CM0133 Internet Computing

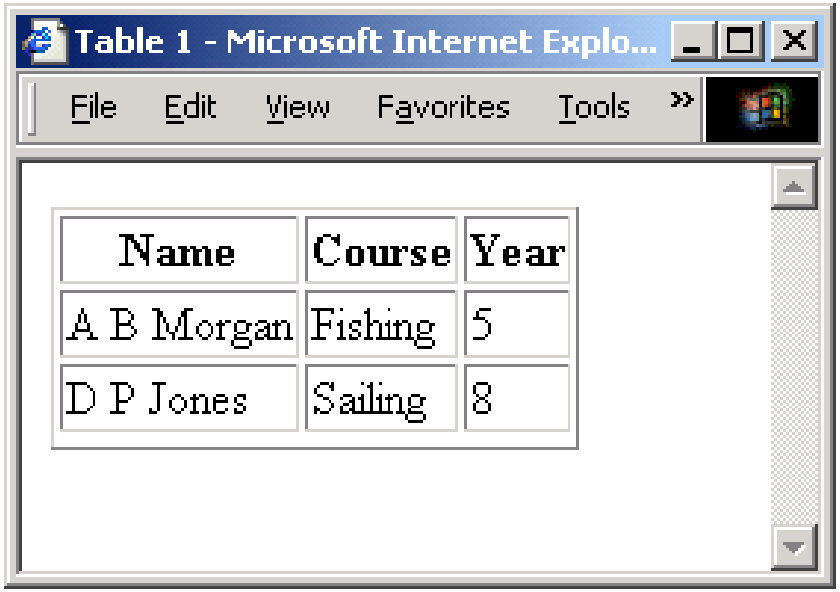
3. More HTML, Tables, and Forms

Tables

- Tables provide a means of organizing the layout of data
- A table is divided into rows and columns: these specify the cells of the table
- Cells can contain text, images, links, other tables...
- Tables can also be used for organising the layout of the web page itself. Although having stylesheets now it is not recommended.

Tables

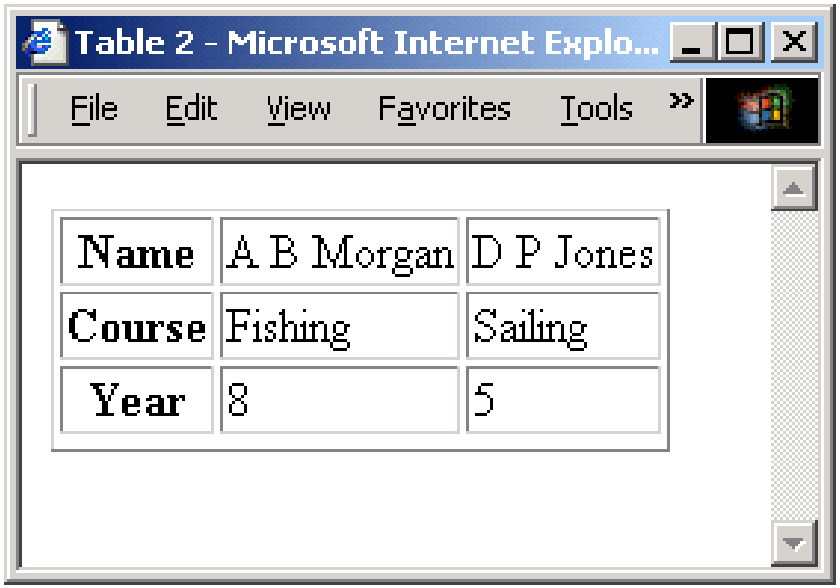
- **<table>** main element
- **<tr>** table row
- **<th>** table header
- **<td>** table data




```
<table border="1">
 <tr>
  <th>Name</th>
  <th>Course</th>
  <th>Year</th>
 </tr>
 <tr>
  <td>A B Morgan</td>
  <td>Fishing</td>
  <td>5</td>
 </tr>
 <tr>
  <td>D P Jones</td>
  <td>Sailing</td>
  <td>8</td>
 </tr>
 <tr>
</table>
```

