates divisions in the browser window in a single direction. This allows you to define divisions as either rows or columns.

- **ROWS** ***:*** Determines the size and number of rectangular rows within a <FRAMESET>. They are set from top of the display area to the bottom.

Possible values are:

- Absolute pixel units, I.e. “360,120”.
- A percentage of screen height, e.g. “75%,25%”.
- Proportional values using the asterisk (*). This is often combined with a value in pixels , e.g. “360,*”.
- <Frameset cols=“200,20%,*,2*”>

Creating a Frames Page

- **COLS*:*** Determines the size and number of rectangular columns within a <FRAMESET>. They are set from **left** to **right** of the display area.

Possible values are:

- Absolute pixel units, I.e. “480,160”.
- A percentage of screen width, e.g. “75%,25%”.
- Proportional values using the asterisk (*). This is often combined with a value in pixels , e.g. “480,*”.

Creating a Frames Page

- **FRAMEBORDER :** Possible values **0**, **1**, **YES**, **NO**. A setting of zero will create a borderless frame.
- **FRAMESPACING:** This attribute is specified in **pixels**. If you go to borderless frames you will need to set this value to zero as well, or you will have a gap between your frames where the border used to be.
- **BORDER(thickness of the Frame):** This attribute specified in pixels. A setting of zero will create a borderless frame. Default value is 5.
- **BORDERCOLOR:** This attribute is allows you choose a color for your border. This attribute is rarely used.

Acrobat Reader - [HTML - The Definitive Guide.pdf]
File Edit Document View Window Help

Internet Explorer and Netscape do disagree, however, as to how you may control the thickness of the borders. Internet Explorer supports the `framespacing` attribute, whose value is the number of pixels you want between frames (see Figure 12.2). The attribute affects all frames and framesets nested within the current frameset as displayed by Internet Explorer. In practice, you should set it once on the outermost `<frameset>` to create a consistent border appearance for all of the frames in a single page.

Netscape accepts only the `border` attribute to define the border width, with an integer value in pixels. Like Internet Explorer, Netscape lets you include the `frameborder` attribute with any `<frameset>` tag, affecting all nested frames and framesets. Unlike Internet Explorer, Netscape lets you include the `border` attribute only in the outermost `<frameset>`, ensuring that all frame borders are the same width within that `<frameset>`.

Since browsers ignore unsupported attributes, it is possible to define frame borders so that both browsers do the right thing. Just make sure to use the same `framespacing` and `border` values.

Finally, with Netscape you can control the color of the frame borders using the `bordercolor` attribute (Figure 12.3). It accepts a color name or hexadecimal triple as its value. A complete list of color names and values can be found in Appendix F, Color Names and Values.

Figure 12.3: Netscape accepts border and bordercolor attributes to control the color and spacing between frames

128% 419 of 588 8.26 x 11.69 in
Start Exploring - HTML & JavaS... Microsoft PowerPoint - [Ht... Acrobat Reader - [HT... 08:01

<FRAME>

- **<FRAME>: This element defines a single frame within a frameset. There will be a FRAME element for each division created by the FRAMESET element. This tag has the following attributes:**
- **SRC: Required, as it provides the URL for the page that will be displayed in the frame.**
- **NAME: Required for frames that will allow targeting by other HTML documents. Works in conjunction with the target attribute of the <A>, <AREA>, <BASE>, and <FORM> tags.**

<FRAME>

- MARGINWIDTH: Optional attribute stated in pixels. Determines horizontal space between the <FRAME> contents and the frame's borders.
- MARGINHEIGHT: Optional attribute stated in pixels. Determines vertical space between the <FRAME> contents and the frame's borders.
- SCROLLING: Displays a scroll bar(s) in the frame. Possible values are:
  - Yes – always display scroll bar(s).
  - No – never display scroll bar(s).
  - Auto – browser will decide based on frame contents.
  - By default: scrolling is auto.

<FRAME>

- **NORESIZE: Optional – prevents viewers from resizing the frame. By default the user can stretch or shrink the frame's display by selecting the frame's border and moving it up, down, left, or right.**

<NOFRAMES>

- **<NOFRAMES>: Frame – capable browsers ignore all HTML within this tag including the contents of the BODY element. This element does not have any attributes.**

- **<HTML>**
- **<HEAD>**
- **<TITLE> Framed Page </TITLE>**
- **</HEAD>**

<NOFRAMES>

- <FRAMESET COLS="23%,77%">
- <FRAME SRC=""   NAME="left_pane“>
- <FRAME SRC=""   NAME="right_pane">
- <NOFRAMES>
- <P> This is a Framed Page. Upgrade your browser to support frames.</P>
- </NOFRAMES></FRAMESET>

Compound FRAMESET Divisions

- In this case a second FRAMESET element will be inserted in the place of the FRAME element that would describe the second row.
- The second FRAMESET element will divide the remaining screen real estate into 2 columns.
- This nested FRAMESET will then be followed by 2 FRAME elements to describe each of the subsequent frame divisions created.

