HTML Web Design in 7 days!

Article

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Web Development Course Series

Learn'em

HTML Web Design

in 7 days!

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HTML Web Design in 7 Days!

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By: Siamak Sarmady

- **"HTML Web Design in 7 days!"** includes only the first 7 lessons of the more complete e-book **"Quickly Learn HTML Web Design"**. You can obtain the more complete e-book on Learnem.com website.

- Support for the free e-book **"HTML Web Design in 7 days!"** is provided on Learnem.com discussion boards.

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Starting with HTML

Web pages are ordinary files with ".htm" or ".html" file extensions. They contain a code named "hyper text mark-up language" or html. This codes when viewed in a browser like Internet Explorer or Firefox or other web browsers will be seen as a web page. Web pages you see in a browser might seem simple, but the code under the web page may sometimes be complicated.

To design an html web page you have two options:

- You can use a web page editor like Microsoft FrontPage, Adobe Dreamweaver or similar to create web pages. Webpage editor software works like Microsoft Word™ (a complicated editor program used for creating and editing pages of books, letters etc.). You just type text, insert graphics and finally save your document as an html web page. Web page design software will generate the html code in background and saves it in html file. Designing web pages in such software can be very easy. But if you are going to create dynamic, well designed, professional web pages you will find that this is not a good option. A professional web developer needs to understand the html code itself very well.

- Second option is to learn html codes and write html pages in a simple text editor. As mentioned earlier, your codes will be seen as WebPages when viewed in a web browser. After you have learned html code and you are confident about your HTML knowledge, you can use web page design software like Dreamweaver to speed up the process of editing pages.

Reasons why we should write HTML code (second option)

- If you want to design professional web pages, using web page design software alone will not be enough. You must be familiar with html codes to perform small modifications to the generated code. Code generated by these software packages is sometimes big and chaotic and maintaining such code is difficult. You will need to modify the code and optimize it or even write the code without their help.

- If you want to design dynamic web pages (as in most of the websites) you will need to know html codes to be able to generate it programmatically.

- If you want to use forms in your pages to send information to your own or someone else's server and return result pages back to browser you will need to know html codes.

First Web Page

For this course you will need a simple text editor to write html codes. For example you can use notepad in windows or any text editor in other operating systems. You will also need a browser like Internet explorer or Mozilla Firefox. In this course we will assume that you are working in Windows 9X/NT/2000/XP/Vista.

Open notepad and type the following code.

Example 1-1: page1-1.html

```
<HTML>
Hello world!
</HTML>
```

Now save the text as "page11.html". Notepad by default will add a ".txt" extension to every file it saves. To make sure it will save your file with an ".html" extension you need to change "Save as type" setting in "Save file" window to "All files" (Figure 1.1).
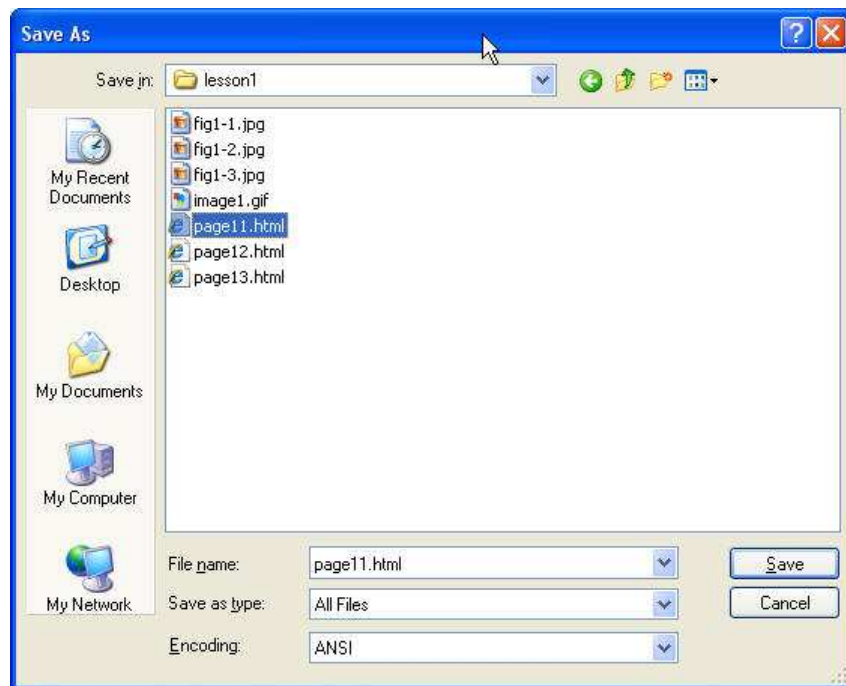

FIGURE 1.1: Saving a file in .html format.

To browse html file, open windows explorer and double click on the file. You must see your first web page opened in your web browser (Figure 1.2).
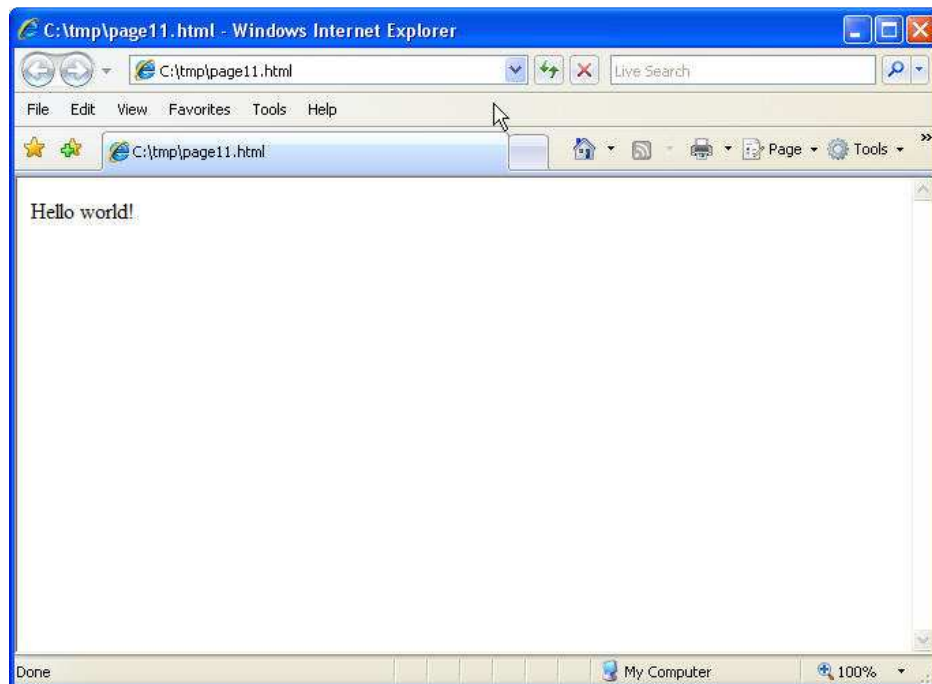
FIGURE 1.2: this is what you should see in your browser.

<HTML> and </HTML> are called tags. First one is a start tag and second is an end tag. Tags are something like commands in programming languages. <HTML> tag tells the browser that this is the start of the HTML and </HTML> marks its end. We normally do not put the text of web page directly inside <HTML></HTML> tags (as you will see in next section) but this is enough for this simple example.

HTML Code Headers

Every html page must have a header. Header contains important information about the page. Different tags are used for different sections of a header. Header of an html page is specified by <HEAD> and </HEAD> tags.

```
<HTML>
<HEAD>
   ….
</HEAD>
</HTML>
```

We will enter header information between <HEAD> </HEAD> tags.
One of the most important parts of a header is title. Title is the small text that will appear in title bar of the browser software. So html document will be as below.

```
<HTML>
<HEAD>
<TITLE>Title of the page</TITLE>
```

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

Web Page Body

Now our web page needs a body in which we will enter web page content. As you may guess we will use these tags:

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

Body will come right after header end tag. Enter the html code in notepad and save it under the file name "page2.html". Then view html file in your browser by double clicking on it in windows explorer.