Tables

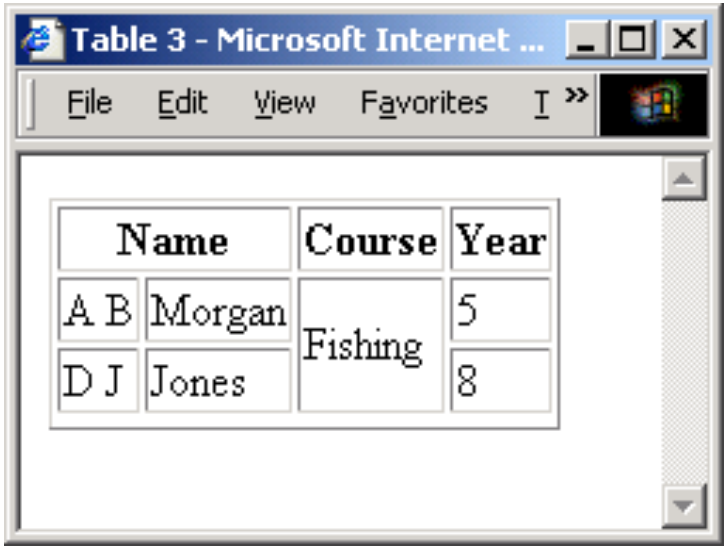
- **<table>** main element
- **<tr>** table row
- **<th>** table header
- **<td>** table data




```
<table border="1">
 <tr>
  <th>Name</th>
  <td>A B Morgan</td>
  <td>D P Jones</td>
 </tr>
 <tr>
  <th>Course</th>
  <td>Fishing</td>
  <td>Sailing</td>
</tr>
 <tr>
  <th>Year</th>
  <td>8</td>
  <td>5</td>
 </tr>
 <tr>
</table>
```

Rows and Columns

- Cells can span multiple columns and multiple rows with the **colspan** and **rowspan** attributes




```
<table border="1">
 <tr>
  <th colspan="2">Name</th>
  <th>Course</th>
  <th>Year</th>
 </tr>
 <tr>
  <td>A B</td>
  <td>Morgan</td>
  <td rowspan="2">Fishing</td>
  <td>5</td>
 </tr>
 <tr>
  <td>D J</td>
  <td>Jones</td>
  <td>Sailing</td>
  <td>8</td>
 </tr>
 <tr>
</table>
```

The `align` and `width` attributes

- The **`align`** attribute determines the position of the text within a cell
- The **`width`** attribute determines the width of the row relative to the table

```
<table border="1" align="center">
 <tr>
  <th colspan="2" width="60%">Name</th>
  <th rowspan="2">Course</th>
  <th rowspan="2">Year</th>
 </tr>
 <tr>
  <th>Last</th>
  <th>Init.</th>
 </tr>
 <tr>
  <td>Morgan</td>
  <td>AB</td>
  <td>Fishing</td>
  <td align="center">5</td>
 </tr>
 <!- etc -->
```