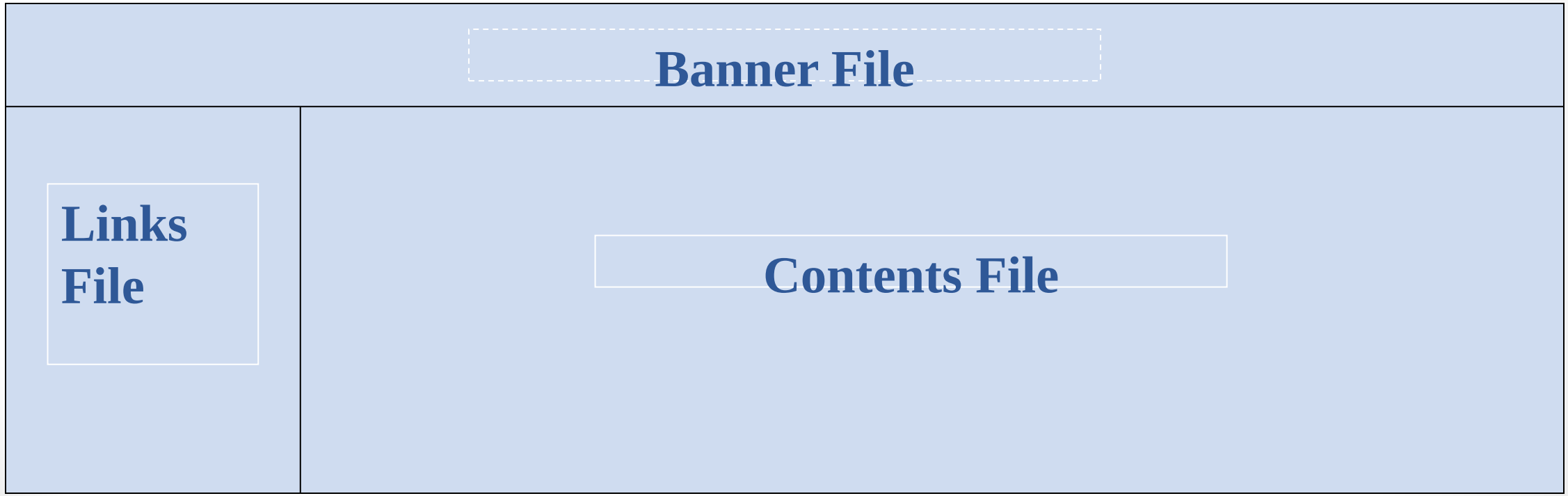
Compound FRAMESET Divisions

```
<html>
<head>
<title> Compound Frames Page</title>
</head>
<frameset rows="120,*">
<frame src="banner_file.html" name"banner">
<frameset cols="120,*">
<frame src="links_file.html" name="links">
<frame src="content_file.html" name="content">
```

```
<noframes>
<p>
Default message
</p>
</noframes>
</frameset>
</frameset>
</head>
```

Compound FRAMESET Divisions

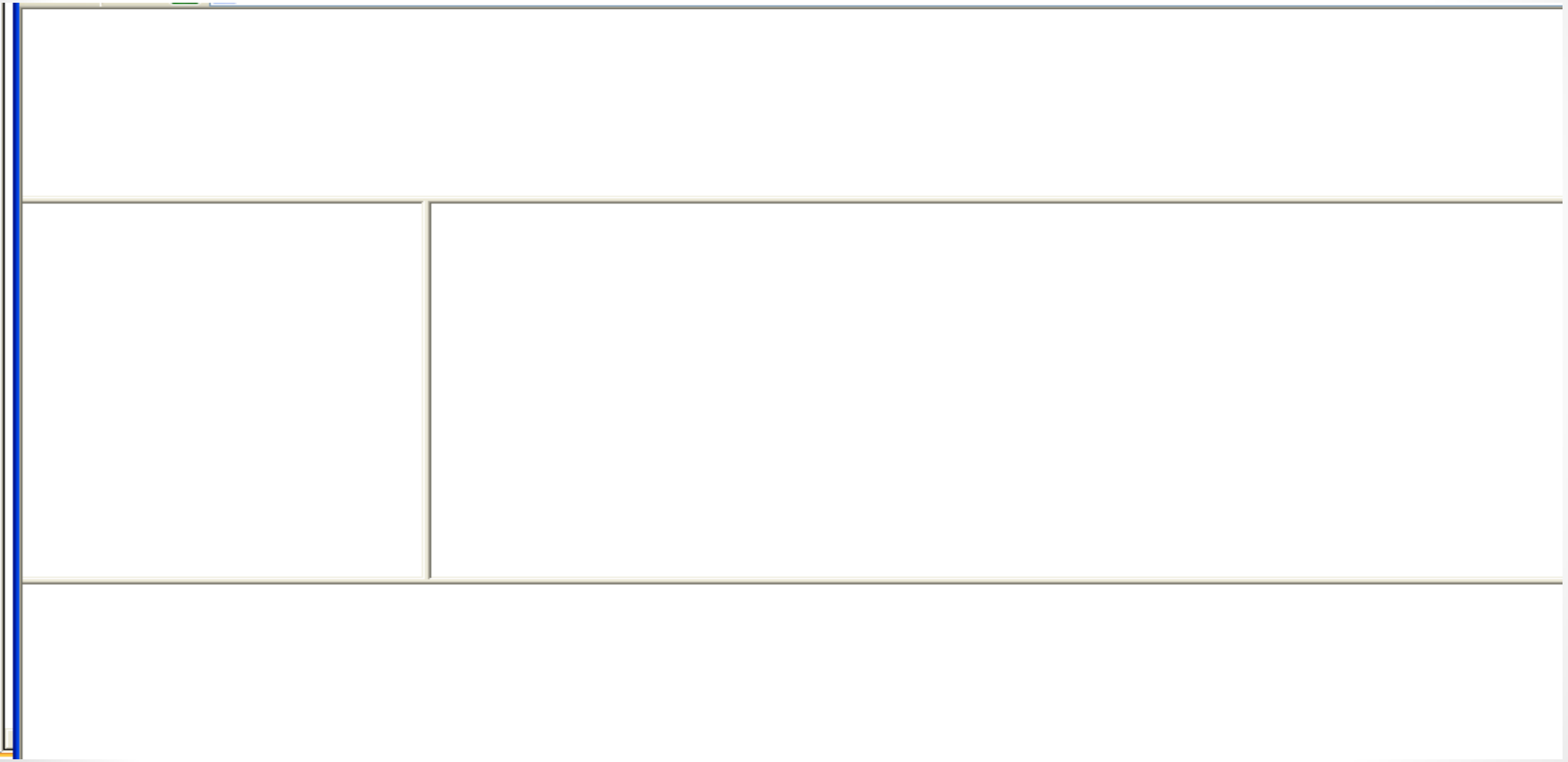
You may want to create a frames design with a combination of rows and columns.



Compound FRAMESET Divisions Example

```
<HEAD>
<FRAMESET ROWS="25%,50%,25%”
                    <FRAME SRC="">
<FRAMESET COLS="25%,*">
                              <FRAME SRC="">
                              <FRAME SRC="">
                                        </FRAMESET>
                    <FRAME SRC="">
</FRAMESET>
</HEAD>
```

Output



<iframe>

- The <iframe> tag specifies an inline frame.
- An inline frame is used to embed another document within the current HTML document.

```
<!DOCTYPE html>
<html>
<head>
<title> Frame example   </title>
</head>
<body>
<iframe width="100%" height="20%" name="top" border="50"
bordercolor="orange" >
</iframe>
<iframe src="E:\subjects\Vellore campus\Fall 2020-
21\lab\HTML\3.JPG" width="49%" height="50%">
</iframe>

<iframe src="E:\subjects\Vellore campus\Fall 2020-
21\lab\HTML\link.html" width="49%" height="50%">
</iframe>
<iframe  name="right1" width=49% height="30%
scrolling="auto" frameborder="no">
 </iframe>
<iframe  name="right2" width=30% height="30%"> </iframe>
</body>
</html>
```

File | E:/subjects/Vellore%20campus/Fall%202020-21/lab/HTML/frame_example.html

Chapter 1. Cascade,... table of contents ex... How to Import and... PHP tutorial: Create... Perl 5 by Example: F... Number of connect... Practical Deep Lear... Advances on High...