Example 1-2: page1-2.html

```
<HTML>
<HEAD>
<TITLE>My company web page</TITLE>
</HEAD>
<BODY>
Welcome to our homepage. More text here.
</BODY>
</HTML>
```
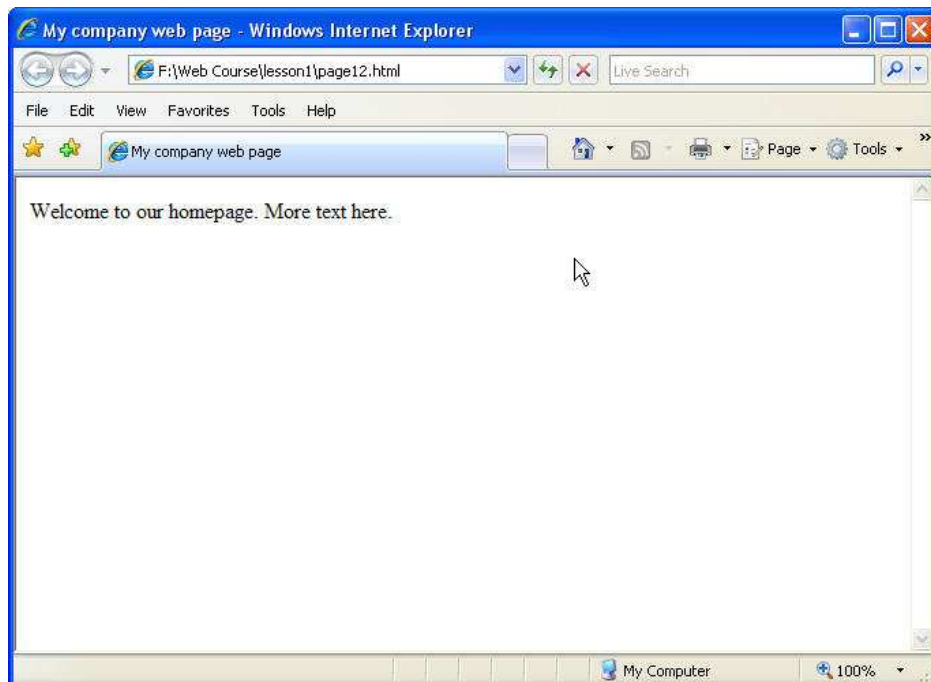

FIGURE 1.2: The file page12.html being viewed in Internet Explorer. Look at the title bar of the window "My company web page".

If you want you can change background color of your web page by extending <BODY> tag as below.

```
<BODY BGCOLOR="#00FF00">    </BODY>
```

This will change your background color to green. Format of color number is RRGGBB. You know that each color is a combination of three main colors: Red, Green and Blue. In color format RR is value of red component of the main color in hexadecimal format. GG is value of green component and BB is the value of blue component. Two digit hexadecimal number can be anything between 00 to FF i.e. 0 to 255 in decimal format. So if we write 00FF00 we mean (red=0, green=255, blue=0) so the result is a pure green color. You can produce 16 million colors in this way but pay attention that not all of the browsers and computers will be capable to show all these colors with significant difference.

Background Image

We can use a background picture for web pages instead of background color. <BODY> tag in HTML code can be extended to include an image file name as the background of the page. Let's assume we have an "image1.gif" file and we want to use it as background. Image file must be in the same folder as our html file otherwise browser will not be able to find it. (Or you can add the file path to the image file name).

Example 1-3: page1-3.html

```
<HTML>
<HEAD>
<TITLE>My company web page</TITLE>
</HEAD>
<BODY BACKGROUND="image1.gif">
Welcome to our homepage. More text here.
</BODY>
</HTML>
```
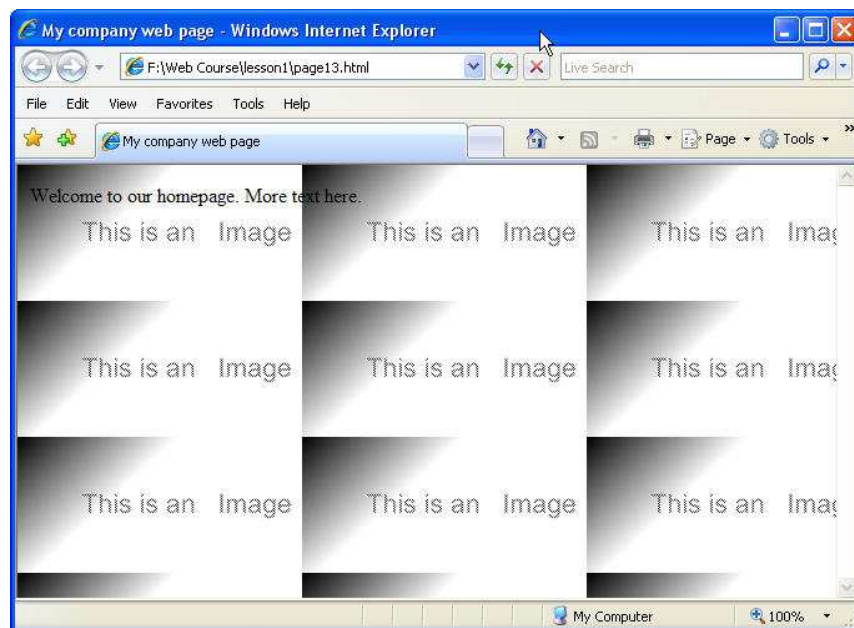

FIGURE 1.3: The file page13.html being viewed in Internet Explorer. Web page text and the background image tiled to entire web page.

Exercises

- **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

- Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

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1. **Write your web page code and use a background picture for it.**

2. **Write above code with a blue color instead of an image as its background.**

3. **List tags you learned in this lesson with a small description.**

Formatting Text

The same as this book, text in web pages can be of different styles and can use different fonts with different sizes. In this lesson we will learn about text formatting techniques.

Changing text style

Making a part of text to appear in bold letters, italic or underlined form is possible in Html by enclosing the text in specific tags. Enclosing the text in <B>…</B> tags will make it bold, using <I>…</I> makes it italic and finally <U>…</U> is used to underline a part of text.

```
<BODY>
This is very <B> important </B>
</BODY>
```

In example 2-1 you see how we can make a part of text bold, italic, both or any combination of mentioned styles.

Example 2-1: page2-1.html

```
<HTML>
<HEAD>
<TITLE>Example 1, Lesson 2</TITLE>
</HEAD>
<BODY>
<B>This text is bold</B><br>
<I>While this one is Italic</I><br>
<U>and this text is underlined</U><br>
<B><I>Look at this, this is both bold and italic</I></B>
</BODY>
</HTML>
```

You may notice <BR> tags at the end of each line in above code. Pressing enter key in html code will make the code to continue in a new line but in the resulting output page in a browser the text will not break into a new line unless you use a <BR> tag in your Html code. Also pay attention that <BR> tag is one of few single tags in html language which do not have a closing tag.
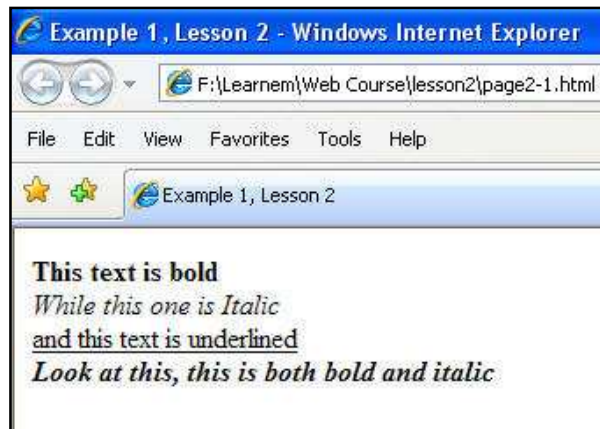
FIGURE 2-1: Bold, Italic and underline text

Nested Tags

In previous section we saw a line of code with nested tags.

```
<B><I>This is both bold and italic</I></B>
```

When you use nested tags you must ensure that they do not overlap each other. They must be nested into each other correctly.

Text with fixed width font

As you may know, regular fonts use different width for different alphabets. For example letter 'w' has a bigger width than the letter 'i'. Sometimes we need a font with exactly the same width for all alphabets. If you want to make a table of numbers and you want the columns of numbers to be exactly under each other in different rows, you will need this kind of font. Another example is when you want to quote a computer code and you again prefer a fixed width font. To enforce the browser to use a fixed width font with a text you can surround the text with <TT>...</TT> tags. TT means Typewriter Text.

FIGURE 2-2: Fixed width and normal fonts.

Changing size and face of fonts

We can change face and size of fonts using <FONT>...</FONT> tags. FONT tag has a few parameters which specify the font face, size, color etc.

Size of font

To change size of font in a part of text, enclose it in a <FONT> tag:

```
<FONT SIZE=n>...</font>
```

n is the size of the font. Size of the font must be a number between 1 and 7. If you insert some text without determining its size a default size of 3 will be considered.

