UNIT 3 ADVANCED HTML

Structure **Page No.**

3.0 INTRODUCTION

In the previous unit you have learned the basics of HTML. After learning about how to make static web pages, let us now learn how to develop Interactive Web sites. A good web site should be interactive and easy to use and understand. Of course, very simple web sites that merely need to present some static information may not provide for user input. Interactive web sites are those that are capable of taking input from the user and presenting the output on the basis of the inputs given. To be able to do so, you will need more HTML features than have been covered so far. Features like Links, Lists, Tables, Input controls will allow you to create sophisticated web pages that respond dynamically to user input. HTML provides all these features using different tags such as A, UL, OL, INPUT, FRAMESET and others, that you will study in this unit. Besides the tags themselves you will also learn about their common attributes.

3.1 OBJECTIVES

This unit will enable you to create sophisticated, interactive web pages. After going through this unit you will be able to learn:

- links using ANCHOR tag;
- ordered, unordered and definition Lists;
- tables;
- frames to divide a web page into different parts; and
- forms for accepting user input.

3.2 LINKS

Hyperlinks, or links are one of the most important characteristics of web pages. A link moves us from the current page to a destination that is specified in the HTML page.

URL Stands for Universal Resource Locator. A URL is just an address that tells the browser precisely where on the Internet the resource is to be found. The process of parsing the URL and actually connecting to the resource can be somewhat complex and does not concern us here.

Anchor Tag

The Anchor tag is used to create links between different objects like HTML pages, files, web sites etc. It is introduced by the characters <A> and terminated by </A>. HREF is the most common attribute of the ANCHOR tag. It defines the destination of the link.

```
<HTML>
  <HEAD>
    <TITLE>IGNOU</TITLE>
  </HEAD>
  <BODY BGCOLOR="#FFFFFF">
    Go to <A HREF="http://www.ignou.ac.in/">IGNOU!</A>
  </BODY>
</HTML>
```

As shown in Figure 3.1, the text "IGNOU" present between the <A> and </A> tags becomes the hyperlink. On clicking anywhere on this hyperlink, the browser would attempt to connect to the given URL and the website http://www.ignou.ac.in would open, if possible. An email link can be specified in the same way. We just have to specify the email address instead of a page address as the value of HREF as shown in the following code. On clicking on the link, the default mail program on the user's computer opens up with a "To:" address as specified in the hyperlink. You can then type your message and send e-mail to that address.

```
<BODY BGCOLOR="#FFFFFF">
Send me <A HREF="mailto:forrest@bubbagump.com">mail</A>
</BODY>
```

It is also possible to make an image a link if desired. This is done using the <IMG> tag. Consider the following example.

```
<HTML>
  <HEAD>
    <TITLE>IGNOU</TITLE>
  </HEAD>
```

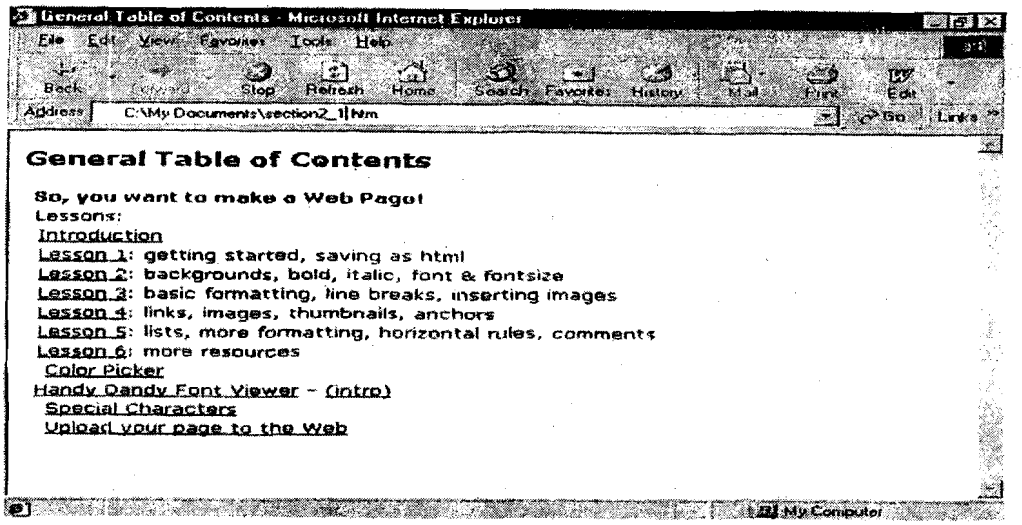
```
<BODY BGCOLOR="#FFFFFF">
  Go to <A HREF="http://ignou.ac.in/"><IMG SRC="image.gif" WIDTH=130
  HEIGHT=101></A>
</BODY>
</HTML>
```

So in the example shown in Figure 3.2, the image becomes the link. When the user clicks on the image, the web site http://www.ignou.ac.in opens up, if possible.

Check Your Progress 1

1. Create a web page that provides links to five different web pages or to entirely different web sites.

2. Write HTML code for the following page (the underlined text is linked to another file called link_text)



3.3 LISTS

Lists are used when the data are to be mentioned in the form of points like: causes of a particular issue, list of items etc. Lists break up the monotony of a long paragraph and direct the reader's attention to the essential parts.

Lists are segregated into three types, namely `Ordered` lists, `Unordered` lists and Definition lists.

3.3.1 Unordered Lists

First, we will build an `unordered` list. Sometimes, these lists are also called bulleted lists. These lists are characterized by list items that do not have numbers. They are used when the points in the list have no particular order. They are delimited by the <UL> and </UL> tags. Each point in the list is delimited by the <LI> and </LI> tags.

```
<HTML>
  <HEAD>
    <TITLE>IGNOU</TITLE>
  </HEAD>
  <BODY BGCOLOR="#FFFFFF">
```

```
    What I want for Id
    <UL>
      <LI>a big red truck</LI>
      <LI>an aeroplane that flies</LI>
      <LI>  a nice soft toy</LI>
      <LI>a drum set</LI>
      <LI>a  Walkman</LI>
      <LI>  extra pocket money</LI>
    </UL>
  </BODY>
</HTML>
```

The syntax of the <UL> tag is:
<UL TYPE=""> where TYPE= "DISC", "SQUARE" or "CIRCLE".
 <LI> </LI>
</UL>

The bullet appearance can be changed to be round (a dark circle), a disc or a circle depending on the value of the TYPE attribute. As shown in the Figure 3.3, the list of items are included within the <UL> and </UL> tags. Each list item must be preceded with a <LI> tag.

3.3.2 Ordered Lists

Lists having numbered items are known as ordered lists. They are used when the items in the list have a natural order. They can also be used when the number of items in the list needs to be known at a glance. To make an **ordered** list, simply change the <UL> tag to <OL>.

```
<HTML>
  <HEAD>
    <TITLE>IGNOU</TITLE>
  </HEAD>
  <BODY BGCOLOR="#FFFFFF">
    What I want for my birthday
    <OL>
      <LI>a big red truck</LI>
      <LI>a toy train</LI>
      <LI>a Barbie doll</LI>
      <LI>a drum set</LI>
      <LI>binoculars</LI>
      <LI>a month's extra pocket money</LI>
    </OL>
  </BODY>
</HTML>
```

The syntax of the <OL> tag is:
<OL TYPE="" START=""> where TYPE= "1", "a", "A", "i", "I" and START is the first item number.
 <LI> </LI>
</OL>

The type of the numbering format desired should be specified as the value of the TYPE attribute. The possible types are shown above in the syntax. The numbering starts from the START attribute's value.

3.3.3 Definition Lists

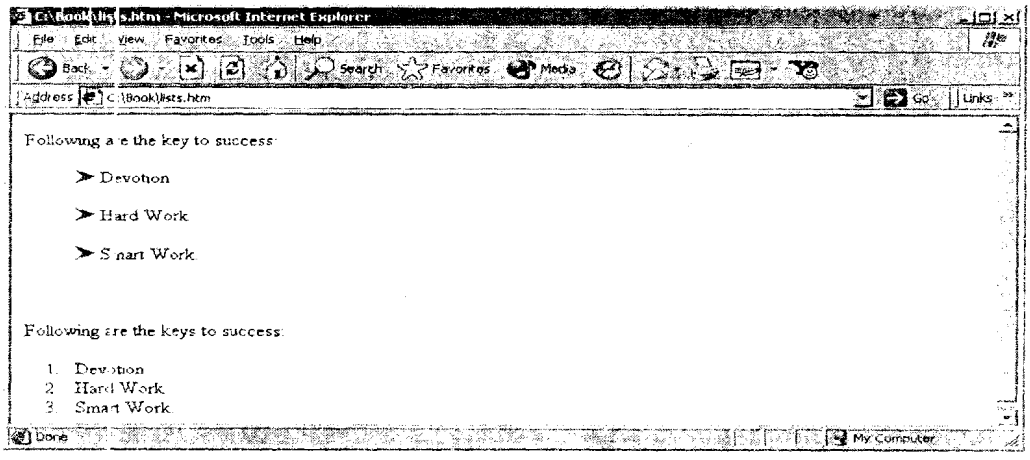
Another type of list is a **definition** list. Definition lists have a heading and the text appears below that.

```
<HTML>
  <HEAD>
    <TITLE>IGNOU</TITLE>
  </HEAD>
  <BODY BGCOLOR="#FFFFFF">
    <DL>
      <DT>10th Amendment </DT>
        <DD>The powers not delegated to the United States by the Constitution, nor
        prohibited by it to the States, are reserved to the States respectively, or to the
        people.
        </DD>
    </DL>
  </BODY>
</HTML>
```

A definition list is introduced by the <DL> tag and terminated by </DL>. The Definition heading should be specified between the <DT> and </DT> tags. The Definition should be specified between <DD> and </DD> tags.

Check Your Progress 2

1. Design a web page that looks similar to following page:



3.4 TABLES

In this section you will see how to put tables in your web documents. It is not that a table is simply a combination of rows and columns. If you have ever seen any table in an attractive web page you might be interested to learn how they make good use of the **<TABLE>** and related tags.

3.4.1 Table, TR and TD Tags

Three tags form the essential ingredients for creating a table.

TABLE: This is the main tag. It tells the browser that a table follows. It has attributes like size and border width.

TR: A TableRow defines a horizontal row that consists of **TableData** *cells*.

TD: This tag specifies an individual block or *cell* in a table row.

Thus a *table* is made up of *rows*, which in turn are made up of *cells*.

<--This---	**----is----**	**----a----**	**---Table---**	**---Row-->**
			Cell	

You are now ready to create some tables! We must stress that if you want to learn how to make quality HTML documents, then you would be spending your time well if you teach yourself the tags. In our opinion the best HTML editors to use for beginners are text-based editors. These editors will force you to code HTML yourself. They don't attempt to do it for you. Once you are an expert, you can use other tools to improve your productivity so that you do not have to handcode your pages.