RED
GREEN
BLUE
VIT Home page
Chapter1 Cahpter2

Elements for the BODY section (Cont.)

Form Elements

Forms: collect information from visitor

<form> - It is a method of accepting inputs from user. A form is an area that can contain form elements.

Eg.:

<form name="form1" action="abc.asp" method=get>

<!- form elements -->

</forms>

Name- is used for future manipulation of data by scripting language.

Action- indicates a program on the server that will be executed when this form is submitted. Mostly it will be an ASP or a CGI script.

Method- indicates the way the form is submitted to the server - popular options are GET/POST.

Form Structure

```
<form action="http://www.example.com/subscribe.php"
  method="get">
  <p>This is where the form controls will appear.
    </p>
</form>
```

Form controls live inside a `<form>` element. This element should always carry the `action` attribute and will usually have a `method` and `id` attribute too.

Every `<form>` element requires an `action` attribute. Its `value` is the URL for the page on the server that will receive the information in the form when it is submitted.

`method`

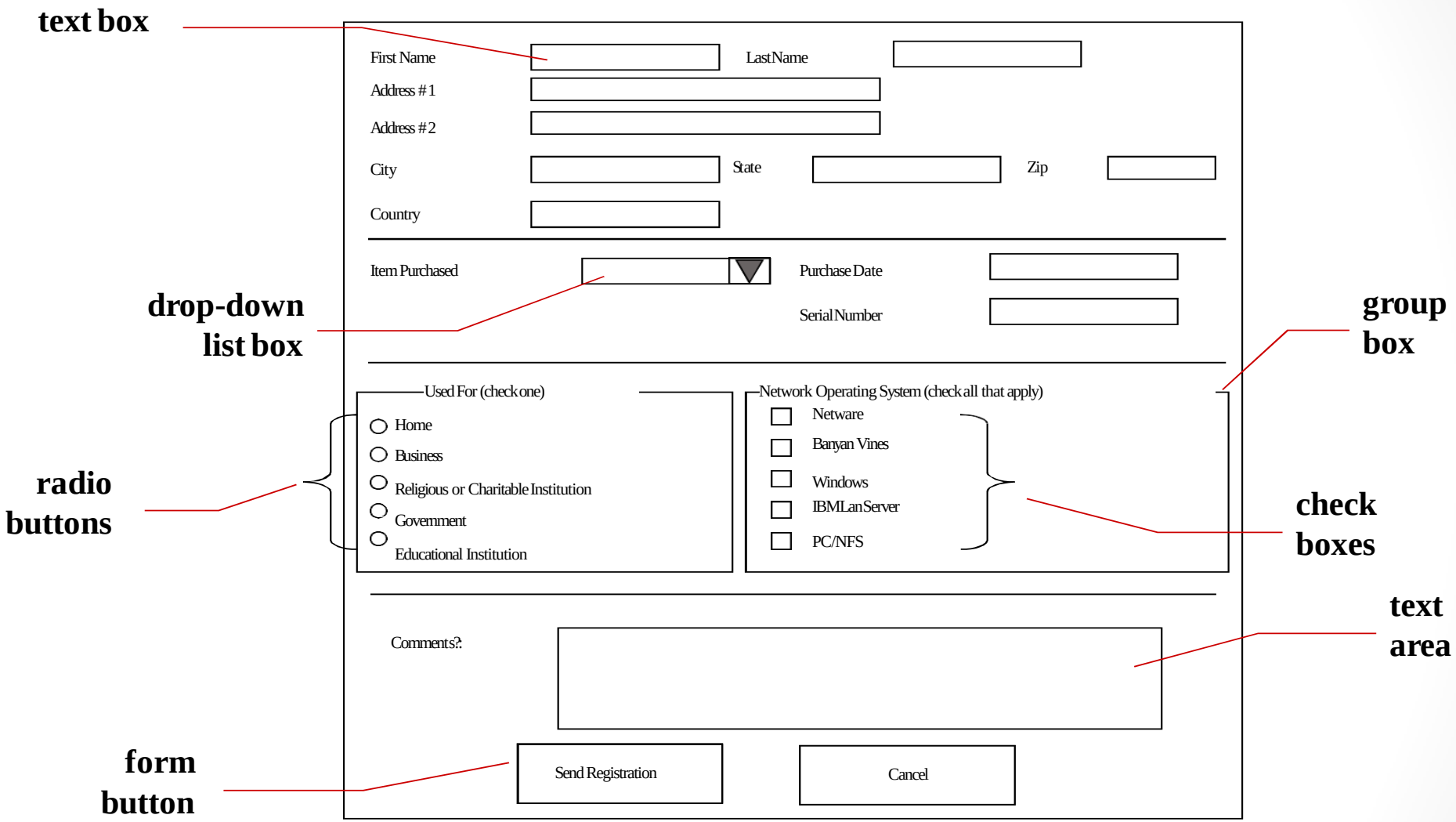
Forms can be sent using one of two methods: `get` or `post`.

GET is used to request data from a specified resource.
GET is one of the most common HTTP **methods**.
POST is used to send data to a server to create/update a resource.
POST is one of the most common HTTP **methods**.

Elements for the BODY section (Cont.)