Example 2-2: page2-2.html

```
<HTML>
<HEAD>
<TITLE>Example 2, Lesson 2</TITLE>
</HEAD>
<BODY>
<FONT SIZE=1>1This text is bold</FONT><br>
<FONT SIZE=2>2This text is bold</FONT><br>
<FONT SIZE=3>3This text is bold</FONT><br>
<FONT SIZE=4>4This text is bold</FONT><br>
<FONT SIZE=5>5This text is bold</FONT><br>
<FONT SIZE=6>6This text is bold</FONT><br>
<FONT SIZE=7>7This text is bold</FONT><br>
</BODY>
</HTML>
```
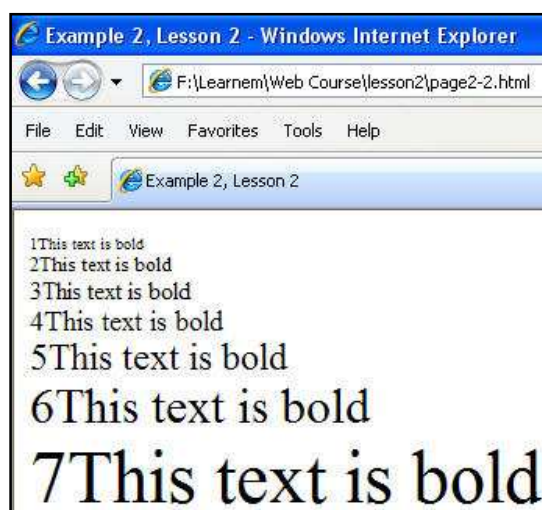

FIGURE 2-3: Text with different font sizes.

Face of fonts

We can specify different font types by specifying their short name in <FONT> tag. If your font name is more than one word, you should enclose it in double quotes.

    <FONT FACE="Font Name Here">...</FONT>

Example 2-3: page23.html

```
<HTML>
<HEAD>
<TITLE>Example 3, Lesson 2</TITLE>
</HEAD>
<BODY>
<FONT FACE="ARIAL">This text is in ARIAL font</FONT><br>
<FONT FACE="IMPACT">This text is in IMPACT font</FONT><br>
</BODY>
</HTML>
```

You can test other fonts and see the difference. Just pay attention that web pages are viewed in different operating systems, browsers and even mobile phones. Because of this, you normally need to choose your fonts from a very limited list of popular fonts. It is also possible to use a list of alternative fonts in your <FONT> tag. In this way, if your browser cannot find a specific font, it will proceed to the next mentioned one.

```
    <FONT Face="Arial,HELVATICA">...</FONT>
```

Changing font colors

In previous lesson you learned how to change background color of a web page. Here we will learn how to change color of web page text. Look at this example:

Example 2-4: page24.html

```
<HTML>
<HEAD>
<TITLE>Example 4, Lesson 2</TITLE>
</HEAD>
<BODY>
<FONT COLOR="#FF0000">This text is in red color.</FONT><br>
<FONT COLOR="#00FF00">This text is in green color.</FONT><br>
<FONT COLOR="#0000FF">This text is in blue color.</FONT><br>
</BODY>
</HTML>
```

In above example different colors are used for each line of text. We described how color codes are used in previous lesson. Try different combinations on above code and see the effect.

Combining Font attributes

You can guess that we can combine attributes in a <FONT> tag to produce different effects. As you know it is also possible to nest tags. Below example is a completely valid HTML code.

```
 <B><I><FONT SIZE="5" FACE="IMPACT" COLOR="#00FF00">
A line of text in green color, bold and italic styles and Impact face
 </FONT></I></B>
```

Changing default font colors in a web page

Each browser has its own default settings for text, link, visited link and active link colors. Text color is normally black. Links are usually blue etc. To change default colors, you can use below attributes of <BODY> tag of the page.

```
<BODY BGCOLOR="#FFFFFF" TEXT="#000000" LINK="#0000FF" VLINK="#00FF00"
ALINK="#FF0000">
...
</BODY>
```

BGCOLOR: Web page background color
TEXT: Text Color
LINK: Link Color
VLINK: Visited link
ALINK: Active link

Remembering tags and their attributes will be easier if you do enough practice with them and use them for a while. Doing exercises is the minimum practice you can do. You can additionally create your own web pages to do more practice.

Exercises

▪ **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

▪ Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

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1. **Write an html page which uses text in these forms in separate lines:**

   Italic and bold

Italic and underlined

Bold and underlined

2. Make a web page with a banner text "my**longlong**name" on it. Each character of the banner text will have a different size. First character starts with a font size of 1. Next characters will have sizes 2 to 7. When you reach 8th character, use the size 7 again and then decrease the size until you reach the last character (which will again have font size of 1).

3. Write an html page with 9 lines, each line in a different color. State color of each line in its text.

Paragraphs and Images

T ext in web pages is normally organized in paragraphs. Web pages also contain photos and images. In this lesson we will learn how to organize text in paragraphs and how to add images to the web page. In previous lesson we used <BR> tag to break text into new lines. In this lesson we will see how we can organize text in paragraphs.

Paragraphs

It is possible to divide text in a page into paragraphs. A paragraph starts on a new line with a single blank line before it. Paragraph tag is <p> </p>. You are allowed to nest other tags inside paragraph tag. For example font tag can be used inside paragraphs.

```
<p>First paragraph</p>
<p>Second paragraph</p>
```

In previous lesson we learned about <TT>…</TT> tag. There is yet another tag <PRE>…</PRE> which works almost similar to the <TT>…</TT>. The difference is that the text inside <PRE>…</PRE> tag does not need <BR> tags to break into new line. Lines inside <PRE>…</PRE> tag break the same as normal text with enter key (new line).

Space between texts

Browser will not show more than one space between two words even if you have entered a hundred spaces between them in html code. If you want to enter more than one blank character between two words you will need to use a specific code for this purpose. " " without the quotes will appear as spaces in browser.

```
<BODY>
Here we insert 5       extra spaces.
</BODY>
```

Paragraph alignment

Paragraph tag has options to align the paragraph text to left, center or right of the paragraph. To specify alignment for a paragraph an extra "align" parameter of paragraph tag will be used.

Example 3-1: page3-1.html

```
<HTML>
<HEAD>
<TITLE>Example 3-1</TITLE>
</HEAD>
<BODY>
<P ALIGN="left">You can align text in left.</P>
<P ALIGN="center">You can align text in center.</P>
<P ALIGN="right">You can align text in right.</P>
</BODY>
</HTML>
```
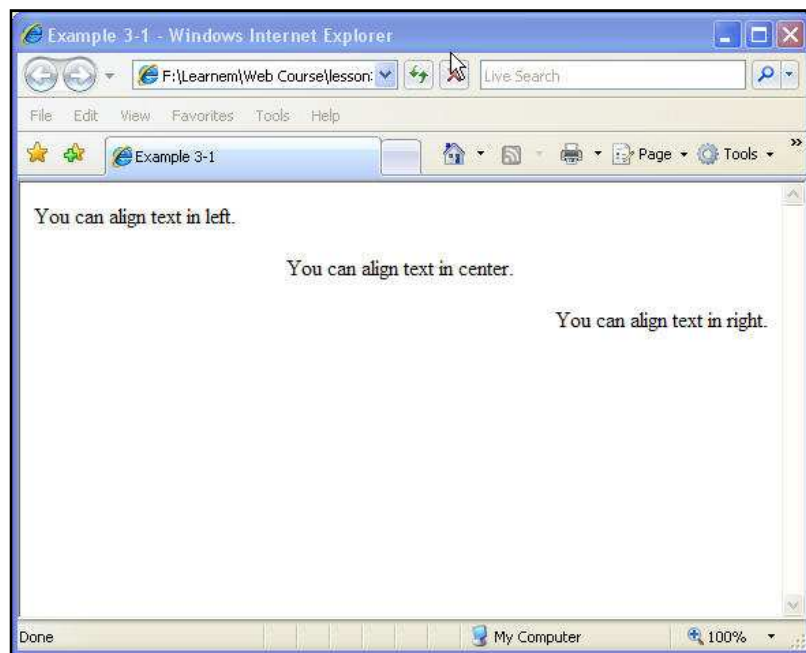

FIGURE 3-1: Paragraph alignment

Indented Text

If you need a text to be indented from both sides of the web page you can use <BLOCKQUOTE> tag.