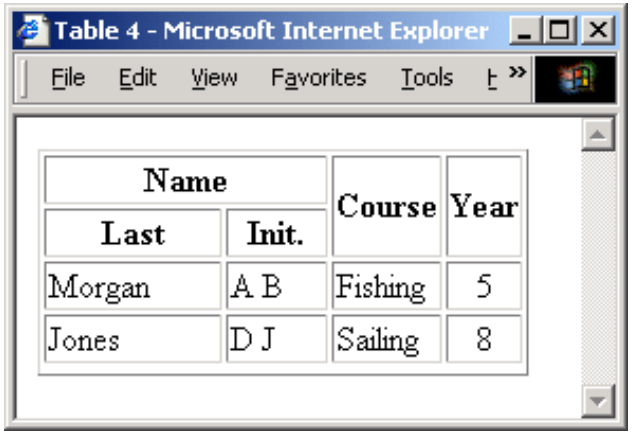


Table attributes

Table attributes

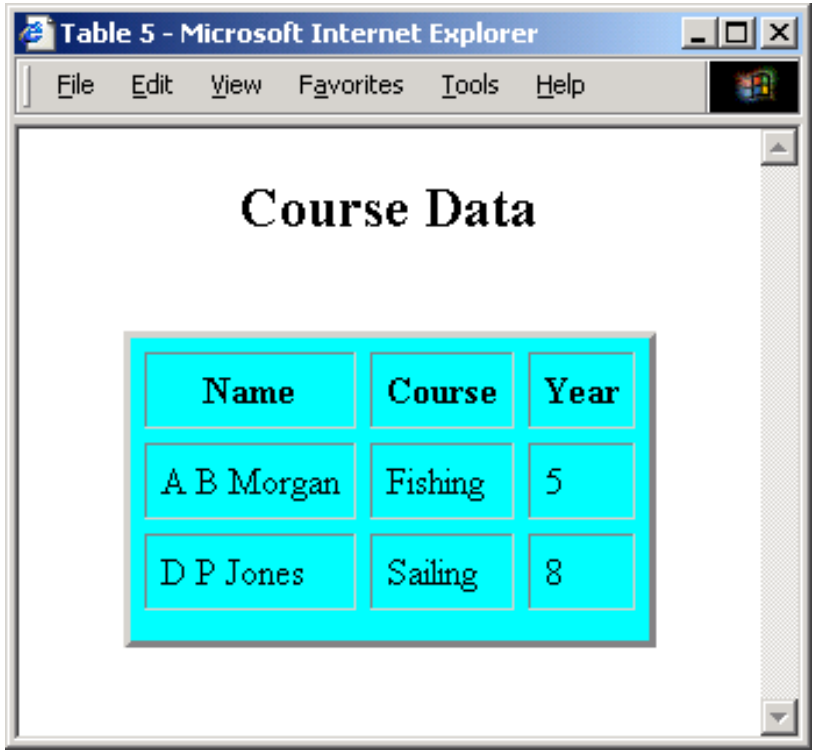
- **`align`** alignment relative to the page
- **`width`** in pixels or percentage of page width
- **`border`** - width of border (pixels)
- **`cellspacing`** separation between cells (pixels)
- **`cellpadding`** - space around data inside cell (pixels)
- **`bgcolor`** - background colour (inside cells)

Furthermore

- The **`<caption>`** element puts a title above the table

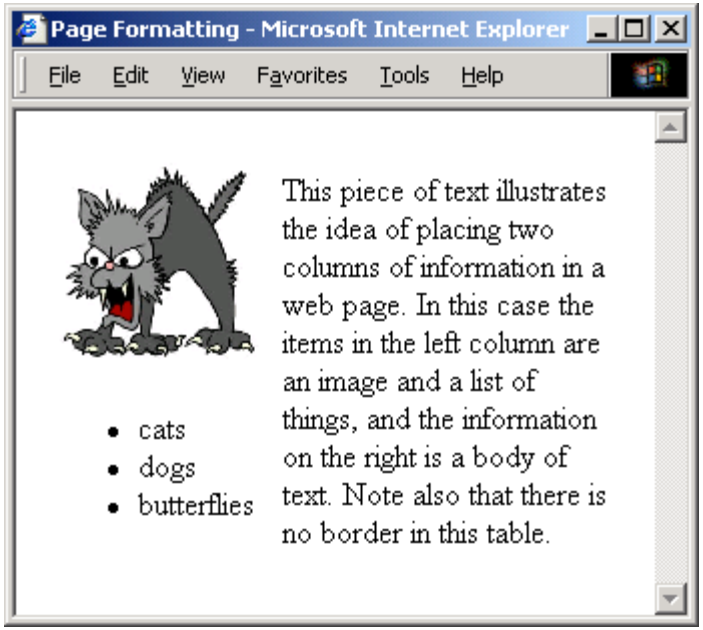
Table attributes

```
<table border="3" align="center" cellspacing="6"
cellpadding="6" bgcolor="cyan">
 <caption>
   <h2>Course Data</h2>
 </caption>
 <tr>
  <th>Name</th>
  <th>Course</th>
  <th>Year</th>
 </tr>
 <tr>
  <td>A B Morgan</td>
  <td>Fishing</td>
  <td>5</td>
 </tr>
<!- etc -->
```