Form Elements

Form Elements	Description
Text Field	Can create a Text Field by using Input Element with Type Attribute.
Password Field	When text is entered in Password Field it shows **** Symbol
Combo Box	It can have multiple values and it allows user to select one value at a time
List Box	It can have multiple values and allows user to select more than one value at a time
Radio Button	Can create a Radio Button by using Input Element with Value and Name Attribute
Check Box	Can create Check box by Using Input Element
Command Button	This is useful for submitting any data that is helpful in transferring data across different interfaces


text box
First Name
LastName
Address #1
Address #2
City
State
Zip
Country
drop-down list box
Item Purchased
Purchase Date
Serial Number
group box
Used For (check one)
Home
Business
Religious or Charitable Institution
Government
Educational Institution
radio buttons
Network Operating System (check all that apply)
Netware
Banyan Vines
Windows
IBM Lan Server
PC/NFS
check boxes
Comments?:
text area
form button
Send Registration
Cancel

Basic HTML Forms

- Element form: <form> </form>

Attributes	Description
method ●method = “post” ●method = “get”	specifies how the form’s data is sent to Web server ●Appends form data to the browser request ●Appends form data directly to the end of the URL
action	Specifies the URL of a script on the Web server

- Sub-element: input <input />

- https://www.google.com/search?q=into+to+HTML&rlz=1C1GCEU_enIN851IN851&oq=into+to+HTML&aqs=chrome..69i57.21334j0j8&sourceid=chrome&ie=UTF-8

	GET	POST
BACK button/Reload	Harmless	Data will be re-submitted (the browser should alert the user that the data are about to be re-submitted)
Bookmarked	Can be bookmarked	Cannot be bookmarked
Cached	Can be cached	Not cached
Encoding type	application/x-www-form-urlencoded	application/x-www-form-urlencoded or multipart/form-data. Use multipart encoding for binary data
History	Parameters remain in browser history	Parameters are not saved in browser history
Restrictions on data length	Yes, when sending data, the GET method adds the data to the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	No restrictions
Restrictions on data type	Only ASCII characters allowed	No restrictions. Binary data is also allowed
Security	GET is less secure compared to POST because data sent is part of the URL Never use GET when sending passwords or other sensitive information!	POST is a little safer than GET because the parameters are not stored in browser history or in web server logs
Visibility	Data is visible to everyone in the URL	Data is not displayed in the URL

different HTML form elements

- The <form> element can contain one or more of the following form elements:
  - <label>
  - <input>
  - <select>
  - <textarea>
  - <button>
  - <fieldset>
  - <legend>
  - <datalist>
  - <output>
  - <option>
  - <optgroup>

List of All <form> Attributes

Attribute	Description
accept-charset	Specifies the character encodings used for form submission
action	Specifies where to send the form-data when a form is submitted
autocomplete	Specifies whether a form should have autocomplete on or off
enctype	Specifies how the form-data should be encoded when submitting it to the server (only for method="post")
method	Specifies the HTTP method to use when sending form-data
name	Specifies the name of the form
novalidate	Specifies that the form should not be validated when submitted
rel	Specifies the relationship between a linked resource and the current document
target	Specifies where to display the response that is received after submitting the form

Form -<Input>tag

The <input> has a few attributes that you should be aware of.

- *type*- Determines what kind of input field it will be. Possible choices are text, submit, andpassword.
- *name* - Assigns a name to the given fieldso that you may reference it later.
- *size*- Sets the horizontal width of the field. The unit of measurement is in blank spaces.
- *maxlength*- Dictates the maximum number of characters that can be entered

- Sub-Element input: <input> </input>

Attributes	Description
type ●type = “hidden” ●type = “text” ●type = “submit” ●type = “reset”	Type of form’s input ●‘hidden’ input passed to server-side script ●Textbox with specific size ●Submit button ●Reset button
name	Name passed to server-side script as parameter
value	‘Visible’ name on the form

Demo

Form - <Input > tag

```
<form method="post" action="mailto:youremail@email.com">  Name:
<input type="text" size="10" maxlength="40"
   name="name"> <br>
Password: <input type="password" size="10" maxlength="10"
   name="password"><br>
<input type="submit" value="Send">
<input type="reset" value="Reset Form Values"><br>
</form>
```

It allows a user to simply input some text

the browser hides the characters being typed; replacing them with stars.

It will perform the form's set action

Reset buttons exist to reset the fields of your form.

Form – Input -Radio Button

- Radios are types of input forms that allow a user to pick an either/or type of selection.
- *value*- specifies what will be sent if the user chooses this radio button. Only one value will be sent for a given group of radio buttons.
- *name*- defines which set of radio buttons that it is apart of. Below we have 2 groups: shade and size.
- By using the checked attribute, we can tell our form to automatically "check" a default radio.

```
What kind of shirt are youwearing? <br>
Shade:
<input type="radio" name="shade" value="dark">Dark
<input type="radio" name="shade" value="light">Light <br>
Size:
<input type="radio" name="size" value="small“ checked=“yes”>Small
<input type="radio" name="size"value="medium">Medium
<inputtype="radio" name="size" value="large">Large <br>
```

Form – Input -Checkbox

- Check boxes allow for multiple items to be selected for acertain group of choices.The check box's *name*and *value*attributes behave the same as a radio button. It is possible to precheck the input boxes for your viewers using the *checked*attribute. Simply set the checked attribute to *yes*or *no*.

**Please select every sport that you play.
 Soccer:**

<input type="checkbox" name="sports"
**value="vollyball" >
**

Football: <input type="checkbox" name="sports"
**value="football" checked="yes">
**

Baseball: <input type="checkbox" name="sports"
**value="baseball">
**

Basketball: <input type="checkbox" name="sports"
value="basketball">

Form – Input -TextArea

- Textareas retrieve "blog" type information from the user. Paragraphs, essays, or memos can by cut and pasted into textareas and submitted.
- Textareas have an opening and a closing tag, any words placed between them will appear inside your text area.
- Adjusting the size of the appearance of the text area requires two attributes, *cols* and *rows*. Use a numeric value for each attribute and the larger the value the larger the field will appear.
- Setting a yes or no value for the *readonly* attribute determines whether or not a viewer can manipulate the text inside the text field.
- As the readonly attribute disables text manipulation, we can take things one step further by setting the *disabled* attribute. This grays out the textarea altogether and inhibits any change in the text as well as text highlighting.

- The *wrap* attribute refers to how the text reacts when it reaches the end of each row in the text field.
- Wrapping can be one of three settings: soft, hard, off
- *Soft* forces the words to wrap once inside the text area but when the form is submitted, the words will no longer appear as such (Line breaks will not be added).
- *Hard* wraps the words inside the text box and places line breaks at the end of each line so that when the form is submitted it appears exactly as it does in the text box.
- *Off* sets a textarea to ignore all wrapping and places the text into one ongoing line.