Example 3-2: page3-2.html

```
<HTML>
<HEAD>
<TITLE>Example 3-2</TITLE>
</HEAD>
<BODY>
We see block quote in below paragraph :<BR><BR>
<BLOCKQUOTE>
In cases that you want to emphasis on a paragraph in your text you can use
this tag. It will indent your text from both sides.
```

```
</BLOCKQUOTE>
</BODY>
</HTML>
```
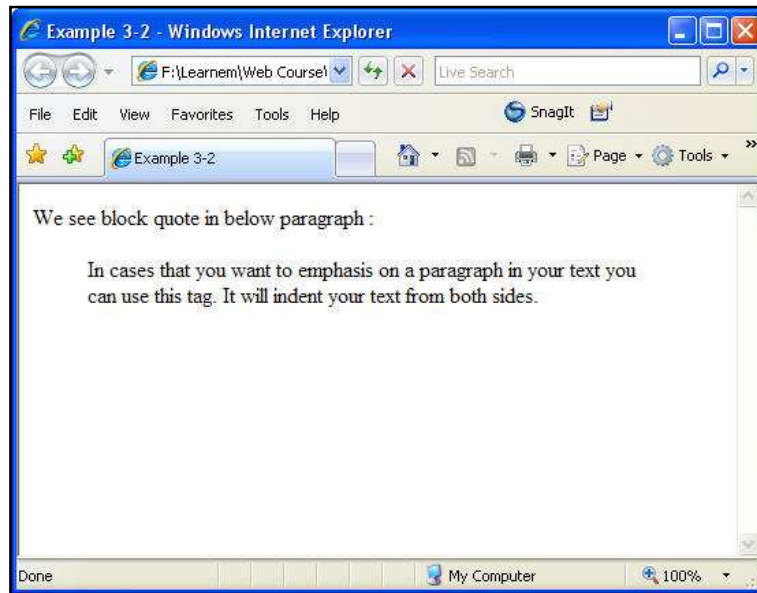
FIGURE 3-1: Block quote

Images in your web page

In previous lesson you learned how to use an image as a background for a web page.

```
<BODY BACKGROUND="image.gif">

</BODY>
```

Here we want to learn how to add an image in a web page itself (not its background). <IMG> tag is used for this purpose. This tag has a few parameters like width, height, border size, alignment, file name and etc. File name parameter is compulsory while other parameters are optional. Look at this example:

Example 3-3: page3-3.html

```
<HTML>
<HEAD>
<TITLE>Example 3-3</TITLE>
</HEAD>
<BODY BACKGROUND="image1.jpg">
<B>This is an image:</B><BR>
<IMG SRC="abanner.gif">
</BODY>
</HTML>
```

In this example I have used both a background image and an image between text. Also you may have noticed that this tag is also a single tag that does not need an ending tag. If you want to show your image in a different size than its real size, you can specify its size as below.

Example 3-4: page3-4.html

```
<HTML>
<HEAD>
<TITLE>Example 3-4</TITLE>
</HEAD>
<BODY BACKGROUND="image1.gif">
This is an image:<BR>
<IMG SRC="abanner.gif" WIDTH=234 HEIGHT=30>
</BODY>
</HTML>
```


FIGURE 3-2: Using images for background and as a part of web page itself

Alignment and border size for images

You can align image in your web page by enclosing it in a paragraph which is aligned to left, right or center.

Example 3-5: page3-5.html

```
<HTML>
<HEAD>
<TITLE>Example 3-5</TITLE>
</HEAD>
<BODY BACKGROUND="image1.jpg">
```

```
This is an image:<BR>
<P ALIGN="center"><IMG SRC="abanner.gif"></P>
</BODY>
</HTML>
```

You can add a border to an image by adding a border parameter to <IMG> tag. See the results of this html code.

Example 3-6: page3-6.html

```
<HTML>
<HEAD>
<TITLE>Example 3-6</TITLE>
</HEAD>
<P ALIGN="center"><IMG SRC="abanner1.gif" border=3></P>
</HTML>
```
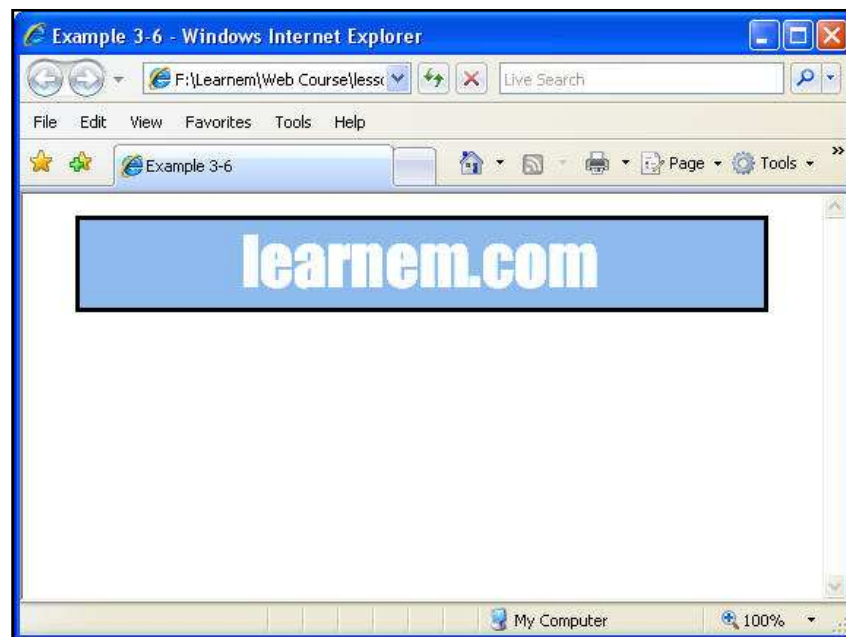

FIGURE 3-3: Adding border to an image

Some of the options we use may not be supported on some browsers but things we cover in this course work on "MS Internet Explorer" and "Firefox" which are currently the most popular web browsers.

Alternative text for images

Some web browsers just show text and do not support graphics. Though these browsers are rare nowadays you might want to consider users which have these browsers. An example is "Lynx" which is used in UNIX/Linux text environment.

You can enter a text as an alternative to each image in your web page. In this way images will be replaced by their alternative texts in text browsers. This alternative text will be added in ALT parameter of the <IMG> tag.

```
<IMG SRC="abanner.gif" ALT="Learning Online">
```

Path of image file

In our previous examples, image file must be located in the same directory where the html file is located. If our image file resides in another directory, we must add a relational path or a complete URL to the image.

See examples below:

```
<IMG SRC="images/abanner.gif">
```

In above case, image is located in "images" directory below the directory where our html file resides.

```
<IMG SRC="../abanner.gif">
```

In this other example, image file is placed in the parent directory of the place where html file is located.

In next lesson we will learn about links, image links and more.

Exercises

▪ **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

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▪ If you have obtained the e-Book only, you can discuss your homework questions in Learnem.com support forums (in registered e-book users section).

1. **Use left, right and centered paragraphs and a block quote in a sample web page.**

2. **Write a complete html page code with an image centered in it. Set a border size of 10 for the image.**

3a. **Write an <IMG> tag which uses an image file located 2 directory levels upper than where the html file directory is saved.**

3b. **Write an <IMG> tag which uses an image file located in "image" directory located in one directory level upper than current html file directory.**

Links and Lists

S ometimes it is needed to create texts or images which clicking on them will bring us to other web pages on the same website or another websites. In this lesson we learn how to create such page links. In addition we will see how we can create lists of items in our web pages.

Text links

Creating a text link is easy. We use <A> </A> tag to do this. <A> tag has a few important parameters. The most important parameter is the HREF which contains the address of the link.

Example 4-1: page4-1.html

```
<HTML>
<HEAD>
<TITLE>Example 4-1</TITLE>
</HEAD>
<BODY>
<A HREF="http://www.yahoo.com">Click here to visit Yahoo</A>
</BODY>
</HTML>
```

Above code creates a link to Yahoo website. As you see we have used HREF parameter to specify destination web page. Text between <A> and </A> is the link text. By clicking on the link text, user will be navigated to the destination page.

Image links

In previous section we used a text as a link. It is possible to use an image instead of text. To do this, you must replace link text between <A> and </A> with an <IMG> tag which displays an image file.

```
<HTML>
<HEAD>
<TITLE>Example 4-1</TITLE>
</HEAD>
<BODY>
```

```
Click on below picture to visit my homepage:<BR><BR>
<A HREF="http://www.learnem.com/"><IMG SRC="logo.gif"></A>
</BODY>
</HTML>
```

In above example clicking on picture will bring surfer to the address inside HREF attribute of <A HREF=".."> tag.

If you test above code in a browser you will notice a blue border around the picture (you should have a logo.gif image file in the same directory as the html file). This blue border is added by default to for the image links. You can remove the blue border by adding a "border=0" parameter to <A> tag.