Page formatting

- Tables can be used to organise the layout of the web page itself




```
</body>
 <table border="0" cellspacing="10">
  <tr>
   <td>
    <img src="cat.gif" alt="cat">
    <ul>
     <li>cats</li>
     <li>dogs</li>
     <li>butterflies</li>
    </ul>
   </td>
   <td>
    This piece of text illustrates
    the idea of placing two columns
    of information in a web page...
    Note also that there is no
    border in this table.
   </td>
  </tr>
 </table>
</body>
```

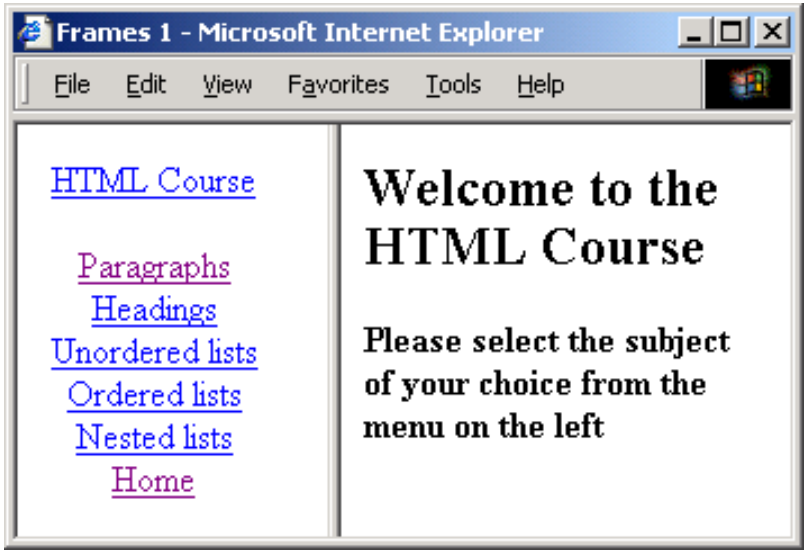
Frames and Framesets

- A frameset partitions a web browser window so that multiple web documents can be displayed simultaneously.
- Examples
  - To maintain a permanently visible directory of links within your site, while also displaying one or more selected documents from the site.
  - To show contents from your site together with contents from an external website, excluding any data interaction with the external site.
- Disadvantages:
  - The web developer must keep track of more HTML documents
  - It is difficult to print the entire page
  - framesets can cause problems for bookmarking and for "screen readers" (for visually-impaired users)

Framesets

```
<html>
 <head><title>Frames 1</title></head>
 <frameset cols="140,*">
  <frame name="navF" src="navigation.html">
  <frame name="mainF" src="intro.html">
 </frameset>
</html>
```

- The **frameset** element replaces the **body** element
- **frameset** has attributes **cols** or **rows**, defined in terms of pixels, percentage(%) or unspecified (*)
  - this splits the window into two or more columns or rows



Frame attributes

```
<frameset cols="140,*">
  <frame name="navF" src="navigation.html">
  <frame name="mainF" src="intro.html">
</frameset>
```

- The **name** attribute uniquely identifies the frame. It may be used as the target in an anchor (**<a>**) element

- **The src** attribute specifies the web page to be placed in the frame initially (it may subsequently be overwritten)

Frame attributes

```
<frameset cols="140,*">
  <frame name="navF" src="navigation.html">
  <frame name="mainF" src="intro.html">
</frameset>
```

- **The `scrolling` attribute (`"auto"`, `"yes"`, `"no"`) specifies whether the frame is to have scroll bars**

- **The `frameborder` attribute (`"0"`, `"1"`) specifies whether the frame is to have a border**

navigation.html

- The anchor tag has a **target** attribute
  - takes the name of the frame used to display the information
- All anchors below are targeted to the "**mainF**" frame

```
<html><head><title>Navigation Bar</title></head>
 <body style="text-align:center;">
  <a href="course.html" target="mainF">HTML Course</a><br><br>
  <a href="paragraph.html" target="mainF">Paragraphs</a><br>
  <a href="headings.html" target="mainF">Headings</a><br>
  <a href="ulists.html" target="mainF">Unordered lists</a><br>
  <a href="olists.html" target="mainF">Ordered lists</a><br>
  <a href="nlists.html" target="mainF">Nested lists</a><br>
  <a href="intro.html" target="mainF">Home</a><br>
 </center></body>
</html>
```

intro.html

- A simple document which is initially placed in the "**mainF**" frame
- This is replaced when a user clicks on a link in the "**navF**" frame

```
<html>
 <head><title>Internet Computing</title></head>
 <body>
  <h2>Welcome to the HTML Course</h2>
  <p>
   <h4>Please select the subject of...</h4>
  </p>
 </body>
</html>
```