<textarea cols="20" rows="5" wrap="hard" readonly="yes">As you can see many times wordwrapping is often the desired look for your textareas. Since it makes every thing nice and easy to read.</textarea>

Form – Input -Select

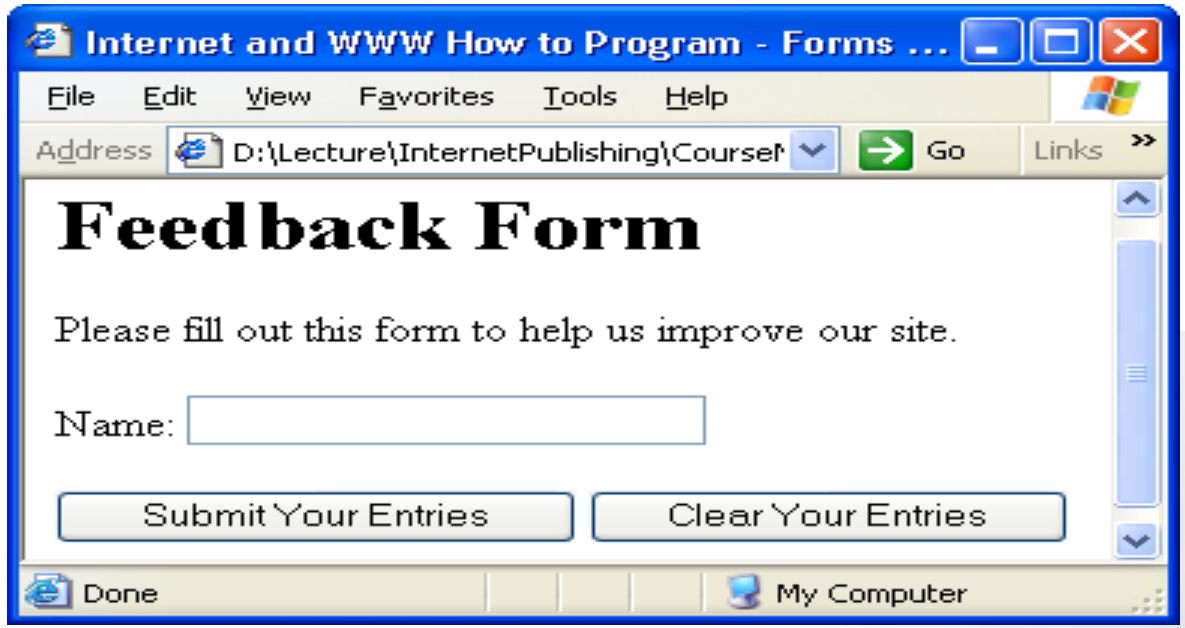
- Drop down lists are the basic selection forms.
- By default the first coded <option> will be displayed or selected as the default. We can change this using the *selected* attribute.
- We use the *size* attribute to break out from the single displayed drop down list.
- We can further add to our selection forms by adding the *multiple* attribute. This allows the user to select more than one entry from your selection forms. Obviously this attribute does not work with the single drop down lists.

```
<select>
<option>India</option>
<option>SriLanka</option>
<option>Pakistan</option>
</select>
```

```
<select multiple="yes" size=3>
<option>India</option>
<option>SriLanka</option>
<option selected="yes">Pakistan
</option>
<option>America</option>
<option>Africa</option>
</select>
```

```
<form method = "post" action = "/cgi-bin/formmail">
      <p>
        <input type = "hidden" name = "recipient“ value = "deitel@deitel.com" />
        <input type = "hidden" name = "subject" value = "Feedback Form" />
        <input type = "hidden" name = "redirect" value = "main.html" />
       </p>

        <p><label>Name:
            <input name = "name" type = "text" size = "25“ maxlength = "30" />
        </label></p>
        <p>
          <input type = "submit" value = "Submit Your Entries" />
          <input type = "reset" value =  "Clear Your Entries" />
        </p>
</form>
```

Example3: Form design: form.html



More Complex HTML Forms

- Sub-Element textarea: <textarea> </textarea>
  - Inserts a multiline text box (text area)

Attributes	Description
rows	Specifies the number of rows
cols	Specifies the number columns