Example 4-2: page4-2.html

```
<HTML>
<HEAD>
<TITLE>Example 4-2</TITLE>
</HEAD>
<BODY>
Click on below picture to visit my homepage:<BR><BR>
<A HREF="http://learnem.com"><IMG SRC="logo.gif "></A>
<BR><BR>without link border : <BR><BR>
<A HREF="http://learnem.com"><IMG SRC="logo.gif" border=0></A>
</BODY>
</HTML>
```
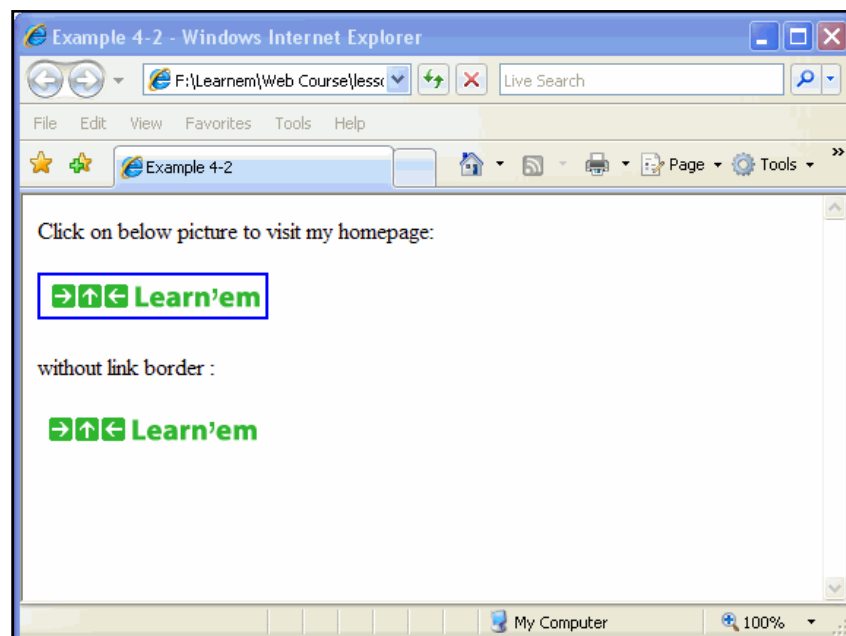

FIGURE 4-1: Image links with and without border

Email links

If you have surfed web for a while you might have seen links that when you click on them your email program (outlook, thunderbird …) will starts with a "compose new message" window. The email address on the link will be put in receiver email address box. Look at example below to see how you can make a link to an email address.

```
<BODY>
Click on below link to send an email to me <BR>
<A HREF="mailto:webmaster@learnem.comt">Email Me</A>
</BODY>
```

If you want, you can also specify a subject for the email. This example will show you how to do this:

Example 4-3: page4-3.html

```
<HTML>
<HEAD>
<TITLE>Example 4-2</TITLE>
</HEAD>
<BODY>
Click on below link to send us your comments. <BR>
<A HREF="mailto:webmaster@learnem.com?subject:comments about your
site">Email Me</A>
</BODY>
</HTML>
```

Lists

Sometimes you want to organize items related to a subject in list form in your web page. HTML provides you with tags to do this. <UL></UL> tags are first choice of these tags.

Example 4-4: page4-4.html

```
<HTML>
<HEAD>
<TITLE>Example 4-3</TITLE>
</HEAD>
<BODY>
This is a list of subjects covered in this lesson:
<UL>
 <LI>Text Links
 <LI>Image Links
 <LI>Email Links
 <LI>List of Items
</UL>
</BODY>
</HTML>
```
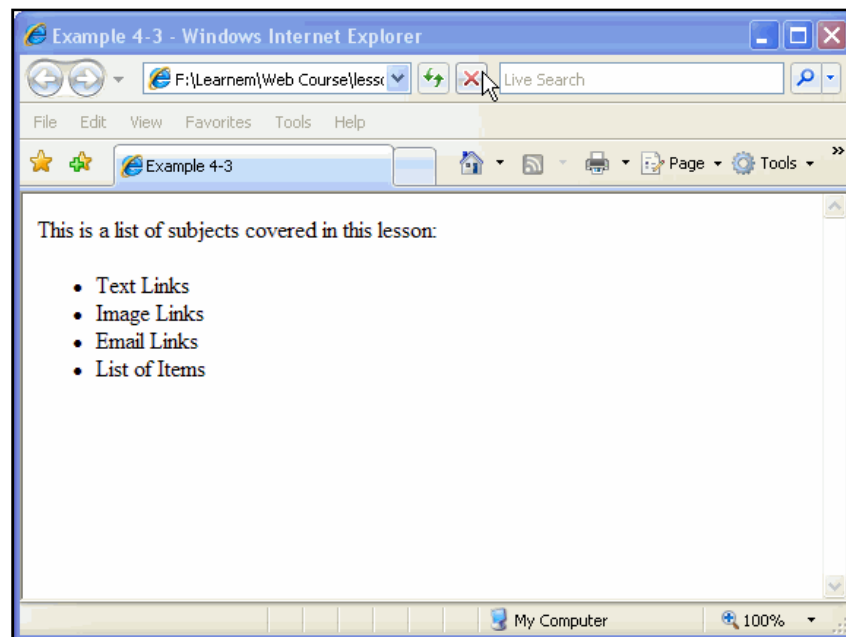
FIGURE 4-2: Lists

Result page will display list items in separate lines started with a small bullet. You see that we have entered list items started with a <LI> tag between <UL></UL> tags. <UL> tag is a part of list tags (Figure 4-2).

If you want the items to be identified by numbers, you should use <OL></OL> tags instead of <UL></UL> tags.

```
<OL>
 <LI>Text Links
 <LI>Image Links
 <LI>Email Links
 <LI>List of Items
</OL>
```

Horizontal Separator Rule

Another useful html tag that you will sometimes use is <HR> tag. If you need to separate text in your web page by a horizontal lines, you may use this tag.

```
<BODY>
First section
<HR>
Second section
</BODY>
```

Output of the above code is two lines of text separated by a horizontal rule. You can specify a few parameters for horizontal rule. If you want to change width of rule you can use width parameter. Width in percent:

```
<HR WIDTH="50%">
```

Width in pixels:

```
<HR WIDTH="100">
```

You can also determine line size parameter to change line diameter.

```
<HR size=5>
```

It is obvious that you can mix parameters with each other. Horizontal lines created by <HR> tag have a shade by default. You can force a solid line instead of a shaded line, by adding a NOSHADE parameter.

```
<HR SIZE=1 NOSHADE>
```

You can also determine a color for your line:

```
<HR color="#00FF00' NOSHADE>
```

Above line will not have a shade and it is a solid green line.

End Note

In this lesson you learned how to use text links, image links, email links, lists and horizontal separator. Until now we have covered general HTML tags. In next lesson we will cover more. We will then start more advanced subjects such as tables, frames and forms.

Exercises

▪ **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

▪ Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

▪ If you have obtained the e-Book only, you can discuss your homework questions in Learnem.com support forums (in registered e-book users section).

1. **Create a page with a link in it which points to yahoo web site. Center the link in your screen. Use things you learned about paragraphs in previous lesson.**

2. **Change above example to use an image as a link to points to yahoo web site. Remove blue border around the picture.**

3. **Insert both of the exercises 1&2 in a single page and separate text link from image link by a solid green line with a width equal to 50% of the screen width.**

4. **Create a complete contact page (html code) for yourself. People visiting this page must be able to send you comments about your homepage.**

5. **Create a complete web page that contains a numbered list of courses you are interested to find on the internet.**

Tables (1)

T Table is a matrix like structure which holds objects such as text, images, buttons and etc in its cells. In most professional web pages they are used in web pages to place adjust text and image positions even though you do not see table borders. Later you will see how it is possible to set the border size of tables to 0 to hide them.

Drawing a table

To draw a table we use <TABLE> tag. <TABLE> tag needs to related tags for its rows and columns. <TR></TR> tag is used to create a row in table. Each <TR></TR> tag nested in <TABLE> </TABLE> tag will create a new row in the table. In addition one or more <TD></TD> tags are used to create columns in each row. Following example produces a table with two rows.

```
<TABLE>
 <TR>
   <TD>First Row</TD>
 </TR>
 <TR>
   <TD>Second Row</TD>
 </TR>
</TABLE>
```

If you browse this code in a browser, you will not see any table but two lines of text. In fact table is there but you cannot see it.

<TABLE> tag will by default create a table with border size of 0. You must use a "border" parameter to specify a border size for your table.

```
<TABLE BORDER=1>
 <TR>
   <TD>First Row</TD>
 </TR>
 <TR>
   <TD>Second Row</TD>
 </TR>
</TABLE>
```

Specifying table sizes

You can specify width for a table both in percents of page width and in pixels. This means if user resizes browser window, browser will maintain a width of 50% of its window for the table.