Now let us start creating tables. The following example shows some tables with different attributes.

```
<HTML>
  <HEAD>
    <TITLE> IGNOU</TITLE>
  </HEAD>
  <BODY>
    <!- - Table with border = 5 - - >
    First: Table with border = 5
    <TABLE BORDER=5>
      <TR>
        <TD>Ajay</TD>
      </TR>
    </TABLE>
    <!- - Table with width = 50%- - >
    Second: Table with width = 50%
    <TABLE BORDER=3 WIDTH=50%>
      <TR>
        <TD>Ajay</TD>
      </TR>
    </TABLE>
    <!- - Table with width = 50 - - >
    Third: Table with width = 50
    <TABLE BORDER=1 WIDTH=50>
      <TR>
        <TD>Ajay</TD>
      </TR>
    </TABLE>
    <!- - Table with height = 75 and align = center and valign=top - - >
    Fourth: Table with height = 75 and align = center and valign=top -
    <TABLE BORDER=3 WIDTH=100 HEIGHT=75>
```

```
    <TR>
      <TD ALIGN=CENTER>Ajay</TD>
    </TR>
  </TABLE>
  <!- - Table with an image- - >
  Fifth: Table with an image
  <TABLE BORDER=3>
    <TR>
      <TD ALIGN=LEFT VALIGN=MIDDLE><IMG SRC="image1.gif"
WIDTH=32
      HEIGHT=32></TD>
    </TR>
  </TABLE>
  <!- - A complete Table with different sized columns- - >
  Sixth: A complete Table with different sized columns
  <TABLE BORDER=3 WIDTH=300 HEIGHT=75>
    <TR>
      <TD WIDTH=60%>Ajay</TD>
      <TD WIDTH=20%>Ramesh</TD>
      <TD WIDTH=20%>Vijay</TD>
    </TR>
    <TR>
      <TD>Pankaj</TD>
      <TD>Vikas</TD>
      <TD>Rohan</TD>
    </TR>
  </TABLE>
</BODY>
</HTML>
```

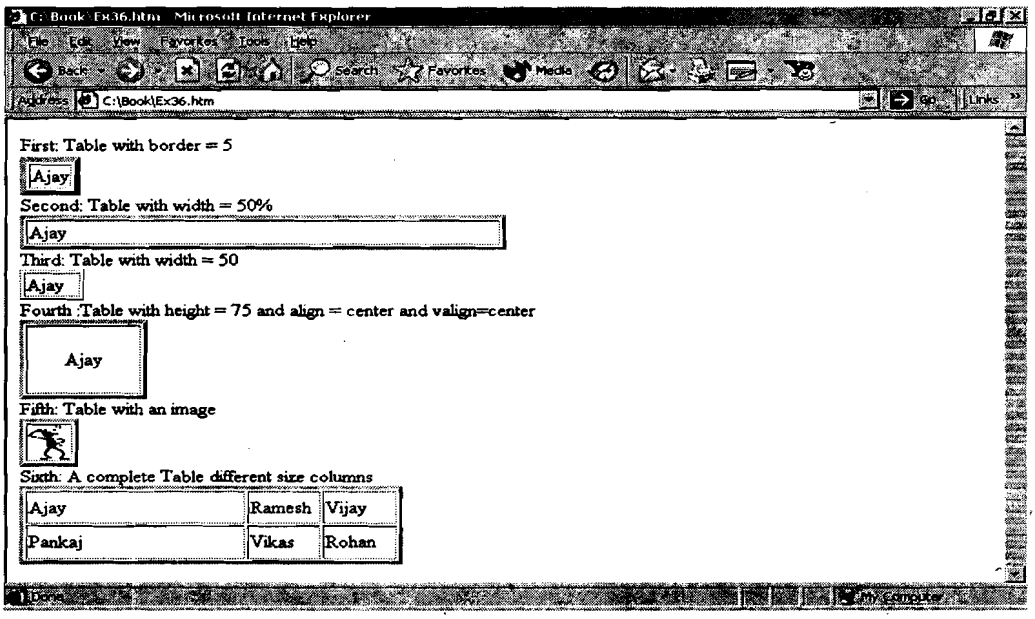


Figure 3.1: Tables with Different Attributes.

In the first table the BORDER attribute is given a value of 5. The default is no border i.e. border = 0.

When no sizes are specified, the table is only as big as it needs to be, as shown in the first and third table in Figure 3.6. Specifying a table size is easy. Let us reduce the table size to 50% of the browser window as has been done in the second example. See

the output in the second table in Figure 3.6. As you can see in the example there are two ways to specify the table width. Each style has its uses.

You can also change the *height* of a table. The fourth table in Figure 3.6 shows the effect of the changed height.

You can control where in the cell the data will appear. For this purpose we use the ALIGN attribute. In the fourth table in Figure 3.6, we have used a *center* alignment. Similarly, *right* and *left* can be used for right and left alignment respectively. The default value is **ALIGN=*left***. This is the value that the browser assumes if you have not told it otherwise.

You can also control where data will appear vertically in a cell. For this purpose you specify the VALIGN attribute. In the fourth table, we have used the value *center*. You can also use *top* or *bottom*. Images can also be placed and manipulated in a table data cell. In the folder that contains the document with the HTML code, substitute an **IMG** tag for text. This is shown in the fifth table. You can also include size attributes with all your image tags. We will not go into the details here, but doing so makes it easier for the browser to display the table and avoids any nasty little surprises while resizing the browser window, for instance.

Now, let us look at multiple rows. Suppose three more friends from across the street see what is going on and want to be in your table. We think we will give them their own row. Each row can be assigned a different width for its columns. In the sixth table we have used 60/20/20 as the relative percentage widths of the three columns. The last table shows how to create a table with multiple rows and columns. The **WIDTH** attributes in the first row carry over to the second row.

3.4.2 Cell Spacing and Cell Padding

Next let us look at a couple of attributes called **CELLPADDING** and **CELLSPACING**. Both are part of the **<TABLE>** tag. **CELLPADDING** is the amount of space between the border of the cell and the contents of the cell. The default value for this attribute is 1. This is so that any text in the cells does not appear to be sticking to the border. However, you can specify a value of 0 if you wish.

The **CELLSPACING** attribute has a somewhat different meaning. It determines the spacing between adjacent cells. Its default value is 2. The following example shows these and some other important attributes of the <TABLE> tag.

```
<HTML>
  <HEAD>
    <TITLE> IGNOU</TITLE>
  </HEAD>
  <BODY>
  First: Table with cellspacing and cellpadding
  <TABLE BORDER=3 CELLSPACING=7 CELLPADDING=7>
    <TR>
      <TD>Ajay</TD>
      <TD>Vijay</TD>
      <TD>Rohan</TD>
    </TR>
    <TR>
      <TD>Pankaj</TD>
      <TD>Vikas</TD>
      <TD>Sanjay</TD>
    </TR>
  </TABLE>
```

```
Second: Table with colspan
<TABLE BORDER=1>
  <TR>
    <TD COLSPAN=2>Ajay</TD>
    <TD>Vijay</TD>
  </TR>
  <TR>
    <TD>Vikas</TD>
    <TD>Pankaj</TD>
    <TD>Rohan</TD>
  </TR>
</TABLE>
Third: Table with rowspan
<TABLE BORDER=1>
  <TR>
    <TD ROWSPAN=2>Ajay</TD>
    <TD>Vijay</TD>
    <TD>Rohan</TD>
  </TR>
  <TR>
    <TD>Pankaj</TD>
    <TD>Deepak</TD>
  </TR>
</TABLE>
Fourth :Table with rowspan and colspan
<TABLE BORDER=1>
  <TR>
    <TD ROWSPAN=2>Ajay</TD>
    <TD COLSPAN=2>Vijay</TD>
  </TR>
  <TR>
    <TD>Pankaj</TD>
    <TD>Rohan</TD>
  </TR>
</TABLE>
Fifth: Table with strong tag and a link in cell's data
<TABLE BORDER=1>
  <TR>
    <TD COLSPAN=3
    ALIGN=CENTER><STRONG><AHREF="http://IGNOU.org/">Ajay</STRO
NG>
    </TD>
  </TR>
  <TR>
    <TD>Vijay</TD>
    <TD>Vikas</TD>
    <TD>Pankaj</TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```

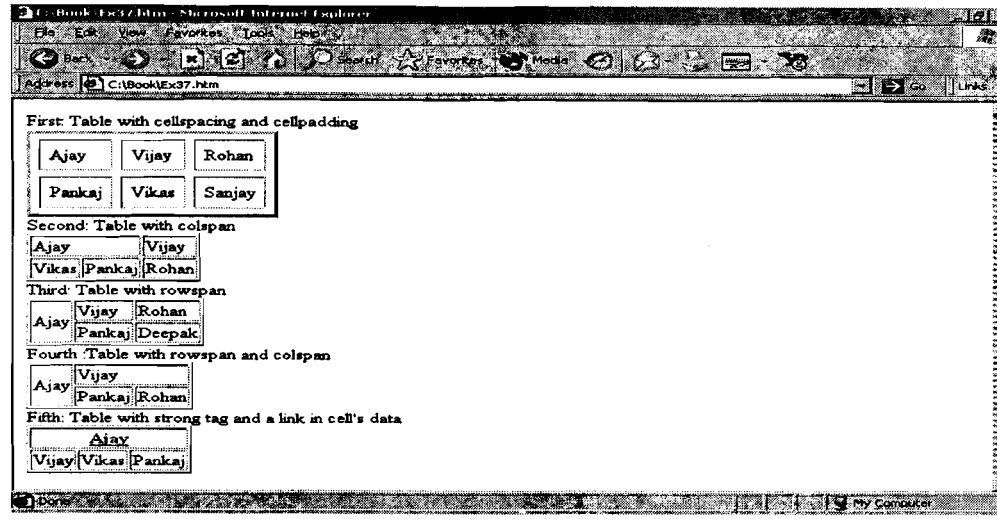


Figure 3.2: Some Important Attributes of the Table Tag Family

The first table in Figure 3.2 illustrates cellspacing and cellpadding.

3.4.3 Colspan and Rowspan

Now let us see how to work with **COLSPAN** (Column Span) and **ROWSPAN** (Row Span).

If we want the cell containing Ajay in Figure 3.2 to be extended to the next cell as well and make that area part of it own, we can use the **COLSPAN** attribute. This amounts to merging the two cells into one. Those of you who are familiar with spreadsheets such as Microsoft Excel will recognize this as similar to its "merge cells" feature. As you may have guessed, **<ROWSPAN>** is just like **<COLSPAN>**. The second table in Figure 3.2 shows COLSPAN, the third table shows ROWSPAN and the fourth table shows an example featuring both COLSPAN and ROWSPAN.

Check Your Progress 3

1. Design a web page that has 3 equal columns. The table should look the same in all screen resolutions.

2. Make out a brief bio-data of yours and code it as an HTML Page. You can consider using tables to show your academic history.

3.5 FRAMES

Now let us understand how to make frames for web documents. The intelligent use of frames can give your pages a cleaner look and make them easier to navigate.

The basic concept goes like this: Each frame is a regular, complete HTML document. If you wanted to lay out your page into two frames placed side by side, then you would put one complete HTML document in the left frame and another complete HTML document in the right frame. In addition you need to write a *third* HTML document. This *MASTER PAGE* contains the **<FRAME>** tags that specify what goes where. Dividing a page into frames is actually quite simple.
There are only two major frame tags that you need to learn: **<FRAMESET>** and **<FRAME>**. The easiest way to explain them is to start making some frames. As an aspiring computer professional, you would be well advised to learn the HTML tags in detail. Do not use HTML editors unless you know HTML, just as you would not let a child use a calculator unless she already knows her arithmetic well. Once you have a

thorough grasp of HTML, you can then save labour by using different tools. The tools might not offer the flexibility that you can get through handcoding HTML. So they should be used judiciously. Of course, this advice is not meant for lay persons who want to make web pages.

We will now need a few HTML documents. We will give each document a name. Create a new folder somewhere and create the first HTML file as **One.htm**. Now make another html document. Save this in the same folder as **Two.htm**. Now do the same for Three, Four, Five, and Six. Save them just like the others. You should now have a folder that contains 6 complete standalone HTML documents.

3.5.1 Frameset

Now make a master page in which you write the following code.

```
<HTML>
<HEAD>
<TITLE>My Frame Page -- The Master Page</TITLE>
</HEAD>
<FRAMESET>
</FRAMESET>
</HTML>
```

Now, save it in your folder (with all the other files) as **index.htm**. If you try to open it with your browser now it will be blank. All you have done so far is make a title.

Now let us start defining just how things are going to look. Tell the browser to split the main window into 2 columns, each occupying 50% of the window.