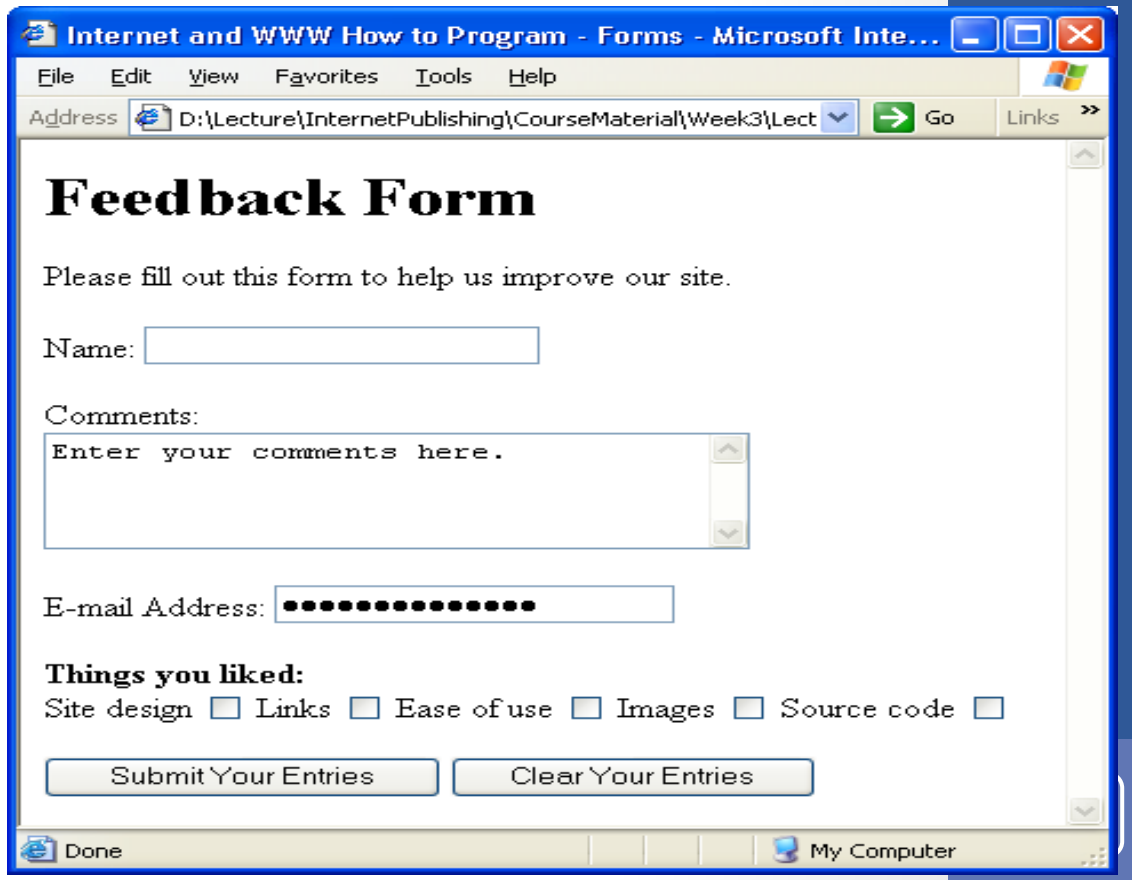
- Sub-Element input: <input> </input>

Attributes	Description
type ●type = “password” ●type = “checkbox” ●type = “radio”	Type of form’s input ●Password box with specific size ●Enable users to select from a set of options ●Radio button

- Sub-Element select: <select> </select>
  - Drop down list
  - Contains element option: <option> </option>

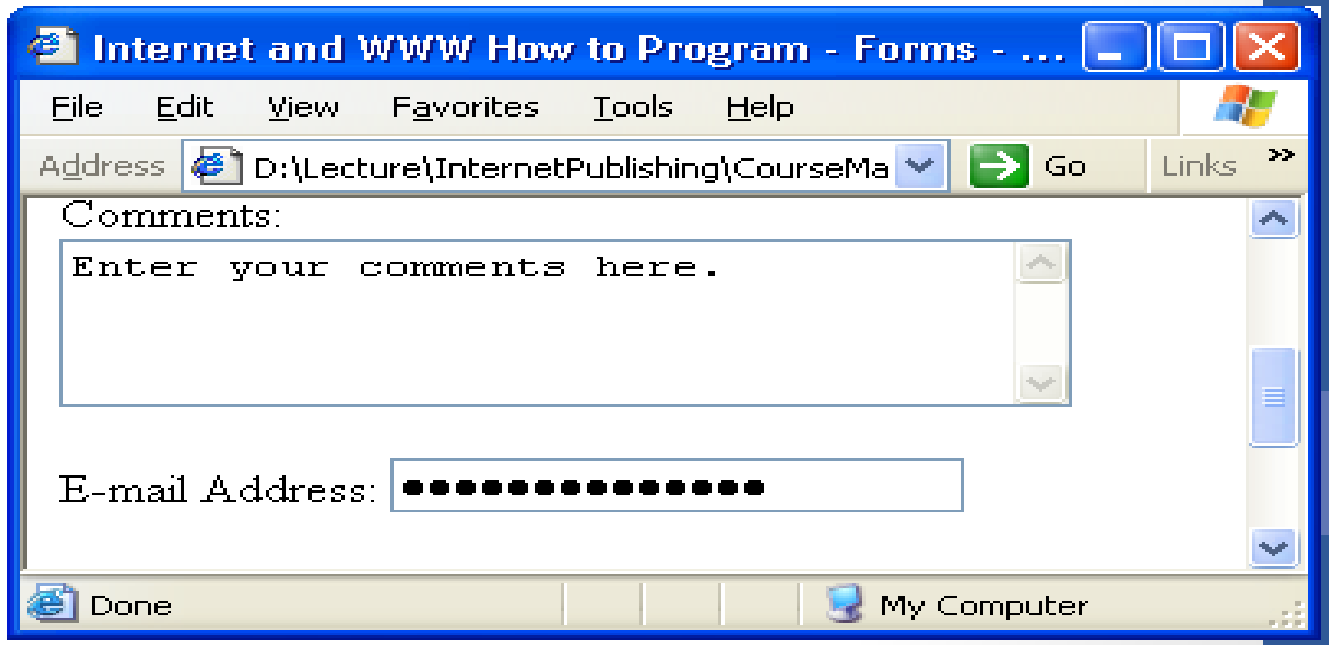
- Sub-Element option:
  - Adds items to the drop-down list

Attributes	Description
selected	Specifies which item initially is displayed as the selected item