Example 5-1: page5-1.html

```
<HTML>
<HEAD>
<TITLE>Example 5-1</TITLE>
</HEAD>
<BODY>

<TABLE WIDTH=50% BORDER=1>
 <TR>
   <TD>Cell Row1 Col1</TD>
   <TD>Cell Row1 Col2</TD>
 </TR>
 <TR>
   <TD>Cell Row2 Col1</TD>
   <TD>Cell Row2 Col2</TD>
 </TR>
</TABLE>

</BODY>
</HTML>
```
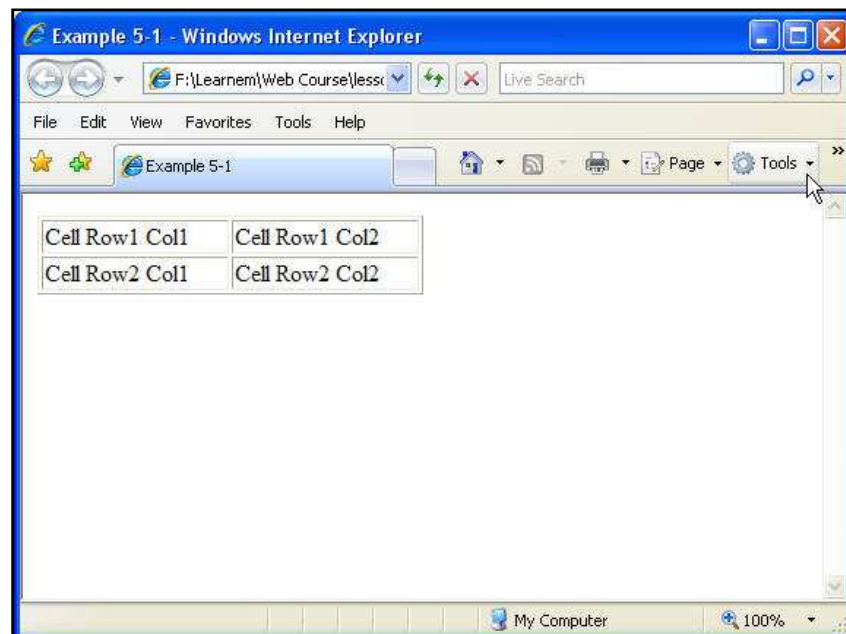

FIGURE 5-1: a 2*2 table

If you want you can determine table width in pixels. In this way width of the table will be fixed and resizing the browser window will not have any effect on the table size.

```
<TABLE WIDTH=250 BORDER=1>
 <TR>
   <TD>Cell Row1 Col1</TD>
   <TD>Cell Row1 Col2</TD>
 </TR>
 <TR>
   <TD>Cell Row2 Col1</TD>
   <TD>Cell Row2 Col2</TD>
 </TR>
</TABLE>
```

You can specify a height for your table too. Width and height of the table will be divided between cells in rows and columns so if table width is 100 pixels and there are 2 columns then width of each cell will be 50 pixels. Just pay attention that if you put a long text in a cell which is longer than the cell itself, cell will be expanded to fit the text in it.

Text alignment in table cells

By default text entered in a cell will appear at the left side of the cell. You can add either of below options to <TD> tag to specify horizontal alignment of text inside the cell.

```
<TD ALIGN=CENTER> or

<TD ALIGN=RIGHT> or

<TD ALIGN=LEFT> (this option is the default if you do not specify)
```

You can also determine vertical alignment of text in a cell by adding VALIGN option to <TD> tag. There are three values for VALIGN option : TOP, BOTTOM and MIDDLE. MIDDLE is default value if you do not use this parameter.

Example 5-2: page5-2.html

```
<HTML>
<HEAD>
<TITLE>Example 5-2</TITLE>
</HEAD>
<BODY>
<TABLE WIDTH=50% HEIGHT=100 BORDER=3>
 <TR>
    <TD ALIGN=LEFT VALIGN=TOP>TOP LEFT</TD>
    <TD ALIGN=RIGHT VALIGN=TOP>TOP RIGHT</TD>
 </TR>
```
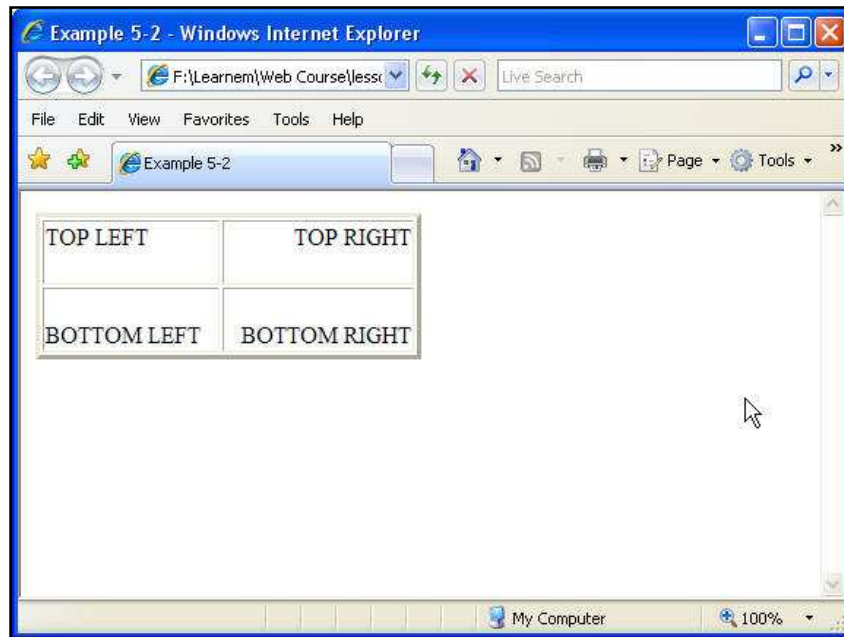
```
 <TR>
    <TD ALIGN=LEFT VALIGN=BOTTOM>BOTTOM LEFT</TD>
    <TD ALIGN=RIGHT VALIGN=BOTTOM>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```


FIGURE 5-1: a 2*2 table, with alignments

Images in table cells

As we mentioned earlier, tables are also used to hold images in their places. You can insert an image in a table cell by enclosing <IMG> tag between <TD></TD> tags of a certain cell.

Example 5-3: page5-3.html

```
<HTML>
<HEAD>
<TITLE>Example 5-3</TITLE>
</HEAD>
<BODY>
<TABLE BORDER=4>
<TR>
  <TD><IMG SRC="logo.gif"></TD>
</TR>
</TABLE>
</BODY>
</HTML>
```
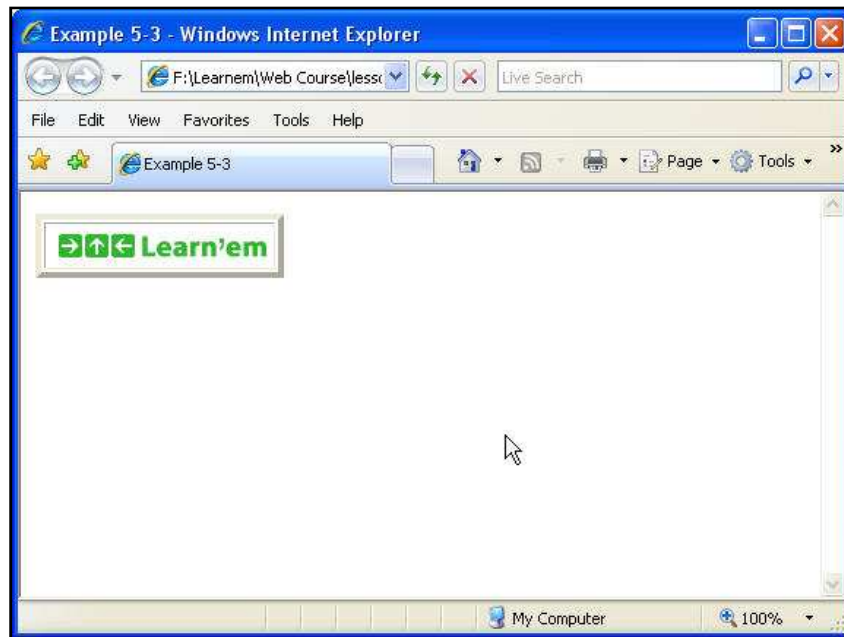
FIGURE 5-1: Image inside a table with a border size of 4

Exercises

- **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

- Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

- If you have obtained the e-Book only, you can discuss your homework questions in Learnem.com support forums (in registered e-book users section).

1. **Create a 3*3 table similar to the following picture. Use same alignments and make titles of table, rows and columns as bold.**

2. **Create a 2*2 table. Insert an image file (small sized) in each cell of table. Adjust cell alignment of each cell so that images gather at the center of the table sticking to each other. Adjust table width to 50% of web page width. Set the height of the table to 200.**

Tables (2)

A s we saw in previous lesson, tables are important in web design because we need them for holding text, pictures, buttons, etc. in their places in addition to creating normal tables. In this lesson we will cover more options about table cells (cell padding, cell spacing …) and finally we will learn how to link different parts of a single image to different web addresses.

Cell Width (Column Width)

In previous lesson we learned how we can determine width and height of a table.

```
<HTML>
<HEAD>
<TITLE>Table: Column widths not specified</TITLE>
</HEAD>
<BODY>
<TABLE WIDTH=400 HEIGHT=100 BORDER=3>
 <TR>
    <TD>TOP LEFT</TD>
    <TD>TOP RIGHT</TD>
 </TR>
 <TR>
    <TD>BOTTOM LEFT</TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```

In above table we have not determined sizes for two cells in first row. However you can determine width of each column in your table by specifying width of cells in first row. Just be careful to specify correct sizes. For example if your table width is 200 pixels sum of cell widths in a row must be exactly 200 otherwise each browser will render the page differently because of the wrong setting.