```
<FRAMESET COLS="50%,50%">
</FRAMESET>
```

This will still give a blank output as you have not specified what goes into the windows. We have one more thing to do before our code displays some output.

3.5.2 Frame Tag

As you can guess, this tag is used for placing an HTML file in the frame created. We must now tell the browser what to put in each frame.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="50%,50%">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
</FRAMESET>
</HTML>
```

You also need to note here that **<FRAMESET>** is a *container* tag, and **<FRAME>** is not. A container tag has an opening **<TAG>** and a closing **</TAG>**. So notice that the <FRAME> tag has no delimiter to terminate it. Everything is in its attributes.

The **<FRAMESET>** tag does all the dividing of the page into different windows. It also has attributes that specify *how* to divide them up. Can we divide the page into more than 2 pieces? Yes, just make sure that you specify a page to occupy each section or the browser will get confused. Look at the code and the output in Figure 3.3.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="20%,20%,20%,20%,20%">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
<FRAME SRC="Three.htm">
<FRAME SRC="Four.htm">
<FRAME SRC="Five.htm">
</FRAMESET>
</HTML>
```

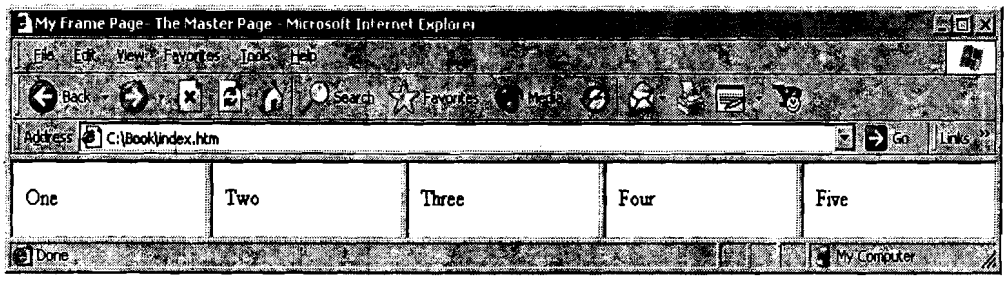


Figure 3.3: A Web Page with Five Frames

It is only a small step to making the frames all of different sizes. Just make sure your arithmetic is correct and that the percentages you specify add up to 100, or the browser will come up with its own interpretation.

If we divide the page into **ROWS** instead of **COLS** we get a different layout.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET ROWS="10%,20%,30%,15%,25%">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
<FRAME SRC="Three.htm">
<FRAME SRC="Four.htm">
<FRAME SRC="Five.htm">
</FRAMESET>
</HTML>
```

Let us now take another example with only 2 frames. We can specify 50 to indicate that number of pixels instead of 50%. We can also use * instead of a number. The * means whatever is left over.

```
<HTML>
<HEAD>
```

```
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="50,*">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
</FRAMESET>
</HTML>
```

When you use frames you have to be very careful to code properly to ensure that all viewers are able to look at reasonably consistent views. Let us suppose that you make a frame 100 pixels wide on the left and 100 pixels wide on the right. If some users are running an 800 × 600 screen they see the middle area as 600 pixels wide. Other users may have a screen set at 640 × 480. What do they see? The middle area for them is only 440 pixels wide. So if you use any absolute dimensions in your **<FRAMESET>** tags you should have at least one * that will produce an elastic frame. That way everything will look at least reasonably good. If you do not do that, your page might need to scroll on one resolution and not on another. As far as possible you might want to avoid absolute values in your frames and work on relative numbers so that things get taken care of automatically by the browser.

We can have more than one leftover frame and specify a size relationship between them. Try it yourself and see the result.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="50,*,2*">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
<FRAME SRC="Three.htm">
</FRAMESET>
</HTML>
```

The above code means: Make 3 frames. Make the first 50 pixels wide. Divide the rest between frames 2 and 3. But make frame 3 twice as big as frame 2. Put One.html/ in the first frame, Two.html/ in the second and Three.html/ in the third.

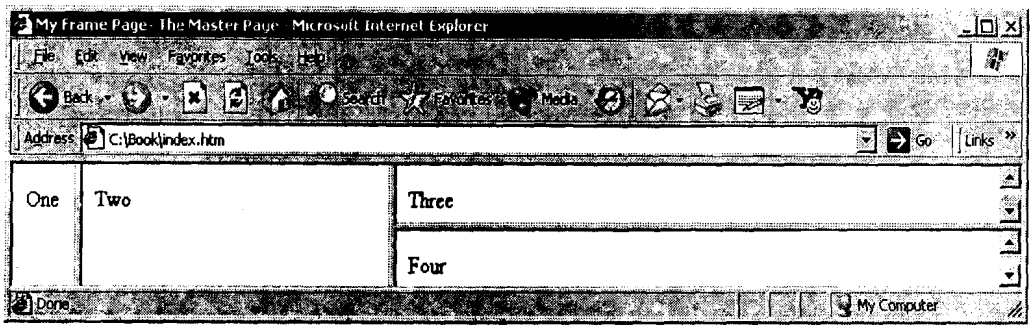
It is important to note that everything is done in order. The first **<FRAME>** is displayed according to the first size attribute in the **<FRAMESET>** tag **(50/One)**, the second frame with the second **(*/Two)** and the third frame with the third attribute set **(2*/Three)**.

Frames inside other frames

Here we will discuss how to divide frames into different frames i.e. how to put horizontal frames in a vertical one and vice-versa. Here we are going to divide a frame in half horizontally.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
```

```
<FRAMESET COLS="50,*,2*">
<FRAME SRC="One.htm">
<FRAME SRC="Two.htm">
<FRAMESET ROWS="50%,50%">
<FRAME SRC="Three.htm">
<FRAME SRC="Four.htm">
</FRAMESET>
</FRAMESET>
```



Here the frame three is at the top and Four at the bottom. This has been done just to illustrate how to achieve the effect and is not meant to suggest that you actually divide up your pages like this. Too many frames on a page do not look good. A good rule of thumb is not to have more than 3 frames on your page. If you can, avoid frames altogether.

3.5.3 Noframes Tag

The <NOFRAMES> tag can be used for those browsers that are not able to interpret <FRAME> tags. Although most, if not all, of your visitors will be able to see frames, there is still a small number of such browsers and there still are many users around who do not have the latest in equipment. To address as wide an audience as possible, you could write a no-frames version of your page.

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="50,*,2*">
<FRAMESET ROWS="50,*,*">
<FRAME SRC="One.htm">
<FRAME SRC="Five.htm">
<FRAME SRC="Six.htm">
</FRAMESET>
<FRAME SRC="Two.htm">
<FRAMESET ROWS="50%,50%">
<FRAME SRC="Three.htm">
<FRAME SRC="Four.htm">
</FRAMESET>
</FRAMESET>
<BODY><NOFRAMES> your browser does not handle frames! </NOFRAMES>
</BODY>
</HTML>
```

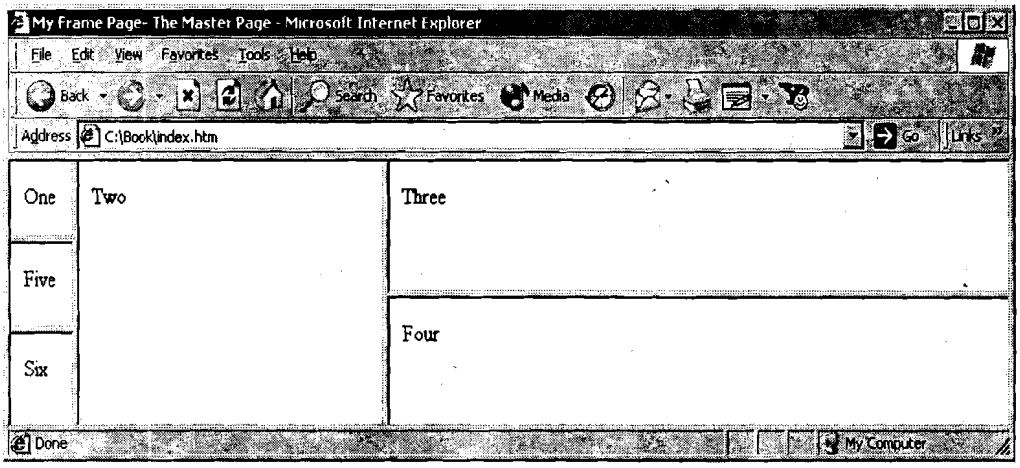


Figure 3. 4: Putting in a NOFRAMES Version

Put your non-frames page down between the <NOFRAMES> tags. If someone is using an old browser, it will skip everything above and come straight down here. Frames-capable browsers will ignore what is between the <NOFRAMES> tags.

We can also put images in the frames. Let us see how to put in **"world.gif"** as an example.

```
<FRAME SRC="world.gif" WIDTH=146 HEIGHT=162>
```

The scrollbars that you see can be specified as **YES**, **NO** or **AUTO**. **YES** means the window gets scrollbars - whether they are needed or not. **NO** means there will be no scrollbars. **AUTO** is the default. If scrollbars are needed, they appear while if they are not needed they stay conveniently out of the way. So let us see how to get rid of our scrollbars.

```
<FRAME SRC="world.gif" WIDTH=146 HEIGHT=162 SCROLLING=NO>
```

You would notice a problem with this code. The image is not in the right frame. The next two attributes deal with *margins*. The browser automatically gives each frame some empty space around its contents. This is normally useful for aesthetic purposes. You can control the size of these margins by using **MARGINWIDTH** and **MARGINHEIGHT**. They control the left and right and top and bottom margins respectively. We will set them both to 1. (1 is the minimum)

```
<HTML>
<HEAD>
<TITLE>My Frame Page- The Master Page</TITLE>
</HEAD>
<FRAMESET COLS="146,*">
<FRAMESET ROWS="162,*">
<FRAME SRC="world.gif" WIDTH=146 HEIGHT=162 SCROLLING=NO
MARGINWIDTH=1 MARGINHEIGHT=1>
<FRAME SRC="One.htm">
</FRAMESET>
<FRAME SRC="Two.htm">
</FRAMESET>
```

3.6 FORMS

Now let us get a grip on how to add interactivity to your web documents by way of the **<FORM>** tag. With this tag you can add to your web pages a guestbook, order forms, surveys, get feedback or put in any other form that you wish.

FORM and INPUT Tag

A good way to learn about forms is to use your notepad editor and create a new HTML document. Save it as **form1.htm** in some folder somewhere. You might want to create a separate folder for learning this tag. Start up your browser. Use it to open **form1.html** and run Notepad and the browser side by side. This way you can create your pages and almost instantaneously see the results of your work, Remember to hit the refresh button on your browser.

Next we must tell the browser where to send the data we gather and how to send it. There are two ways you can do this.

1) You can send the data to a cgi script or use some other mechanism for processing, or

2) You can have the data emailed to you. The first option is outside the scope of discussion of this unit.
   The second, or *mailto,* form should have the following attributes in the **<FORM>** tag.

Note: Microsoft's Internet Explorer 3.0 does not support *mailto* forms. When you try to submit the information, the new mail message window pops up. It does support forms sent to a CGI script.

```
<HTML>
<HEAD>
<TITLE> Welcome to IGNOU </TITLE>
</HEAD>
<BODY>
<FORM METHOD=POST ACTION="mailto:xxx@xxx.xxx"
ENCTYPE="application/x-www-form-urlencoded">
</FORM>
</BODY>
</HTML>
```

The line containing the *mailto* keyword in the Figure 3.17 is very important. The only thing you have to do is specify your email address after *mailto:* The rest must be written exactly as shown. The words FORM, METHOD, POST and ACTION do not have to be capitalized but there must be a space between every two attributes, between FORM and METHOD, between POST and ACTION, and between the e-mail address and ENCTYPE.

Some mail programs are capable of converting the data without needing a separate program. You may want to try this method first. Just remove the instruction

ENCTYPE="application/x-www-form-urlencoded" and in its place use **ENCTYPE="text/plain"**.

The following example shows a general form that includes some of the commonly used controls.