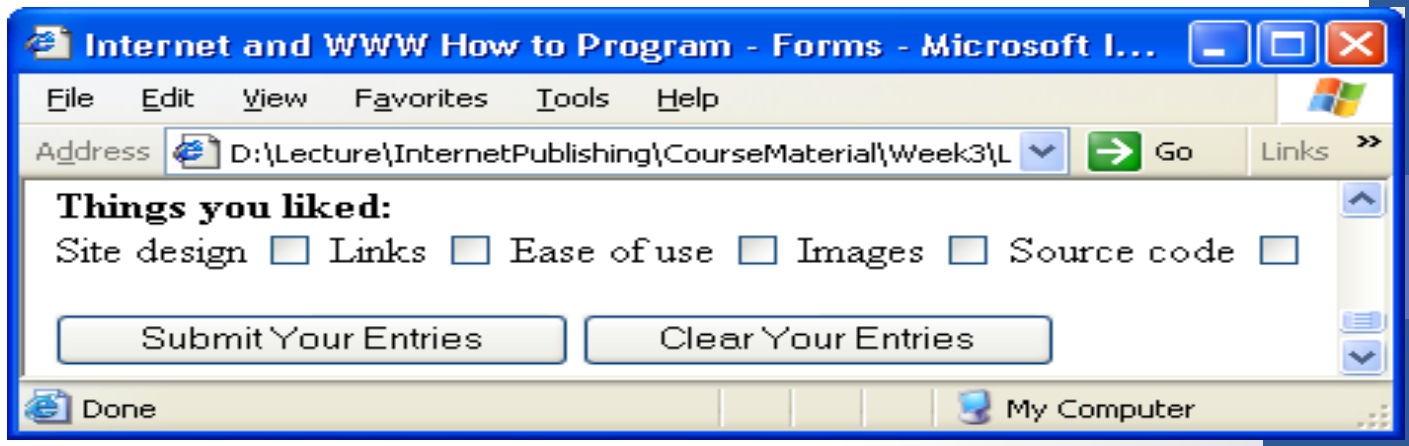


Example 4: Form with text areas, a password box and checkboxes: form2.html

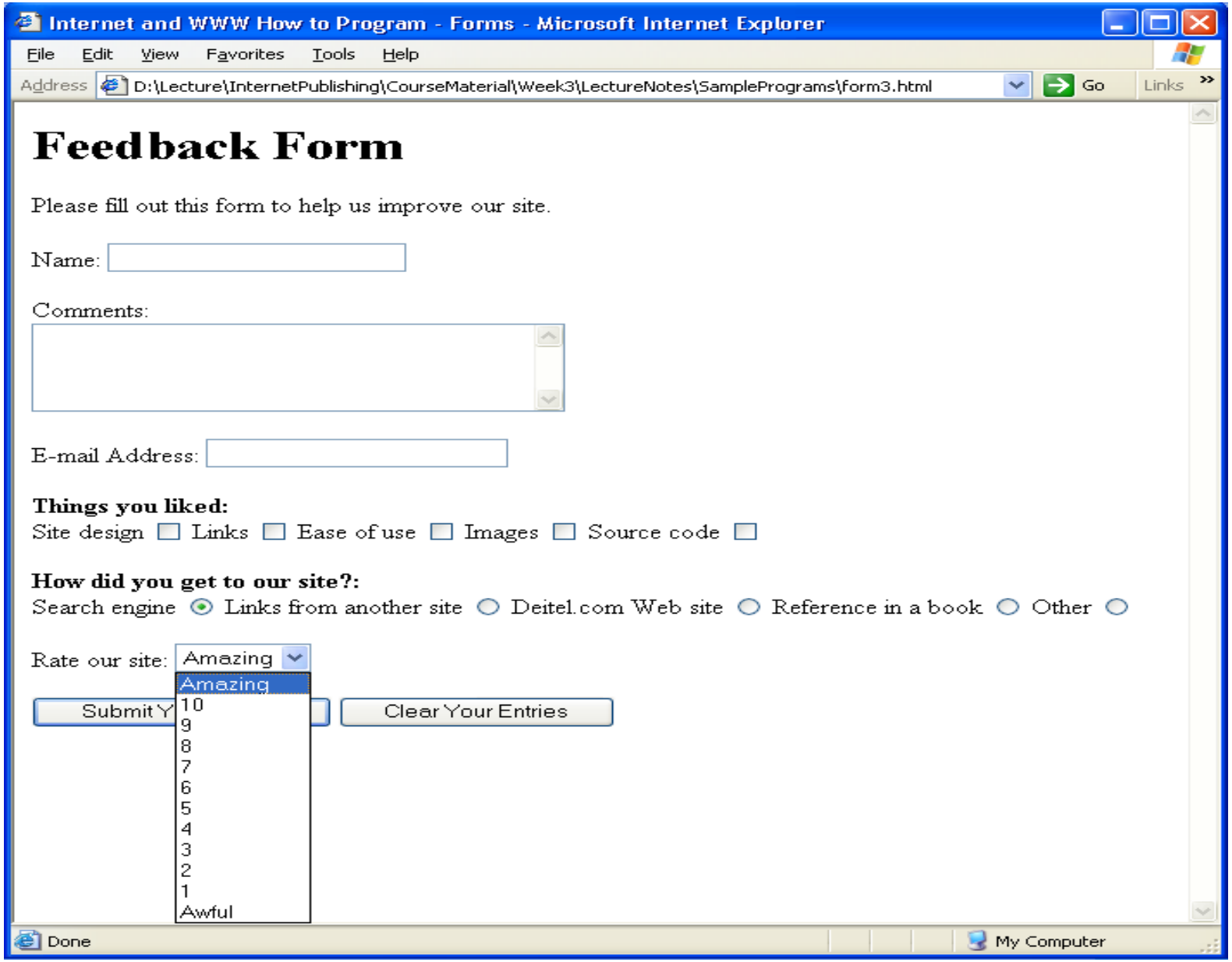
```
<form method = "post" action = "/cgi-bin/formmail">

   <p><label>Comments:<br />
      <textarea name = "comments" rows = "4" cols = "36">
         Enter your comments here.
      </textarea>
   </label></p>

   <p><label>E-mail Address:
      <input name = "email" type = "password" size = "25" />
   </label></p>
```



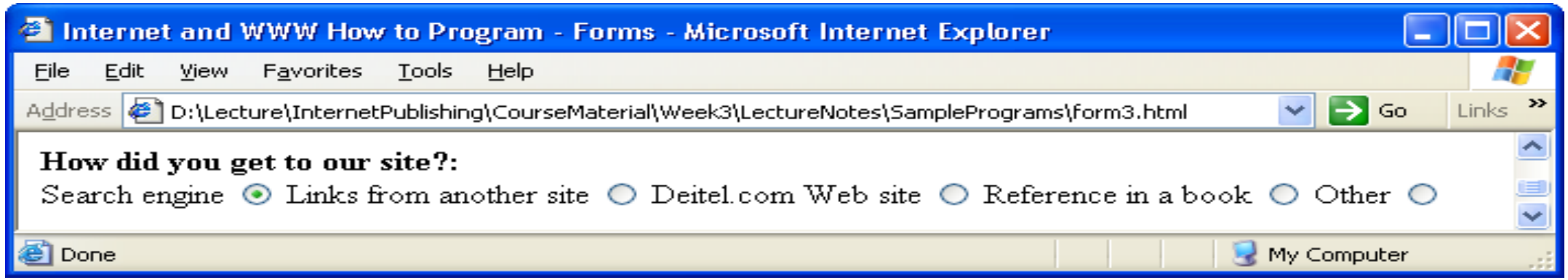
```
    <p>
        <strong>Things you liked:</strong><br />

        <label>Site design
        <input name = "thingsliked" type = "checkbox" value = "Design" /></label>

        <label>Links
        <input name = "thingsliked" type = "checkbox" value = "Links" /></label>

        <label>Ease of use
        <input name = "thingsliked" type = "checkbox" value = "Ease" /></label>

        <label>Images
        <input name = "thingsliked" type = "checkbox" value = "Images" /></label>

        <label>Source code
        <input name = "thingsliked" type = "checkbox" value = "Code" /></label>
    </p>
</form>
```