Nested framesets

```
<html>
 <head><title>Frames 2</title></head>
 <frameset cols="140,*">
  <frame name="navF" src="navigation.html">
  <frameset rows="30%,70%">
   <frame name="upperF" src="intro.html">
   <frame name="lowerF" src="course.html">
  </frameset>
 </frameset>
</html>
```

Noframes

- Some browsers cannot process frames. Alternative content should be provided using the **noframes** element

```
<html>
 <head><title>Frames 1</title></head>
 <frameset cols="140,*">
  <frame name="navF" src="navigation.html">
  <frame name="mainF" src="intro.html">
 </frameset>
 <noframes>
  <body>
   Something here for browsers not supporting frames
  </body>
 </noframes>
</html>
```

Forms

- Forms are user interfaces for data input
- Main application: to provide user input for
  - programs and databases located on a web server
  - local (client-side) scripts associated with the form
- Server-based programs may return data to the client as a web page
- Client-side scripts can read input data
  - To validate the data, prior to sending to server
  - To use in local processing which may output web page content that is displayed on the client

Example applications

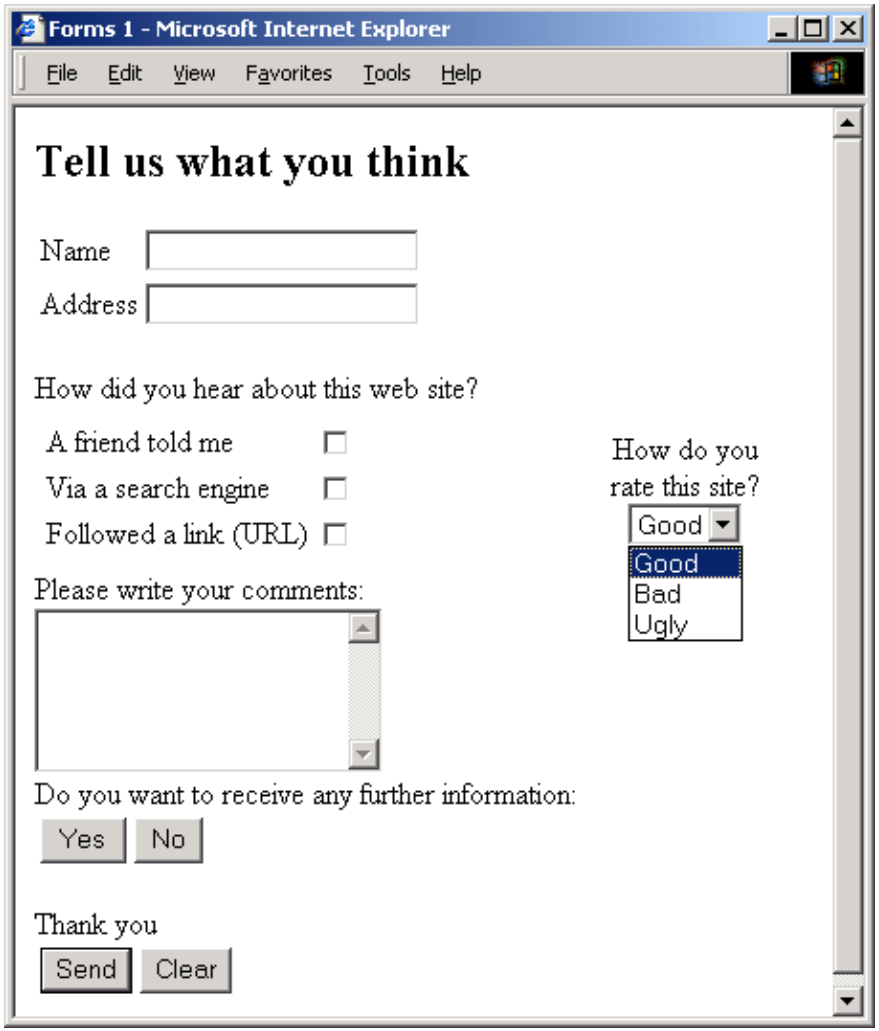
- Questionnaires to provide feedback on a web site other type of polls or surveys.