```
<HTML>
<HEAD>
<TITLE> Welcome to IGNOU </TITLE>
</HEAD>
<BODY>
<FORM METHOD=POST>

Text box with name, value and size attributes
<INPUT TYPE=TEXT NAME="ADDRESS" VALUE="44 XYZ" SIZE=10>

<BR>Text box with password and maxlength
<INPUT TYPE=PASSWORD MAXLENGTH=10>

<BR>Radio button with default checked<BR>
Who is your best friend?<BR>
<INPUT TYPE=RADIO NAME="BEST FRIEND" VALUE="Ajay" CHECKED>
Ajay <BR>
<INPUT TYPE=RADIO NAME="BEST FRIEND" VALUE="Rohan"> Rohan <BR>
<INPUT TYPE=RADIO NAME="BEST FRIEND" VALUE="Tarun"> Tarun <P>

<BR>Checkbox<BR>
<INPUT TYPE=CHECKBOX NAME="AJAY" VALUE="YES"> Ajay <BR>
<INPUT TYPE=CHECKBOX NAME="Rohan" VALUE="YES"> Rohan <BR>
<INPUT TYPE=CHECKBOX NAME="BU" VALUE="YES"> Bunty<P>

<BR>Drop down list<BR>
<SELECT NAME="BEST FRIEND" SIZE=4>
<OPTION VALUE="Ajay">Ajay
<OPTION VALUE="Rohan">Rohan
<OPTION VALUE="Tarun">Tarun
<OPTION VALUE="Gagan">Gagan
<OPTION VALUE="Harish">Harish
<OPTION VALUE="Manjit">Manjit

</SELECT>

</FORM>

</HTML>
```

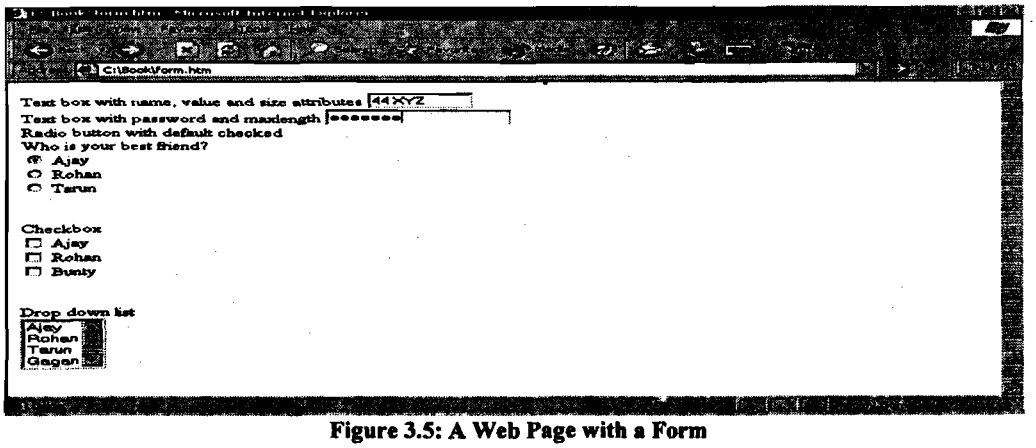


Figure 3.5: A Web Page with a Form

3.6.2 Text Box

The <INPUT> tag is used to indicate where user input is expected. It has different attributes, of which the TYPE attribute is used to specify the kind of input that is to be provided. The most common value of this attribute of the <INPUT> tag is TEXT. As shown in Figure 3.18, every INPUT needs a NAME. When the user types in his address (for example 1234 ABC), it will become the input's *value* and be paired with NAME so the end result after running it through the *Mailto* Formatter will be ADDRESS=1234 ABC.

We can, if we want, type in a VALUE.

<INPUT TYPE=TEXT NAME="ADDRESS" VALUE="44 XYZ">

This will automatically pair the value 44 XYZ with the name ADDRESS, unless the user changes it. Take care to use quotes as specified in the example.

We can specify the size of the text input box.

<INPUT TYPE=TEXT NAME="ADDRESS" VALUE="44 XYZ" SIZE=10>

The default value is 20. You already know that the *default value* is the value that the browser assumes if you have not told it otherwise.

Go ahead and remove VALUE="44 XYZ".
If we want, we can specify how many characters a user can input.
Experiment with this and try to input more than 10 characters! The MAXLENGTH attribute is used to restrict the number of characters to be entered in the textbox.

<INPUT TYPE=TEXT NAME="ADDRESS" SIZE=20 MAXLENGTH=10>

Very similar to the TYPE=TEXT is the TYPE=PASSWORD. It is exactly the same, except that for security it displays *** instead of the actual input. The text entered as password would not be echoed on the page. So you can use this whenever you want to accept a password or some other sensitive information from the user.

<INPUT TYPE=PASSWORD>

Remember that each <INPUT> must have a NAME**, that gives the name of the field.**

<INPUT TYPE=PASSWORD NAME="USER PASSWORD">

The SIZE, VALUE, and MAXLENGTH attributes work here also just as they do with TEXT

3.6.3 Radio Button

Radio buttons are used when only one out of the group of options is to be chosen. In the example code we have put a line break after each button.

Each of the Radio Buttons must be assigned a VALUE and you must label each button. The code given in Figure 3.18 illustrates this. You can also modify these labels with other HTML tags if you wish.

This takes care of the basics of your radio buttons. You can tidy things up by adding a statement above the buttons, and if you want choose a default selection (optional). To choose a default selection you need to add "CHECKED" with the appropriate radio button. The user of course can only choose one option. The choice will be returned to you as the name/value pair BEST FRIEND=Ajay (or whatever the user picks).

3.6.4 Checkbox

Checkboxes are used when one or more out of the group of options is to be chosen. Building Check boxes is very similar to radio buttons. Figure 3.18 illustrates the use of Checkbox.

The user can choose any number such as 1, 2, none or all of the options. The choices will be returned to you as the name/value pairs
Ajay=YES
Tarun=YES
(or whatever the user chooses. If nothing, nothing will be returned to you)

The following is code for making a table containing different options for 3 different questions. Try it yourself and see the result.

```
<CENTER>
<TABLE WIDTH=600 BORDER=1 CELLSPACING=1><TR>
<TD WIDTH=199>
Which of these guys are your friends?<BR>
<INPUT TYPE=CHECKBOX NAME="Friend?..Ajay" VALUE="YES"> Ajay
<BR>
<INPUT TYPE=CHECKBOX NAME="Friend?..Rohan" VALUE="YES"> Rohan
<BR>
<INPUT TYPE=CHECKBOX NAME="Friend?..Tarun" VALUE="YES">
Tarun<BR>
<INPUT TYPE=CHECKBOX NAME="Friend?..BU" VALUE="YES"> Bunty<P>
</TD>
<TD WIDTH=200>
Which of these guys would you lend money to?<BR>
<INPUT TYPE=CHECKBOX NAME="Lend money?...Ajay" VALUE="YES">
Ajay <BR>
<INPUT TYPE=CHECKBOX NAME="Lend money?...Rohan" VALUE="YES">
Rohan <BR>
<INPUT TYPE=CHECKBOX NAME="Lend money?...Tarun" VALUE="YES">
Tarun<BR>
<INPUT TYPE=CHECKBOX NAME="Lend money?...BU" VALUE="YES">
Bunty<P>
</TD>
<TD WIDTH=199>
Which of these guys would you trust with your sister?<BR>
<INPUT TYPE=CHECKBOX NAME="Date sister?...Ajay" VALUE="YES"> Ajay
<BR>
<INPUT TYPE=CHECKBOX NAME="Date sister?...Rohan" VALUE="YES">
Rohan <BR>
<INPUT TYPE=CHECKBOX NAME="Date sister?...Tarun" VALUE="YES">
Tarun<BR>
<INPUT TYPE=CHECKBOX NAME="Date sister?...BU" VALUE="YES">
Bunty<P>
</TD>
```

```
</TR></TABLE>
</CENTER>
```

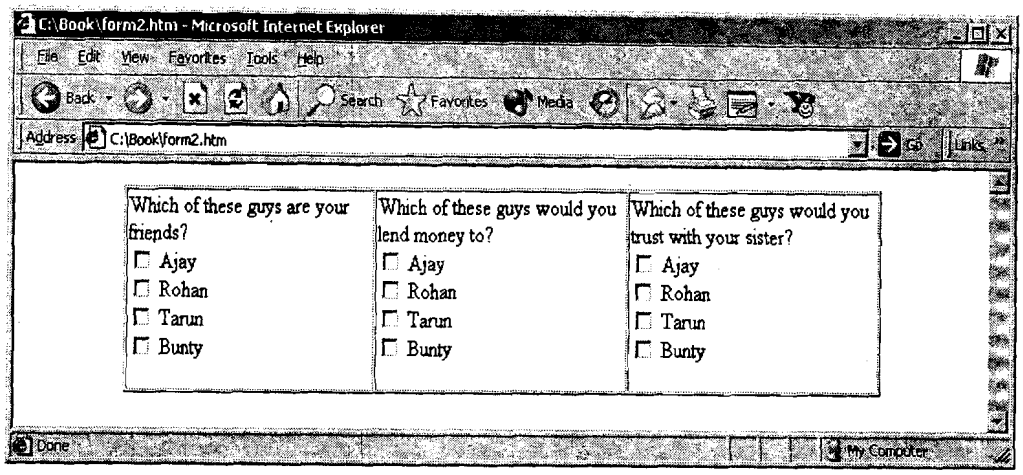


Figure 3.6: A Form on a Web Page with Checkboxes

3.6.5 SELECT Tag and Pull Down Lists

The next type of input is a Pull Down List. With this type you have to use <SELECT> instead of <INPUT> and it also has a closing tag. This control is used when we have a long list of items to be displayed. The user can also choose any item. All we have to do to turn it into a Scrolling List is to add a SIZE attribute to the <SELECT> tag. The SIZE is simply how many options show in the window.

3.6.6 Hidden

Yet another type of input is HIDDEN input.

<INPUT TYPE=HIDDEN NAME="FORMNAME" VALUE="Friend Form 1">

A HIDDEN input is a name/value pair that is returned to you but does not show up anywhere on the web page. The hidden input above is needed for use with the *mailto* Formatter (MTF). It is how MTF recognizes the forms it has to parse.

Suppose you were a company trying to generate leads for a new product. You have a standard form for gathering information that has name, company, phone, products interested in, etc. The only problem is there are 6 slightly different versions of the form in 6 different places. You need to know what is coming from where. What to do?

You could add a HIDDEN input to your forms like this:

```
<HTML>
<BODY>
<FORM METHOD=POST>
<INPUT TYPE=HIDDEN NAME="FORMNAME" VALUE="Version 1"> ...for the
first version
<INPUT TYPE=HIDDEN NAME="FORMNAME" VALUE="Version 2"> ...for the
second version
<INPUT TYPE=HIDDEN NAME="FORMNAME" VALUE="Version 3"> ...for the
third version
</FORM>
</HTML>
```

By the way, it doesn't matter what the name/value pair in the hidden input is (or *any* input for that matter).

<INPUT TYPE=HIDDEN NAME="E" VALUE="Mc^2"> **HIDDEN** inputs are also useful for cgi scripts. For example, many Internet Service Providers have a script you can have your forms sent to. It then sends the form back to you properly formatted. The hidden input can be used to tell the cgi script who you are, where to send the parsed data, and so on.

3.6.7 Submit and Reset

Submit and Reset are special types of input buttons. Submit is used to send the data to the server and Reset clears/resets the form.

<INPUT TYPE=SUBMIT>
<INPUT TYPE=RESET>

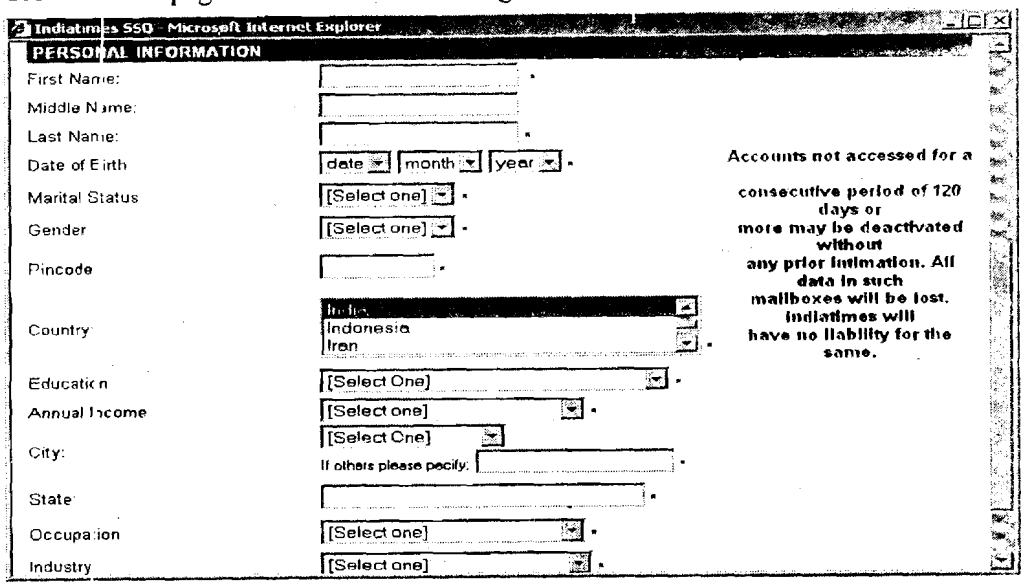
We can easily change what the buttons say.

<INPUT TYPE=SUBMIT VALUE="Send it off!">
<INPUT TYPE=RESET VALUE="Clear the form!"><P>

If necessary, the SUBMIT button can also have a NAME. You would need this if, for whatever reason, you had more than one SUBMIT button.

Check Your Progress 4B

Create a Web page similar to the following:



Its solution is at Page No. 83.

3.7 SOME SPECIAL TAGS

We now look at some new tags that have been added to HTML in the latest versions.

3.7.1 COLGROUP

<COLGROUP> defines a group of columns in the table and allows you to set the properties of those columns. <COLGROUP> goes immediately after the <TABLE> tag and before any <TR>. <COLGROUP> works very much like <COL>, but you should note that <COLGROUP> requires both an opening and a closing tag.

<TABLE BORDER=1 CELLPADDING=4 RULES=GROUPS FRAME=BOX>

<COLGROUP></COLGROUP>
<COLGROUP SPAN=3></COLGROUP>

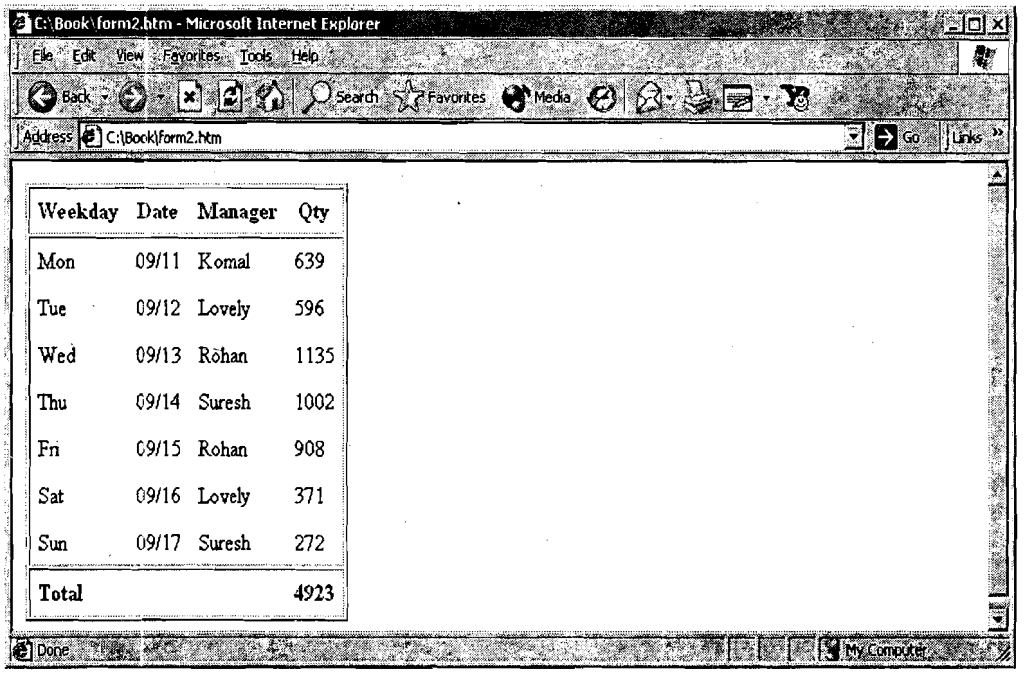
3.7.2 THEAD, TBODY, TFOOT

<THEAD>, <TBODY>, and <TFOOT> form groups of rows. <THEAD> indicates that a group of rows are the header rows at the top of the table. <TBODY> indicates that a group of rows are body rows. <TFOOT> indicates that a group of rows are the footer rows at the bottom of the table.

The most popular use for these three tags, which are currently only recognized by MSIE 4 and up, is to put borders between groups of rows instead of between every two rows. For example, suppose you have a table in which you want borders around the top row, the bottom row, and around the entire block of rows in between. You could do that with the following code. Note that in addition to <THEAD>, <TBODY>, and <TFOOT> you also must use <TABLE RULES=GROUPS>. The following example shows the use of these tags:

```
<HTML>
<BODY>
<TABLE CELLPADDING=6 RULES=GROUPS  FRAME=BOX>
<THEAD>
<TR> <TH>Weekday</TH> <TH>Date</TH> <TH>Manager</TH>
<TH>Qty</TH> </TR>
</THEAD>
<TBODY>
<TR> <TD>Mon</TD> <TD>09/11</TD> <TD>Komal</TD>  <TD>639</TD>
</TR>
<TR> <TD>Tue</TD> <TD>09/12</TD> <TD>Lovely</TD> <TD>596</TD>
</TR>
<TR> <TD>Wed</TD> <TD>09/13</TD> <TD>Rohan</TD>  <TD>1135</TD>
</TR>
<TR> <TD>Thu</TD> <TD>09/14</TD> <TD>Suresh</TD>  <TD>1002</TD>
</TR>
<TR> <TD>Fri</TD> <TD>09/15</TD> <TD>Rohan</TD>  <TD>908</TD>
</TR>
<TR> <TD>Sat</TD> <TD>09/16</TD> <TD>Lovely</TD> <TD>371</TD>
</TR>
<TR> <TD>Sun</TD> <TD>09/17</TD> <TD>Suresh</TD>  <TD>272</TD>
</TR>
</TBODY>
<TFOOT><TR> <TH ALIGN=LEFT COLSPAN=3>Total</TH> <TH>4923</TH>
</TR></TFOOT>
</TABLE>
```

</HTML>



Weekday	Date	Manager	Qty
Mon	09/11	Komal	639
Tue	09/12	Lovely	596
Wed	09/13	Rohan	1135
Thu	09/14	Suresh	1002
Fri	09/15	Rohan	908
Sat	09/16	Lovely	371
Sun	09/17	Suresh	272
Total			**4923**

Figure 3.7: Using the THEAD, TBODY and TFOOT Tags

3.7.3 _blank, _self, _parent, _top

These all are attributes of the <A> tag. The following example explains each of these attributes.

```
<HTML>
<BODY>
<UL>
<LI>TARGET = "_blank"</LI>
<A HREF="newwindow.html" TARGET="_blank">a new window</A> <BR>

<LI> TARGET = "_self"</LI>
go to <A HREF="selftarget.html" TARGET="_self">next</A> page<BR>

<LI>TARGET = "_top"</LI>
<A HREF="selftarget.html" TARGET="_top">top</A><BR>
</UL>
</HTML>
```

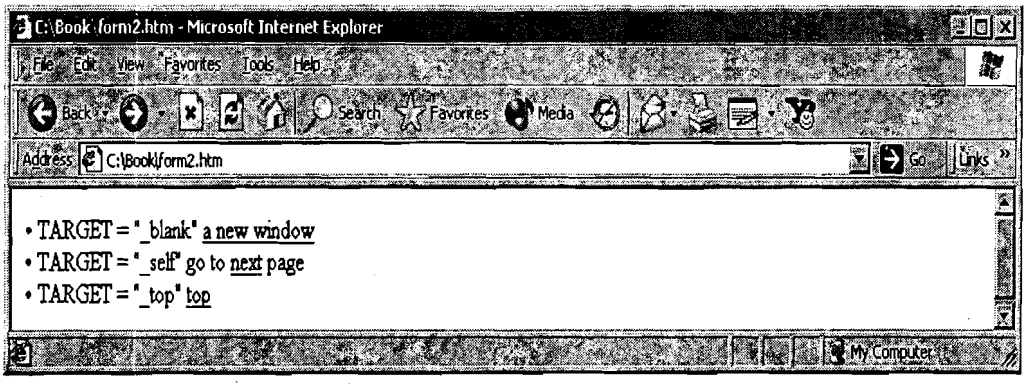


Figure 3.8: Attributes of the <A> Tag

- **TARGET = "_blank"**

"_blank" opens the new document in a new window. Run the code given in Figure 3.22 and check how it works. This value does not require the use of any frames. "_blank" is popular in web pages which are devoted to links to "other resources on the net". By opening a new window for each resource, the user has a sense of a "main" page (the list of resources) and "secondary" pages (each individual resource). Also, the web site providing the link does not risk being supplanted by a link that it has provided.

Note: Some versions of MSIE do not support "_BLANK"

- **TARGET = "_self"**

"_self" puts the new document in the same window and frame as the current document. "_self" works the same as if you had not used TARGET at all. For an example see Figure 3.22.

- **TARGET = "_parent"**

"_parent" is used in a situation where a frameset file is nested inside another frameset file. A link in one of the inner frameset documents which uses "_parent" will load the new document where the inner frameset file had been.

If the current document's frameset file does not have any "parent", then "_parent" works exactly like "_top": the new document is loaded in the full window. Note that "_parent" does not work in a frameset, which is merely nested inside another frameset in the same frameset file.

- **TARGET = "_top"**

"_top" loads the linked document in the topmost frame, that is, the new page fills the entire window.
Refer to Figure 3.22.

3.7.4 IFRAME

<IFRAME> is an HTML 4.0 addition to the frames toolbox. Currently only MSIE supports <IFRAME>. Unlike frames created using <FRAMESET> and <FRAME>, <IFRAME> creates a frame that sits in the middle of a regular non-framed web page. <IFRAME> works like <IMG>, only instead of putting a picture on the page, it puts another web page.

For example, suppose within the same directory as this page there is a file called "hello.html". This code puts hello.html into an inline frame:

<IFRAME SRC="hello.html" WIDTH=450 HEIGHT=100>

If you can see this, your browser does not understand IFRAME. However, we'll still link <A HREF="hello.html">link</A> you to the file.

</IFRAME>
which gives us this inline frame:

Here's what the code means:

IFRAME

The name of the <IFRAME> tag
SRC="hello.html"
The URL of the document to show in the inline frame.

WIDTH=450 HEIGHT=100
The dimensions of the inline frame.

If you can see this, your browser doesn't understand IFRAME. However, we'll still <A HREF="hello.html">link</A> you to the file.

Code between <IFRAME> and </IFRAME> is not displayed by browsers that understand <IFRAME>. Browsers that do not understand <IFRAME> will display this code (because they don't know how to ignore it).

You can do most of the things with <IFRAME> that you can do with regular frames, including setting the frame border, internal margins, and setting information on scroll bars. You can use the attribute so that you can set links to the target frame.

3.7.5 <LABEL>

<LABEL>, an HTML 4.0 element supported by MSIE and Netscape 6, defines a set of text that is associated with a particular form element. For example, the code below indicates that the phrase "send more information" is associated with the "moreinfo" checkbox because the checkbox is within the <LABEL> element:

```
<HTML>
<BODY>
<LABEL FOR="moreinfo">
send more information
<INPUT NAME="moreinfo" TYPE=CHECKBOX ID="moreinfo">
</LABEL>
</HTML>
```

The FOR attribute is required in the above example. The value of FOR should be the same as the value of ID in the form field that the label applies to.

You can also associate a <LABEL> with a field that is not within its contents using the FOR attribute.

3.7.6 Attribute for <SELECT>

TABINDEX = ***integer***
TABINDEX is supported by MSIE 4.x and higher and Netscape 6.

Normally, when the user tabs from field to field in a form (in a browser that allows tabbing, not all browsers do) the tab order is the order in which the fields appear in the HTML code.

However, sometimes you want the tab order to flow a little differently. In that case, you can number the fields using TABINDEX. The tabs then flow in order from the one with the lowest TABINDEX to the highest.

The code below illustrates this:

```
<HTML>
<BODY>
<TABLE BORDER CELLPADDING=3 CELLSPACING=5
BGCOLOR="#FFFFCC">
<TR>
```

```
   <TD>name: <INPUT NAME="realname" TABINDEX=1></TD>
   <TD ROWSPAN=3>comments<BR>
   <TEXTAREA COLS=25 ROWS=5
TABINDEX=4></TEXTAREA></TD></TR>
<TR> <TD>email: <INPUT NAME="email" TABINDEX=2></TD></TR>
<TR> <TD>department: <SELECT NAME="dep" TABINDEX=3>
   <OPTION VALUE="">...
   <OPTION VALUE="mkt">Marketing
   <OPTION VALUE="fin">Finance
   <OPTION VALUE="dev">Development
   <OPTION VALUE="prd">Production</SELECT></TD></TR>
</TABLE>

</HTML>
```

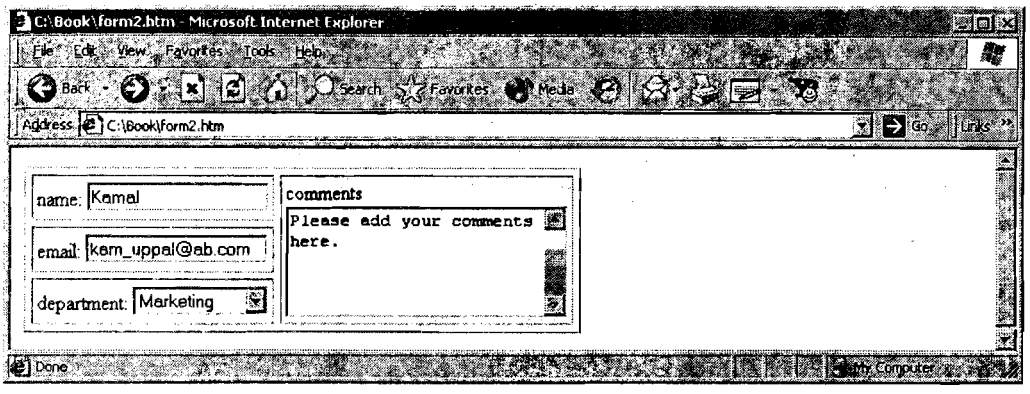


Figure 3.9: Changing the Tabbing Order with TABINDEX

TABINDEX can also be used with <A>, <INPUT>, <TEXTAREA>, and <BUTTON>.

3.7.7 TEXTAREA

<TEXTAREA> indicates a form field where the user can enter large amounts of text. In most respects, <TEXTAREA> works like an <INPUT> field. It can have a name and a default value. It has to be noticed that <TEXTAREA> is a container tag, so it has a start tag and an ending tag.

In its simplest form, <TEXTAREA> requires the NAME, COLS and ROWS attributes, and nothing between <TEXTAREA ...> and </TEXTAREA>. Look at the code fragment shown below

```
<FORM ACTION="../cgi-bin/mycgi.pl" METHOD=POST>
your comments:<BR>
<TEXTAREA NAME="comments" COLS=40 ROWS=6></TEXTAREA>

<P><INPUT TYPE=SUBMIT VALUE="submit">
</FORM>
```

gives us this form:

your comments:

The matter between <TEXTAREA ...> and </TEXTAREA> are used as the default value

```
<FORM ACTION="../cgi-bin/mycgi.pl">
your response:<BR>
<TEXTAREA NAME="comments" COLS=40 ROWS=6>
Kamal said
```

: I think it's a great idea
: but it needs more thought
</TEXTAREA>

<P><INPUT TYPE=SUBMIT VALUE="submit">
</FORM>
gives us your response:

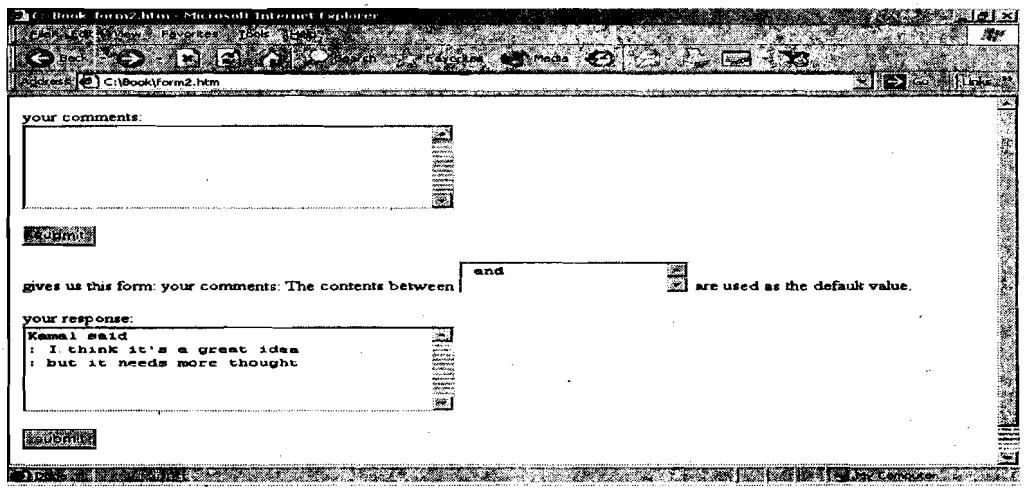


Figure 3.10: Using the TEXTAREA Tag

The contents are interpreted as text only; HTML markup is ignored. Theoretically the user can type unlimited amounts of text into the textarea field. In practice the browser sets a limit that is usually no more than 32 K. If you want users to send in their latest novel, consider using some file upload mechanism.

Case Study: Suppose your boss has asked you to create a Web page from which customers can order computer equipment. You need to collect the customer's name, address, phone number, age, credit card information, and what the customer wants to order.

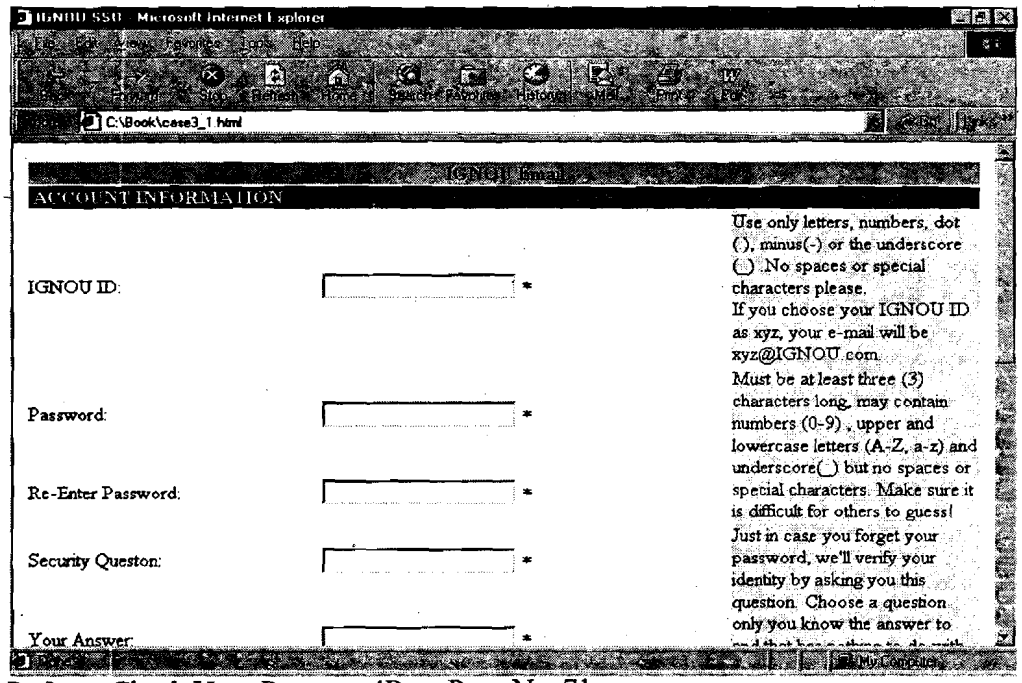
```
<HTML>
  <HEAD>
    <TITLE>ComputoRama Order Form</TITLE>
  </HEAD>
  <BODY>
    <FORM ACTION="mailto:mail@abc.com" METHOD=POST>
      <TABLE BORDER="2" CELLPADDING="1">
        <TR>
          <TD ROWSPAN="2">Who Are You?</TD>
          <TD><INPUT TYPE="text" NAME="FirstName" SIZE=2Ø></TD>
          <TD><INPUT TYPE="text" NAME="MiddleInitial" SIZE=1></TD>
          <TD><INPUT TYPE="text" NAME="LastName" SIZE=2Ø></TD>
          <TD><INPUT TYPE="text" NAME="Age" SIZE=3></TD>
        </TR>
        <TR>
          <TD><FONT SIZE="-2">First Name</FONT></TD>
          <TD><FONT SIZE="-2">MI</FONT></TD>
          <TD><FONT SIZE="-2">Last Name></TD>
          <TD><FONT SIZE="-2">Age</TD>
        </TR>
        <TR>
          <TD ROWSPAN="3">How Do We Contact You?</TD>
          <TD COLSPAN="4" VALIGN="TOP">Street Address: <TEXTAREA
```