Example 6-1a: page6-1a.html

```
<HTML>
<HEAD>
<TITLE>Example 6-1a</TITLE>
```

```
</HEAD>
<BODY>
<TABLE WIDTH=400 HEIGHT=100 BORDER=3>
 <TR>
    <TD WIDTH=140>TOP LEFT</TD>
    <TD WIDTH=260>TOP RIGHT</TD>
 </TR>
 <TR>
    <TD>BOTTOM LEFT</TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```
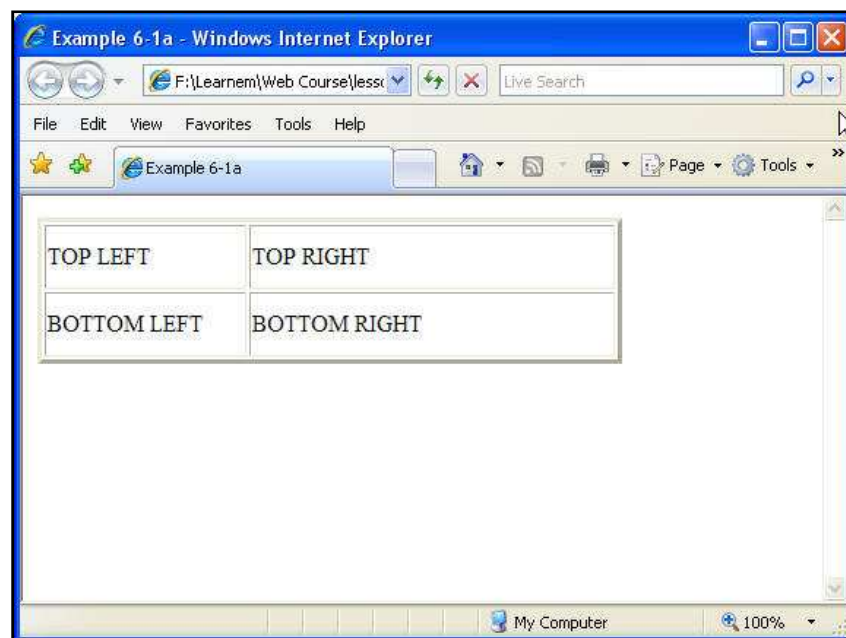

FIGURE 6-1: First column 140 Pixels wide, second column 260 pixels wide

You can also determine cell widths in percent. Sum of cell width percentages must be 100%.

Example 6-1b: page6-1b.html

```
<HTML>
<HEAD>
<TITLE>Example 6-1b</TITLE>
</HEAD>
<BODY>
<TABLE WIDTH=400 HEIGHT=100 BORDER=3>
 <TR>
    <TD WIDTH=35%>TOP LEFT</TD>
```

```
    <TD WIDTH=65%>TOP RIGHT</TD>
 </TR>
 <TR>
    <TD>BOTTOM LEFT</TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```
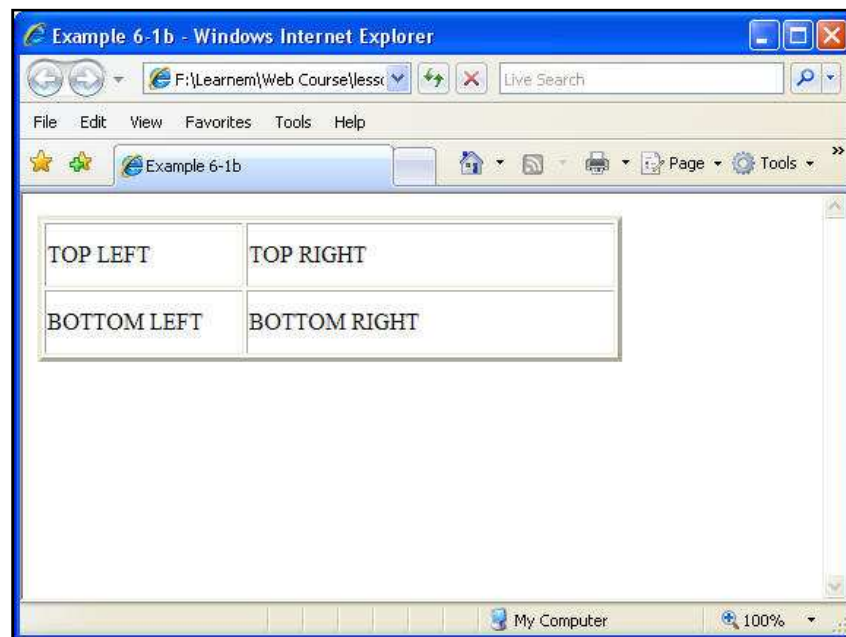

FIGURE 6-2: First column 35% wide, second column 65% wide

When you determine sizes of first row cells you do not need to determine widths for second row cells etc.

If you want a cell to be empty, you cannot omit definition for that cell or just leave its content empty. Insert cell definition (using <TD> tag), and enter a   between <TD></TD> tags. As we told in earlier lessons this means a space character. You must enter at least a single space in this form if you need an empty cell, otherwise area of the cell will not appear like an empty cell. Browsers will not render the cell correctly.

Example 6-2: page6-2.html

```
<HTML>
<HEAD>
<TITLE>Example 6-2</TITLE>
</HEAD>
<BODY>
<TABLE WIDTH=400 HEIGHT=100 BORDER=3>
```

```
 <TR>
    <TD WIDTH=140>TOP LEFT</TD>
    <TD WIDTH=260> </TD>
 </TR>
 <TR>
    <TD> </TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```
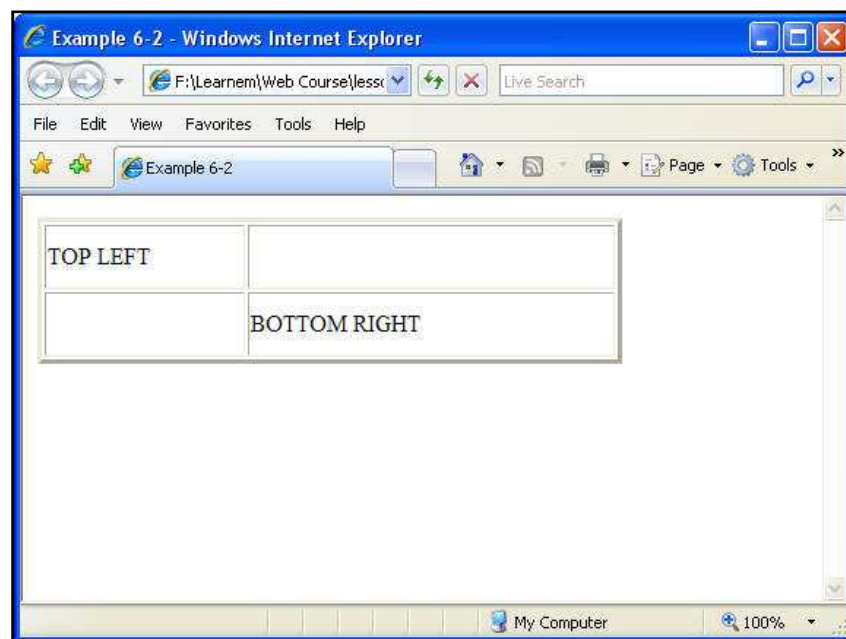

FIGURE 6-3: Empty cells

In above example we have two empty cells but because we have specified both table size and column sizes, table will not lose its shape and first column will be 140 pixels wide and the second column will be 260 pixels wide. If we remove sizes, we cannot guarantee how it will be displayed on different browsers and screen modes. We urge you to determine table sizes in every table you create. If you want your tables resize automatically to fit the browser window, you need to use percent sizes but if you want fixed width tables, use pixel sizes for your tables. Also if you want the size of a cell to be exactly the same as a picture (which is put inside it) you need to use pixel size.

Cell padding

You can specify two other important size parameters for a table. Cell padding is the space between cell borders and table contents such as text, image etc.

Example 6-3: page6-3.html

```
<HTML>
<HEAD>
<TITLE>Example 6-3</TITLE>
</HEAD>
<BODY>
Cell padding effect : <BR><BR>
<TABLE BORDER=3 CELLPADDING=20>
 <TR>
    <TD>TOP LEFT</TD>
    <TD>TOP RIGHT</TD>
 </TR>
 <TR>
    <TD>BOTTOM LEFT</TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```
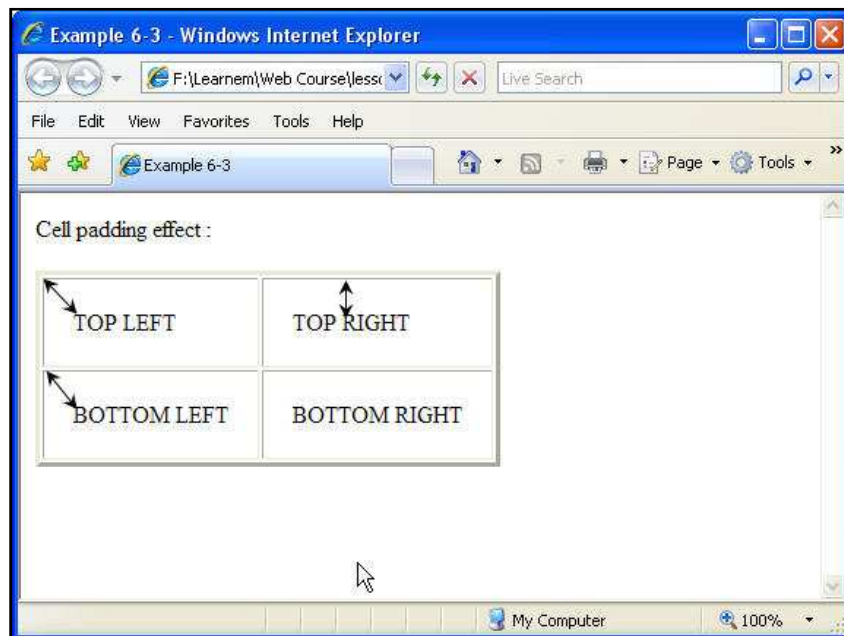

FIGURE 6-4: Cell Padding

Default value for this option is 1. It means the contents of a cell will have a distance of one pixel with borders. If you don't want any space between objects inside the cells and its borders you can determine a value of 0 for this option. You can also increase the padding size. In above example we have set a padding of 20 pixels to show you the effect. We have added a few arrows to the picture to show the padding distance.