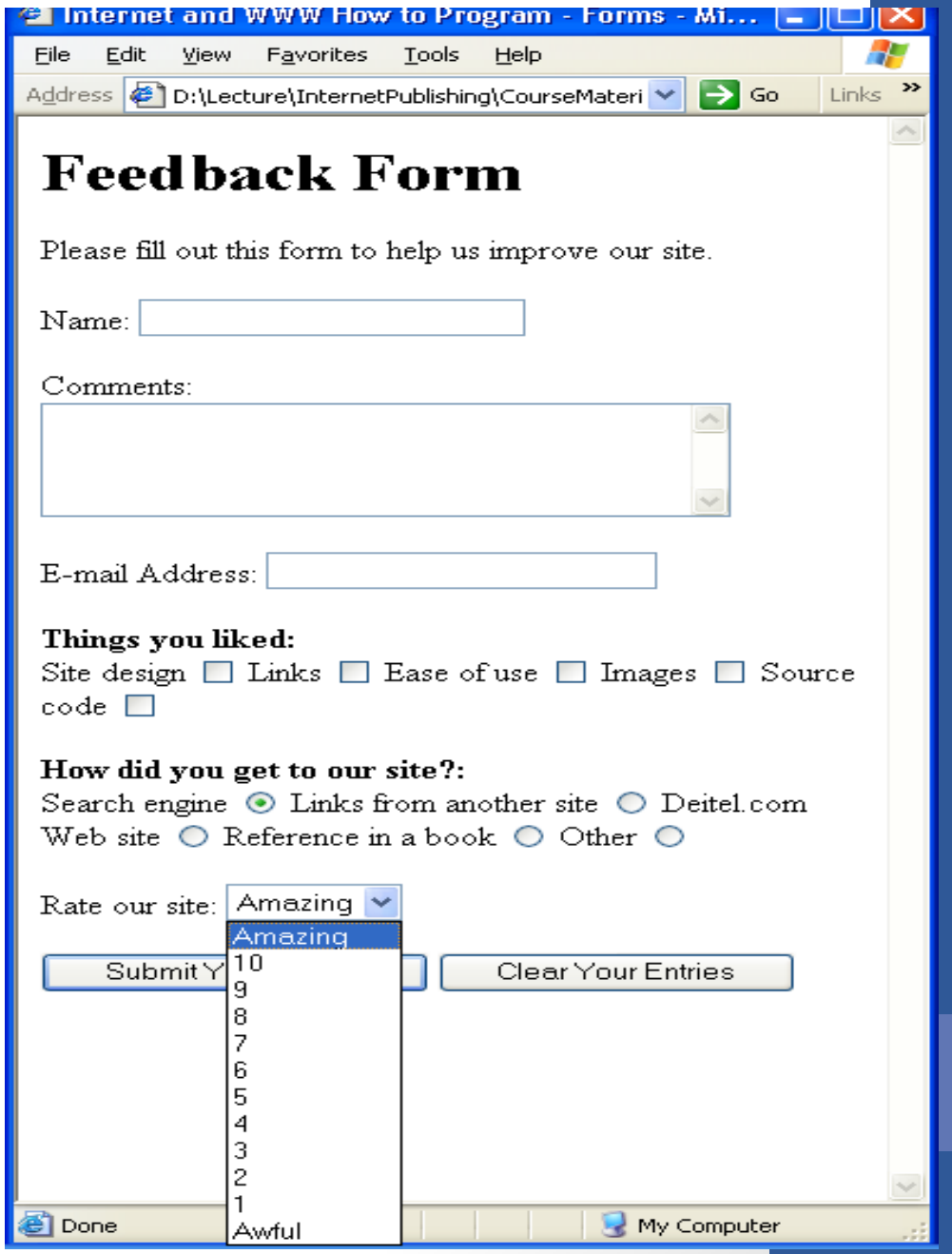
Example 5: Form including radio buttons and a drop-down list: form3.html



```
<strong>How did you get to our site?:</strong><br />
    <label>Search engine
      <input name = "howtosite" type = "radio"
        value = "search engine" checked = "checked" /></label>
    <label>Links from another site
      <input name = "howtosite" type = "radio" value = "link" /></label>
    <label>Deitel.com Web site
      <input name = "howtosite" type = "radio" value = "deitel.com" /></label>
    <label>Reference in a book
      <input name = "howtosite" type = "radio" value = "book" /></label>
    <label>Other
      <input name = "howtosite" type = "radio" value = "other" /></label>
```



```
<label>Rate our site:

  <select name = "rating">
    <option selected = "selected">Amazing</option>
    <option>10</option>
    <option>9</option>
    <option>8</option>
    <option>7</option>
    <option>6</option>
    <option>5</option>
    <option>4</option>
    <option>3</option>
    <option>2</option>
    <option>1</option>
    <option>Awful</option>
  </select>
</label>
```



HTML5 introduces the following new <input> types:

- color : for input fields with colors, i.e. color picker/ color selector
- date : allows the user to select data, i.e. date picker with calendar
- datetime: allows the user to select a date and time (
- datetime-local
- email: for input fields that should contain an e-mail address.
- month : allows the user to select a month and year. I.e. date picker with month and year only
- number : for a numeric value input only, you can also set restrictions on acceptable numbers using one of the following <input> attributes: max for max allowed value, min for the min allowed value, step for the number interval and value for setting the default value.
- *For example*: <input type="number" min="1" max="5"/>

For example: `<input type="number" min="1" max="5"/>`

Demo result:

HTML5 introduces the following new <input> types:

- range: should contain a value from a range of numbers. In the same way as with the number type you can use the following <input> attributes to specify the range: max for max allowed value, min for the min allowed value, step for the number interval and value for setting the default value.

For example: `<input type="range" min="1" max="5"/>`

Demo result: 

- tel: a field that is intended to be used for entering a phone numbers
- time : for input field for entering time via up/down buttons
- url : for input fields that should contain a URL address

HTML5 <input> new attributes

- The following new attributes have been added to the <input> element in HTML5:
- autofocus : automatically focuses one particular form field
- placeholder : provides a hint to the user of what can be entered in the field
- required : used for client side validations
- form: specifies the for to which an <input> element belongs to.
- height and width
- pattern : specifies a regular expression that the value of the <input> element is checked against

Elements for the BODY section (Cont.)

Character Entities

Some characters like the < character, have a special meaning in HTML, and therefore cannot be used in the text. The most common character entities:

Result	Description	Entity Name
	non-breaking space	
<	less than	<
>	greater than	>
&	ampersand	&
“	quotation mark	"
‘	apostrophe	'

Some Other Commonly Used Character Entities

©	copyright	©
®	registered trademark	®
£	pound	£
¥	yen	¥