```
            name="StreetAddress" rows=2 cols=3Ø></TEXTAREA></TD>
          </TR>
          <TR>
            <TD COLSPAN="2">City: <INPUT TYPE="text" NAME="City"
            SIZE=20></TD>
            <TD COLSPAN="2">State: <INPUT TYPE="text" NAME= "State"
            SIZE=2></TD>
          </TR>
          <TR>
            <TD COLSPAN="2">ZIP Code: <INPUT TYPE="text"
NAME="ZIPCode"
            SIZE=10></TD>
            <TD COLSPAN="2">Daytime Phone
              (<INPUT TYPE="text" NAME="Phone1" SIZE=3>)
              <INPUT TYPE="text" NAME="Phone2" SIZE=3>-
              <INPUT TYPE="text" NAME="Phone3" SIZE=4></TD>
          </TR>
          <TR>
            <TD>Credit Card
              <INPUT TYPE="radio" NAME="CreditCardType" VALUE="Visa"
              CHECKED>Visa
              <INPUT TYPE="radio" NAME="CreditCardType"
              VALUE="MasterCard">M/C</TD>
            <TD COLSPAN="2" ALIGN="CENTER">
              <INPUT TYPE="text" NAME="CreditCardNumber1" SIZE=4>
              <INPUT TYPE="text" NAME="CreditCardNumber2" SIZE=4>
              <INPUT TYPE="text" NAME="CreditCardNumber3" SIZE=4>
              <INPUT TYPE="text" NAME="CreditCardNumber4"
SIZE=4></TD>
            <TD COLSPAN="2">Expiration Date:
              <INPUT TYPE="text" NAME="ExpirationMonth" SIZE=2>/
              <INPUT TYPE="text" NAME="ExpirationYear" SIZE=2></TD>
          </TR>
          <TR>
            <TD>Merchandise</TD>
            <TD COLSPAN=4><SELECT MULTIPLE NAME="Merchandise"
SIZE=1>
              <OPTION SELECTED> HAL-47Ø <OPTION> Banana9ØØØ
              <OPTION> High Res Monitor <OPTION> Low Res Monitor
              <OPTION> Deluxe Keyboard <OPTION> Regular Keyboard
              <OPTION> Laser Printer <OPTION> Inkjet Printer <OPTION>
              Dot Matrix Printer
              <OPTION> Mouse <OPTION> Trackball
              <OPTION> Scanner
              </SELECT></TD>
          </TR>
          <TR>
            <TD ALIGN=CENTER COLSPAN="5">
              <H1>Thank You For Your Order!</H1>
            </TD>
          </TR>
        </TABLE>
        <CENTER>
          <INPUT TYPE="submit" VALUE="Ship It!"> <INPUT TYPE="reset"
          VALUE="Clear Entries">
        </CENTER>
      </FORM>
```

```
</BODY>
</HTML>
```

Check Your Progress 4A

Suppose you are asked to design a registration form for members of a web site. Registration information will include hobbies, interests, assets owned by the member etc. Create the following Web page.**(Case study)**



Refer to Check Your Progress 4B on Page No. 71.

3.8 SUMMARY

In this unit we have learned some important and advanced topics of HTML. You should now be able to develop interactive Web pages also. We have discussed ways of linking to different locations in a Web site. We have learned about lists that allow us to develop Web pages with elementary data. Lists can be of three types i.e. Ordered Lists, Unordered Lists and Definition Lists. We all know how important a table is in any document -- from someone's bio data to a Chief Executive's report a table is the simplest way to understand the information. If we display the data in paragraph form then it would look unorganized and would be difficult to comprehend. On the other hand, a table presents all the data at a glance. We have also seen how frames are used to divide a page into multiple sections. For example if we want to create a Web page that contains information on three different topics, then we could use frames.

One of the most important points in Web pages is the interaction with the end user. For creating interactive Web pages we use Forms. In a form we can have different controls like Text box, Radio buttons, check box, drop down lists etc. All these controls allow us to interact with the user accept inputs from the user. In the final section we have learned about some of the recently introduced tags that are available in the latest version of HTML.

3.9 SOLUTIONS/ ANSWERS

Check Your Progress 1

1. Following is the code to design a Web page that provides links to five different Web sites.

```
<HTML>
<TITLE> Link to five different Web sites </title>
<BODY>
Web site 1 <A HREF="http://www.hotmail.com/">Hotmail</A>
Web site 2 <A HREF="http://www.google.com/">google</A>
Web site 3 <A HREF="http://www.astalavista.com/">altavista</A>
Web site 4 <A HREF="http://www.education.com/">education</A>
Web site 5 <A HREF="http://www.computer.com/">computer</A>
</BODY>
</HTML>
```

2. Following is the code for the given page

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<B><FONT SIZE=5><P>GENERAL TABLE OF CONTENTS</P>
</FONT><P>So, you want to make a Web page</P></B> LESSONS:
<P><A HREF="../../makapage/introduction.htm">Introduction</A></P>
<P><A HREF="../../makapage/lesson01.html">Lesson 1</A>: getting started, saving
as html <BR>
<A HREF="../../makapage/lesson02.html">Lesson 2</A>: backgrounds, bold, italic,
font &amp;amp; fontsize <BR>
<A HREF="../../makapage/lesson03.html">Lesson 3</A>: basic formatting, line
breaks, inserting images <BR>
<A HREF="../../makapage/lesson04.html">Lesson 4</A>: links, images, thumbnails,
anchors <BR>
<A HREF="../../makapage/lesson05.html">Lesson 5</A>: lists, more formatting,
horizontal rules, comments <BR>
<A HREF="../../makapage/lesson06.html">Lesson 6</A>: more resources <BR>
<A HREF="../../makapage/picker/index.html">Color Picker</A> <BR>
<A HREF="../../makapage/dafonts/master.html">Handy Dandy Font Viewer</A> -
<A HREF="../../makapage/dafonts/index.html">(intro)</A> <BR>
<A HREF="../../makapage/special.html">Special Characters</A> <BR>
<A HREF="../../makapage/upload.html">Upload your page to the Web</A> </P>
<P>&amp;nbsp;</P>
<FONT SIZE=2><P> </P></FONT></BODY>
</HTML>
```

Check Your Progress 2

Code of the given page

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<P> Following are the key to success: </P>
<UL>
<LI><img src = “arrow.gif”>
Devotion </LI>
```

```
<LI><img src = "arrow .gif">
Hardwork </LI>
<LI><img src ="arrow.gif">
Smart work </LI>
</UL>
<P> Following are the key to success: </P>
<OL>
<LI> Devotion </LI>
<LI> Hardwork </LI>
<LI> Smartwork </LI>
</OL>
</BODY>
</HTML>
```

Check Your Progress 3

1. Following is the code for a Web page that has 5 equal columns.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<TABLE BORDER CELLSPACING=3 BORDERCOLOR="#000000">
<TR><TD WIDTH="20%">
<P>Column 1</TD>
<TD WIDTH="20%">
<P>Column 1</TD>
<TD WIDTH="20%">
<P>Column 1</TD>
<TD WIDTH="20%">
<P>Column 1</TD>
<TD WIDTH="20%">
<P>Column 1</TD>
</TR>
</TABLE>
<P> </P></BODY>
</HTML>
```

2. Design your Bio-Data in HTML Page.

```
<HTML>
<HEAD>
</HEAD>
<BODY>

<B><U><P>Qualifications</P></B></U>
<P ALIGN="JUSTIFY"><B>X &amp;amp; XII</B> from CBSE Board.</P>
<P ALIGN="JUSTIFY"><B>BCOM (PASS)</B> from Delhi University in
1999.</P>
<P ALIGN="JUSTIFY"><B>O Level</B> from DOEACC Society India in
2000.</P>
<P ALIGN="JUSTIFY"><B>MCP </B>(Microsoft Certified Professional) in 2001 in
Analyzing Requirements and Defining Solutions Architecture with
<U>93.9%</U>.</P>
<P ALIGN="JUSTIFY"><B>CIC</B> (Certificate In Computing) from Indira
Gandhi National Open University with <U>Ist Division</U>. </P>
<P ALIGN="JUSTIFY"><B>PGDCA</B> (Post Graduate Diploma in Computer
Applications) from IGNOU with <U>Ist Division</U>.</P>
```

```
<P ALIGN="JUSTIFY"><B>ADCA </B>(Advance Diploma in Computer
Applications) from IGNOU with <U>Ist Division</U>.</P>
<P ALIGN="JUSTIFY"><B>MCA </B>from Indira Gandhi National Open
University with <U>Ist Division</U>. </P>
<B><U><P>Languages Known</P>
<P ALIGN="JUSTIFY"></B></U>C including data structures, C++ including data
structure, MS COBOL 4.5, MS FORTRAN 77, Assembly using MASM, Unix Shell
Programming,<FONT SIZE=5> </FONT>HTML, Corman Common LISP, Visual
Basic 6.0.</P>
<B><U><P>Personal Details</P>
</B></U><P>Name                    ABC</P>
<P>Father's Name<B>&#9;</B>XYZ&#9;</P>
<P>Date of Birth<B>&#9;</B>23<SUP>rd</SUP> Jan,1979.&#9;</P>
<P>Address<B>&#9;</B>A-2, East Of Kailash, New Delhi.&#9;</P>
<P>Tel.<B>&#9;</B>29090909</P>
<P>Email<B>&#9;</B>ram@hotmail.com</P>
<P>Sex<B>&#9;</B>Male&#9;</P>
<P>Marital Status<B>&#9;</B>Single</P>
<B><U><P>Interests and activities</P>
</B></U><P>Troubleshooting hardware and software problems.&#9;</P>
<B><U><P>Additional Assets</P>
</B></U><P>Hard work, devotion and curiosity to learn and adapt to new
environments.&#9;</P>
<FONT SIZE=2><P> </P>
</FONT><B><P>Date:</B><FONT SIZE=2>
<B> (RAM)</P>
<P>Place:</P></B></FONT></BODY>
</HTML>
```