- e-commerce, to enter name, address, details of purchase and credit-card number
  - request brochures from a company
  - make a booking for holiday, cinema etc.
  - buy a book, cd, etc
  - obtain a map giving directions to a shop

- Run a database query and receive results (an important part of e-commerce)

Input types

- **`text`**
- **`checkbox`**
- **`radio`** (buttons)
- **`select`** (options)
- **`textarea`**
- **`password`**
- **`button`**
- **`submit`**
- **`reset`**
- **`hidden`**
- **`file`**
- **`image`**



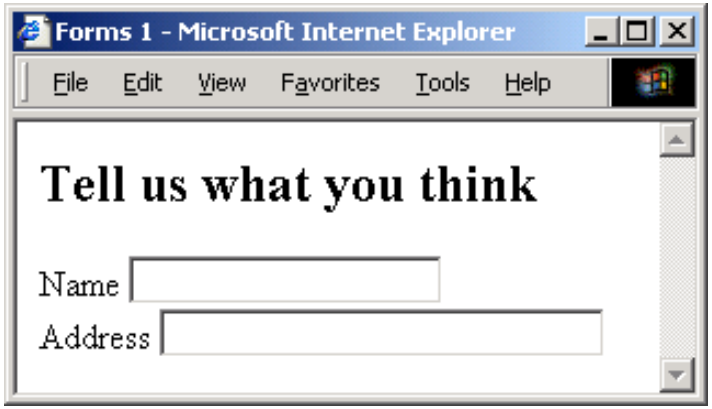
The `method` and `action` attributes

- The **`method`** attribute specifies the way that form data is sent to the server program
  - **`GET`** appends the data to the URL
  - **`POST`** sends the data separately
- The **`action`** attribute specifies a server program that processes the form data (often as a URL)

```
<body>
 <form method="POST" action="comments.php">
  <h2>Tell us what you think</h2>
  <!-- etc -->
 </form>
</body>
```

The `input` element: `type="text"`

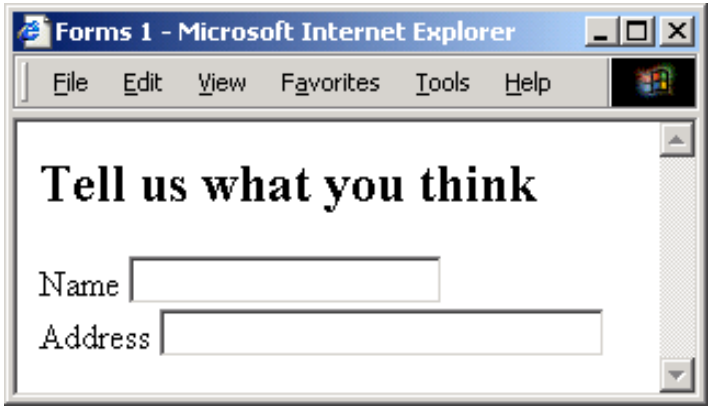
- The `type` attribute specifies the type of user input
- The `name` attribute gives an identifier to the input data




```
<form method="POST" action="comments.php">
  <h2>Tell us what you think</h2>
  Name <input name="name" type="text" size="20" /><br />
  Address <input name="address" type="text" size="30" />
</form>
```