Check Your Progress 4A & 4B

```
<! – – Solution to 4A – – >
<head>
<title>IGNOU SSO</title>
<META HTTP-EQUIV="expires" CONTENT="Sat, 15 Mar 2003 23:59:59 GMT">
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<meta http-equiv="Content-Style-Type" content="text/css">
</head>
<body>
<form name= "theForm" action= "/suggest/emailRegistrationServlet" method=POST
onsubmit="return validate()">
 <input type="Hidden" name="successURL"
value="http://email.IGNOU.com/success.html">
 <input type="Hidden" name="pageTitle" value="IGNOU Email">
 <input type="Hidden" name="sourceChannel" value="Email">
 <table border=0 cellpadding=0 width="100%">
  <tbody>
   <tr bgcolor=#8fbc8f>
    <td colspan=3 align=center><b class="tdw"> IGNOU Email</b></td>
   </tr>
   <tr bgcolor=#0066cc>
    <td colspan=3><b> <font color="#FFFFFF"><span >ACCOUNT
     INFORMATION</span></font></b></td>
   </tr>
   <tr>
    <td valign=center width="31%" class="td"> IGNOU ID: </td>
    <td valign=center width="43%"> <input name=username> <span >*</span>
    </td>
```

```
    <td bgcolor=#f0f0f0 width="26%" class="td1">Use only letters, numbers,
      dot(.), minus(-) or the underscore (_) .No spaces or special characters
      please.<br> <span >If you choose your IGNOU ID as xyz,
      your e-mail will be xyz@IGNOU.com.</span> </td>
   </tr>
   <tr>
    <td height=42 width="31%" class="td">Password:</td>
    <td height=42 width="43%"> <input name=password type=password>
<span>*</span></td>
    <td bgcolor=#f0f0f0 rowspan=2 width="26%" class="td1">Must be at least
      three (3) characters long, may contain numbers (0-9) , upper and lowercase
      letters (A-Z, a-z) and underscore(_) but no spaces or special characters.
      Make sure it is difficult for others to guess! </td>
   </tr>
   <tr>
    <td width="31%" class="td">Re-Enter Password:</td>
    <td width="43%"> <input name=confirmPassword type=password> <span
>*</span></td>
   </tr>
   <tr>
    <td width="31%" class="td">Security Queston:</td>
    <td width="43%"> <input name=secretQus> <span >* </span></td>
    <td bgcolor=#f0f0f0 rowspan=2 width="26%" class="td1">Just in case you
      forget your password, we'll verify your identity by asking you this
      question. Choose a question only you know the answer to and that has
      nothing to do with your password whatsoever.</td>
   </tr>
   <tr>
    <td height=2 width="31%" class="td">Your Answer:</td>
    <td height=2 width="43%"> <input name=secretAns> <span >*</span>
    </td>
   </tr>
   <! – – Solution to 4B – – >
   <tr bgcolor=#0066cc>
    <td colspan=3><b class="tdw"> <font color="#FFFFFF"><span
class="tdb">PERSONAL
      INFORMATION</span></font></b></td>
   </tr>
   <tr>
    <td width="31%" class="td">First Name:</td>
    <td width="43%"> <input name=firstName
document.theform.firstname.focus();>
      <input type=hidden name=frmURL>
    <input type=hidden name="education" value="u">
    <span >* </span></td>
    <td width="26%"> </td>
   </tr>
   <tr>
    <td width="31%" class="td">Middle Name:</td>
```

```
<td width="43%"> <input name=MiddleName> </td>
<td width="26%"> </td>
</tr>
<tr>
<td width="31%" class="td">Last Name:</td>
<td width="43%"> <input name=lastName> <span >*</span> </td>
<td width="26%"> </td>
</tr>
<tr>
<td width="31%" class="td">Date of Birth</td>
<td width="43%"> <font face="MS Sans Serif" size=2>
<select name="date">
<option selected><font face="Arial, Helvetica, sans-
serif">date</font></option>
<option value="01"><font face="Arial, Helvetica, sans-
serif">01</font></option>
<option value="02"><font face="Arial, Helvetica, sans-
serif">02</font></option>
<option value="03"><font face="Arial, Helvetica, sans
serif">03</font></option>
<option value="04"><font face="Arial, Helvetica, sans-
serif">04</font></option>
<option value="05"><font face="Arial, Helvetica, sans-
serif">05</font></option>
<option value="06"><font face="Arial, Helvetica, sans-
serif">06</font></option>
<option value="07"><font face="Arial, Helvetica, sans-
serif">07</font></option>
<option value="08"><font face="Arial, Helvetica, sans-
serif">08</font></option>
<option value="09"><font face="Arial, Helvetica, sans-
serif">09</font></option>
<option value="10"><font face="Arial, Helvetica, sans-
serif">10</font></option>
<option value="11"><font face="Arial, Helvetica, sans-
serif">11</font></option>
<option value="12"><font face="Arial, Helvetica, sans-
serif">12</font></option>
<option value="13"><font face="Arial, Helvetica, sans-
serif">13</font></option>
<option value="14"><font face="Arial, Helvetica, sans-
serif">14</font></option>
<option value="15"><font face="Arial, Helvetica, sans-
serif">15</font></option>
<option value="16"><font face="Arial, Helvetica, sans-
serif">16</font></option>
<option value="17"><font face="Arial, Helvetica, sans-
serif">17</font></option>
<option value="18"><font face="Arial, Helvetica, sans-
serif">18</font></option>
<option value="19"><font face="Arial, Helvetica, sans-
serif">19</font></option>
<option value="20"><font face="Arial, Helvetica, sans-
serif">20</font></option>
<option value="21"><font face="Arial, Helvetica, sans-
serif">21</font></option>
```

```
<option value="22"><font face="Arial, Helvetica, sans-
serif">22</font></option>
<option value="23"><font face="Arial, Helvetica, sans-
serif">23</font></option>
<option value="24"><font face="Arial, Helvetica, sans-
serif">24</font></option>
<option value="25"><font face="Arial, Helvetica, sans-
serif">25</font></option>
<option value="26"><font face="Arial, Helvetica, sans-
serif">26</font></option>
<option value="27"><font face="Arial, Helvetica, sans-
serif">27</font></option>
<option value="28"><font face="Arial, Helvetica, sans-
serif">28</font></option>
<option value="29"><font face="Arial, Helvetica, sans-
serif">29</font></option>
<option value="30"><font face="Arial, Helvetica, sans-
serif">30</font></option>
<option value="31"><font face="Arial, Helvetica, sans-
serif">31</font></option>
</select>
<select name="month">
<option selected><font face="Arial, Helvetica, sans-
serif">month</font></option>
<option value="01"><font face="Arial, Helvetica, sans-
serif">01</font></option>
<option value="02"><font face="Arial, Helvetica, sans-
serif">02</font></option>
<option value="03"><font face="Arial, Helvetica, sans-
serif">03</font></option>
<option value="04"><font face="Arial, Helvetica, sans-
serif">04</font></option>
<option value="05"><font face="Arial, Helvetica, sans-
serif">05</font></option>
<option value="06"><font face="Arial, Helvetica, sans-
serif">06</font></option>
<option value="07"><font face="Arial, Helvetica, sans-
serif">07</font></option>
<option value="08"><font face="Arial, Helvetica, sans-
serif">08</font></option>
<option value="09"><font face="Arial, Helvetica, sans-
serif">09</font></option>
<option value="10"><font face="Arial, Helvetica, sans-
serif">10</font></option>
<option value="11"><font face="Arial, Helvetica, sans-
serif">11</font></option>
<option value="12"><font face="Arial, Helvetica, sans-
serif">12</font></option>
</select>
<select
size=1 name=year>
<option selected>year</option>
<option value="1970">1970</option>
<option value="1971">1971</option>
<option value="1972">1972</option>
<option value="1973">1973</option>
<option value="1974">1974</option>
```

```
<option value="1975">1975</option>
<option value="1976">1976</option>
<option value="1977">1977</option>
<option value="1978">1978</option>
<option value="1979">1979</option>
<option value="1980">1980</option>
<option value="1981">1981</option>
<option value="1982">1982</option>
<option value="1983">1983</option>
<option value="1984">1984</option>
<option value="1985">1985</option>
<option value="1986">1986</option>
<option value="1987">1987</option>
<option value="1988">1988</option>
<option value="1989">1989</option>
<option value="1990">1990</option>
<option value="1991">1991</option>
<option value="1992">1992</option>
<option value="1993">1993</option>
<option value="1994">1994</option>
<option value="1995">1995</option>
<option value="1996">1996</option>
<option value="1997">1997</option>
<option value="1998">1998</option>
<option value="1999">1999</option>
<option value="2000">2000</option>
<option value="2001">2001</option>
<option value="2002">2002</option>
</select>
</font><span > *</span> </td>
<td rowspan=5 align="center"> <font face=arial size=2 color=red><b>Accounts
not accessed for a <br>
consecutive period of 120 days or<br>
more may be deactivated without<br>
any prior intimation. All data in such<br>
mailboxes will be lost. IGNOU will<br>
have no liability for the same.</b> </font> </td>
</tr>
<tr>
<td height=25 width="31%" class="td">Marital Status </td>
<td height=25 width="43%"> <select name=maritalStatus size=1 id="select">
<option selected value="">[Select one]</option>
<option value="S">Single</option>
<option value="M">Married</option>
</select> <span >*</span> </td>
</tr>
<tr>
<td width="31%" class="td">Gender</td>
<td width="43%"> <font face="Arial, Helvetica, sans-serif"
size=2>
<select size=1 name=gender>
<option value=""
selected>[Select one]</option>
<option value=M>Male</option>
<option
value=F>Female</option>
</select>
```

```
  </font> <span >*</span> </td>
</tr>
<tr>
 <td height=35 width="31%" class="td">Pincode </td>
 <td height=35 width="43%"> <span class=td1r>
    <input name=pin size=10 maxlength=15 onKeyPress="if (event.keyCode <
    45 || event.keyCode > 57) event.returnValue = false;">
  </span> <span >*</span> </td>
</tr>
<tr>
 <td height=24 width="31%" class="td">Country:</td>
 <td height=24 width="43%"> <select name="country" size=3>
    <option value="in">Select One
    <option value="us">United States of America
    <option value="bs">Bahamas
    <option value="bh">Bahrain
    <option value="bd">Bangladesh
    <option value="bb">Barbados
    <option value="by">Belarus
    <option value="be">Belgium
    <option value="bz">Belize
    <option value="bj">Benin
    <option value="bm">Bermuda
    <option value="bt">Bhutan
    <option value="cv">Cape Verde
    <option value="zm">Zambia
    <option value="zw">Zimbabwe </select> <span >* </span></td>
</tr>
<tr>
 <td height=27 width="31%" class="td"> Education </td>
 <td height=27 width="43%"> <select name=education id="select2">
    <option selected value="">[Select One]</option>
     <option value=Grad_Post_Prof>Graduate/Post Graduate-
     Professional</option>
    <option value=Grad_Post_Gen>Graduate/Post Graduate-General</option>
    <option value=SomeColl>SomeCollege but not Graduate</option>
    <option value=SSC_HSC>SSC/HSC</option>
    <option value=5to9>School 5-9 Years</option>
    <option value=lessthan4>School upto 4 years</option>
  </select> <span >* </span></td>
 <td height=27 width="26%"> </td>
</tr>
<tr>
 <td height=2 width="31%" class="td">Annual Income </td>
    <td height=2 width="43%"> <select name=incomeGroup size=1 id="select3"
    style="HEIGHT: 22px; WIDTH: 190px">
    <option selected value="">[Select one]</option>
    <option value=0to1>Rs 1 Lakh &amp;amp; below</option>
    <option value=1to3>Rs 1 Lakh -2.99 Lakhs</option>
    <option value=3to5>Rs 3 - 4.99 Lakhs</option>
    <option value=5to10>Rs 5 - 9.99 Lakhs</option>
    <option value=mysterious>a mysterious sum of money</option>
    <option value=morethan10>above Rs 10 Lakhs</option>
  </select> <span > * </span></td>
 <td height=2 width="26%"> </td>
</tr>
<TR>
```

```
<TD width="31%"><FONT face="Arial, Helvetica, sans-serif"
size=2>City:</FONT></TD>

<TD colSpan=2> <FONT face="Arial, Helvetica, sans-serif" size=2>
<SELECT name=city>
<option value="" selected>[Select One] </option>
<option value="Ahmedabad">Ahmedabad </option>
<option value="Bangalore">Bangalore </option>
<option value="Patna">Patna </option>
<option value="Noida">NOIDA </option>
<option value="Pune">Pune </option>
<option value="Surat">Surat </option>
<option value="Varanasi">Varanasi </option>
<option value="Vishakapatnam">Vishakapatnam</option>
</SELECT>
</FONT> <FONT color=#ff0000 face=Arial size=1>*</FONT> </TD>
</TR>
<TR>
<TD height=35><FONT face="Arial, Helvetica, sans-serif"
size=2>State:</FONT></TD>
<TD height=35>
<INPUT maxLength=100 name=state size=35>
<FONT color=#ff0000 face=Arial size=1>*</FONT>
</TD>
<td height=2> </td>
</TR>
<TR>
<TD height=25><FONT face="Arial, Helvetica, sans-serif"
size=2>Occupation</FONT></TD>
<TD height=25>
<SELECT name=occupation size=1 style="HEIGHT: 22px; WIDTH: 190px">
<option value="" selected>[Select one]</option>
<option value="Artist">Artist</option>
<option value="Social worker">Social worker</option>
<option value="Student">Student</option>
<option value="Teacher/Administrator">Teacher / Administrator</option>
<option value="Unemployed/Between_jobs">Unemployed / Between
jobs</option>
<option value="No_Work">What ? me work</option>
<option value="Others">others</option>
</SELECT> <font color=#ff0000 face=Arial size=1>*</font> </TD>
<TD height=25>  </TD>
</TR>
<TR>
<TD height=29><FONT face="Arial, Helvetica, sans-serif"
size=2>Industry</FONT></TD>
<TD height=29>
<SELECT name=industry>
<OPTION selected value="">[Select one]</OPTION>
<OPTION value=Sales>Sales</OPTION>
<OPTION value=Marketing>Marketing</OPTION>
<OPTION value=Production>Production</OPTION>
<OPTION value="Self_Employed">Self Employed</OPTION>
<OPTION value=Student>Student</OPTION>
<OPTION value=Others>Others</OPTION>
</SELECT> <font color=#ff0000 face=Arial size=1>*</font> </TD>
<TD height=29> </TD>
```

```
    </TR>
  </table>
</form>
</body>
</html>
```