The `input` element: `type="text"`

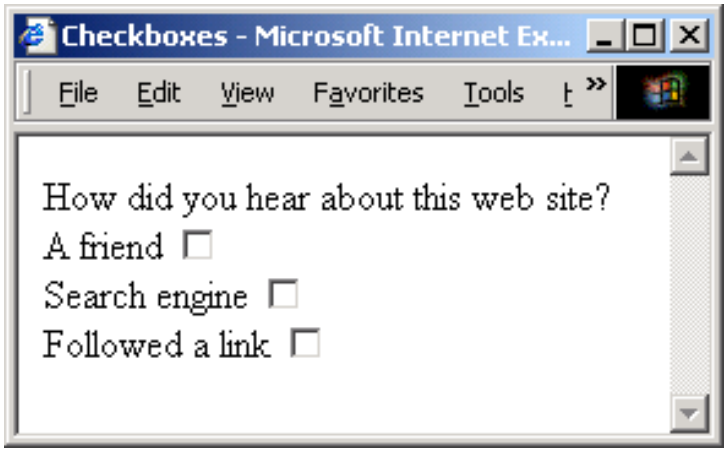
- The `size` attribute specifies the length of the input field
- The `value` attribute specifies an initial value for the text (optional)




```
<form method="POST" action="comments.php">
  <h2>Tell us what you think</h2>
  Name <input name="name" type="text" size="20" /><br />
  Address <input name="address" type="text" size="30" />
</form>
```

The `input` element: `type="checkbox"`

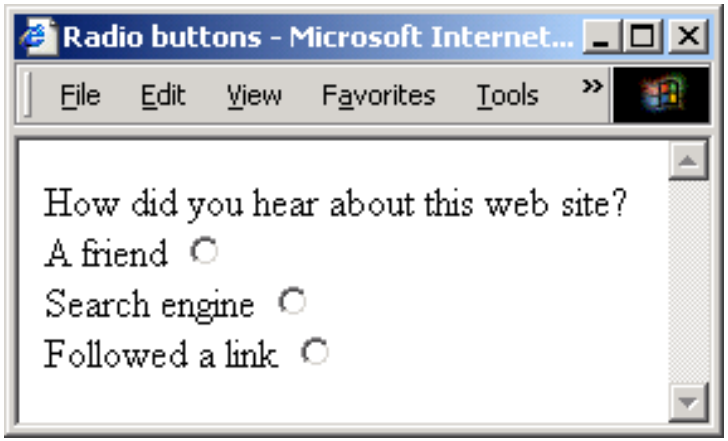
- The **`name`** attribute is used to define a set of checkboxes
- The **`value`** attribute identifies the individual checkbox
- If the **`checked`** attribute is set the box is initially checked




```
How did you hear about this web site?<br>
A friend
<input type="checkbox" name="howdid" value="friend" /><br />
Search engine
<input type="checkbox" name="howdid" value="engine" /><br />
<!- etc -->
```

The `input` element: `type="radio"`

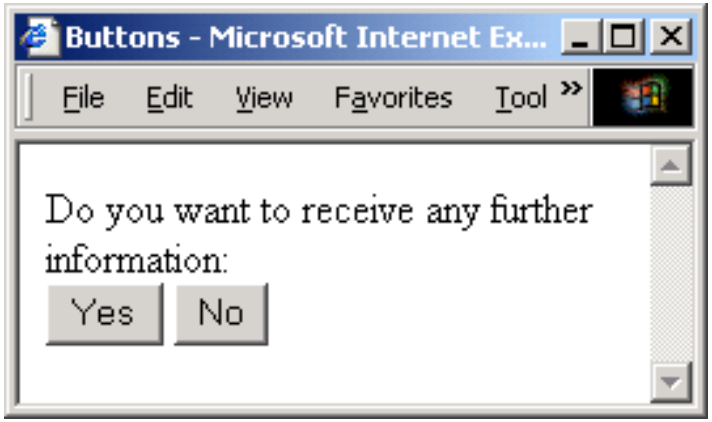
- Radio buttons are similar to checkboxes, but only one can be selected
- To select a button by default, use the **`checked`** attribute (for one button only)




```
How did you hear about this web site?<br />
A friend
<input type="radio" name="howdid" value="friend" /><br />
Search engine
<input type="radio" name="howdid" value="engine" /><br />
<!- etc -->
```

The `input` element: `type="button"`

- The **`name`** attribute uniquely identifies a button
- The **`value`** attribute gives a label to the button
- Actions can be associated with buttons using JavaScript
  - see weeks 5 and 6




```
Do you want to receive any further information:<br />
<input type="button" name="yes" value=" Yes " />
<input type="button" name="no" value=" No " /><br />
```

The `input` element:

`type="submit/reset"`

- **`type="submit"`**
  - clicking this button sends the form data to the program (URL) specified in the **`action`** attribute of the form
- **`type="reset"`**
  - clicking this button clears all data entered so far


```
Thank you<br />
<input type="submit" name="send" value="Send" />
<input type="reset" name="clear" value="Clear" /><br/>
```

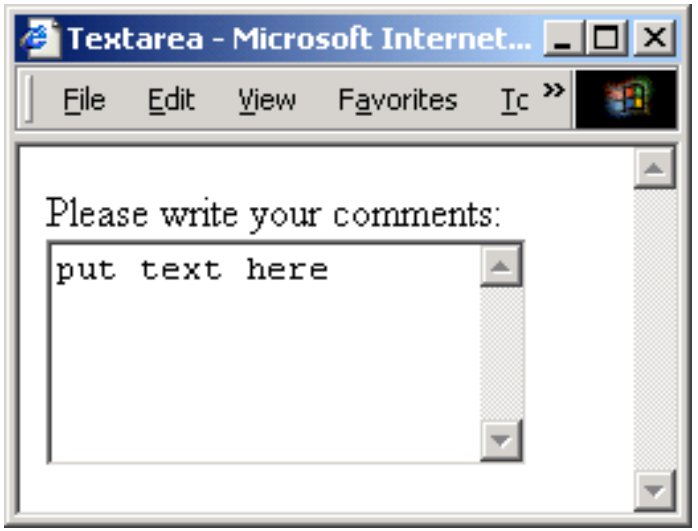
The `input` element:

`type="password/file/hidden"`

- **`type="password"`**
  - similar to **`type="text"`** except that the input is echoed with asterisks (so not visible)
- **`type="file"`**
  - provides a file dialogue box to specify a file that is sent to the server
- **`type="hidden"`**
  - similar to text input, but the **`value`** attribute is used to specify data that is to be sent to the server. Nothing appears on the screen.
  - The data might be set by a server program to keep track of the details of a particular transaction.

The `textarea` element

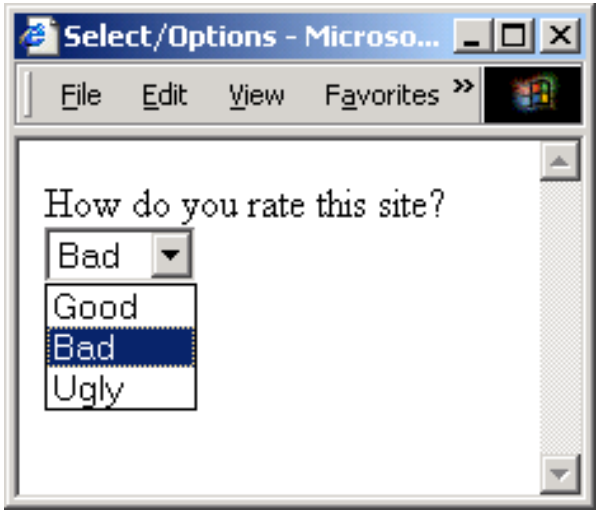
- Used for multi-line text input
- The size of the input area is specified with the **`cols`** and **`rows`** attributes
- Any text placed inside the element appears in the input area (this can be deleted).




```
Please write your comments:<br>
<textarea name="comments" rows="5" cols="20">
  put text here
</textarea>
```

The `select` element

- The **`select`** element provides a menu of options
- An option can be selected by default using the **`selected`** attribute (otherwise the first in the list is initially selected)




```
How do you rate this site?<br>
<select name="rating">
  <option>Good</option>
  <option selected>Bad</option>
  <option>Ugly</option>
</select>
```

Links & Literature HTML

- W3schools: http://www.w3schools.com
- Google “html tutorial” and similar to find lot of more resources on the web
- Check the library: http://library.cf.ac.uk , e.g.:

  Jamsa, Kris A., HTML & Web design [electronic resource] : tips & techniques / Kris Jamsa, Konrad King, Andy Anderson, Boulder, Colo. : NetLibrary 2003

  Castro, Elizabeth, HTML for the world wide web. 5th Edition, Berkeley : Peachpit Press, 2003. Classmark: 005.72 CAS

  Musciano, Chuck., HTML and XHTML, the definitive guide, 5th Edition,O’Reilly, 2002 : QA76.76.H94.M8