Cell spacing

Cell spacing parameter determines the space between inner (cells) and outer parts (outer border) of a table. In fact a table is constructed form two borders. A outer border area and a cell border area. There is a space between cell area and outer border. We call this "cell spacing". If you increase this value you will have a thick border. Default value for this property is 2. If you specify 0 for it, you will have a very thin border.

Example 6-4: page6-4.html

```
<HTML>
<HEAD>
<TITLE>Example 6-4</TITLE>
</HEAD>
<BODY>
Cell spacing effect : <BR><BR>
<TABLE BORDER=3 CELLSPACING=20>
 <TR>
    <TD>TOP LEFT</TD>
    <TD>TOP RIGHT</TD>
 </TR>
 <TR>
    <TD>BOTTOM LEFT</TD>
    <TD>BOTTOM RIGHT</TD>
 </TR>
</TABLE>
</BODY>
</HTML>
```
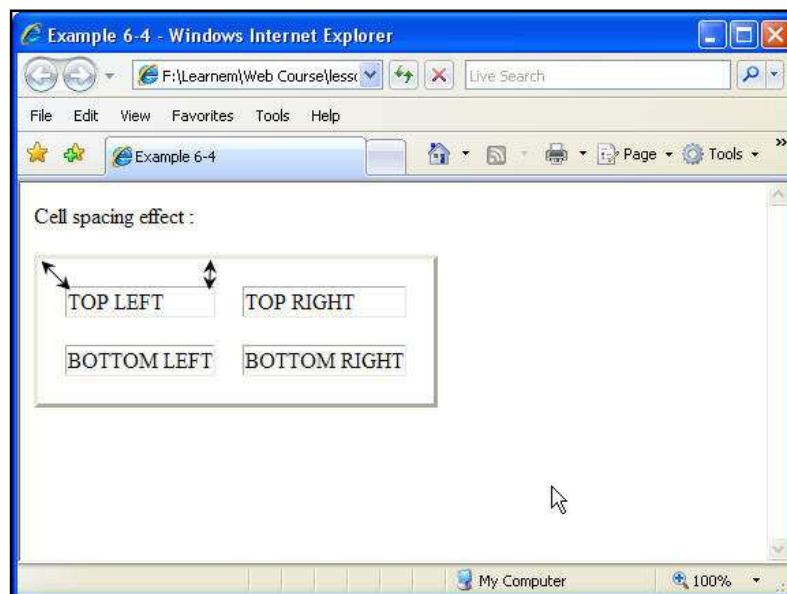

FIGURE 6-5: Cell Spacing

You can also mix cell spacing and cell padding options to make specific tables you need.

Tables and images

Sometimes you need an image which each section of it links to a different website address. When user clicks on different parts of the picture they will be navigated to different pages. In previous lessons you learned how to use an image as a link.

In this special case you can cut your picture into as many parts as you need and insert them in a table that holds image parts beside each other. Then link each image part to a different page. You will also need to set both cell spacing and cell padding to a value of 0 to prevent the table from appearing between image parts. In this way users will see a single image but when they click on different parts of the image they will go to different addresses.

There is another method using image maps to accomplish above purpose but we do not discuss it in this lesson.

Working with graphic editing programs

As a web designer you need a graphics editor program. There are many professional programs available in the market.

Adobe Photoshop ™ is a very professional and powerful program but it is expensive. If you are in graphics design job, then buying this software is a good idea. Otherwise you can use free but powerful software called "Paint.NET". You can download Paint.NET from its website at http://www.getpaint.net.

Graphics editor programs will enable you to cut pictures into parts, add effects to your graphics, decrease graphics size etc. In exercises of this lesson you need such software to cut a picture into 4 parts. As a web designer you really need to have expertise in at least one graphics editor software.

Exercises

▪ **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

▪ Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

▪ If you have obtained the e-Book only, you can discuss your homework questions in Learnem.com support forums (in registered e-book users section).

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1. **In previous lesson we asked you to create a 2*2 table with images inside each cell that gather at the center of the table. As we did not know how to omit cell padding and cell spacing, image parts had a little space between them.**

Rewrite that example in a way that picture parts stick to each other so that the user can not realize they are separate images. Cut a single image into four parts with your desired graphics editing program. Then use these 4 images for this exercise.

If you want to send your exercise to your tutor send pictures with it (preferably all of them in a zip file). Also mention which program you are using for editing images.

2. Rewrite above example so that each part of image links us to a different page in your website. Use <A HREF=""></A> inside <TD></TD> tags.

Lesson

7

Tables (3)

Cells, rows and table itself can be painted with colors. In addition each cell or the whole table can have images as their background.

Table background color

Newer browser software (IE, Netscape and Firefox) support background colors for tables. It is possible to specify background color for a table inside <TABLE> tag. Example 7-1 shows how we can specify a color for an entire table (figure 7-1).

Example 7-1: page7-1.html

```
<HTML>
<HEAD>
<TITLE>Example 7-1</TITLE>
</HEAD>
<BODY>
<TABLE width="300" BGCOLOR="#66CCFF">
  <TR>
    <TD width="50%">A</TD>
    <TD width="50%">B</TD>
  </TR>
  <TR>
    <TD width="50%">C</TD>
    <TD width="50%">D</TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```
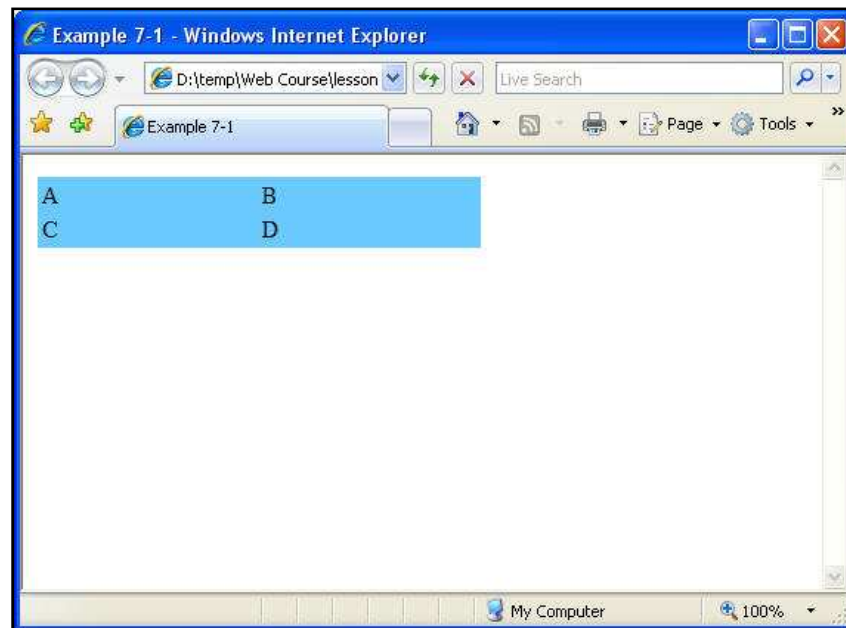
FIGURE 7-1: example7-1 view

It is possible however to specify different colors for each row or even each cell of the table. If you want to specify a color for an entire row, you can use BGCOLOR option inside <TR> tag. In example 7-2 we have specified a different color for each row.

Example 7-2: page7-2.html

```
<HTML>
<HEAD>
<TITLE>Example 7-2</TITLE>
</HEAD>
<BODY>
<TABLE width="300" BORDER=1>
  <TR BGCOLOR="#66CCFF">
    <TD width="50%">A</TD>
    <TD width="50%">B</TD>
  </TR>
  <TR BGCOLOR="#CCFFFF">
    <TD width="50%">C</TD>
    <TD width="50%">D</TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```
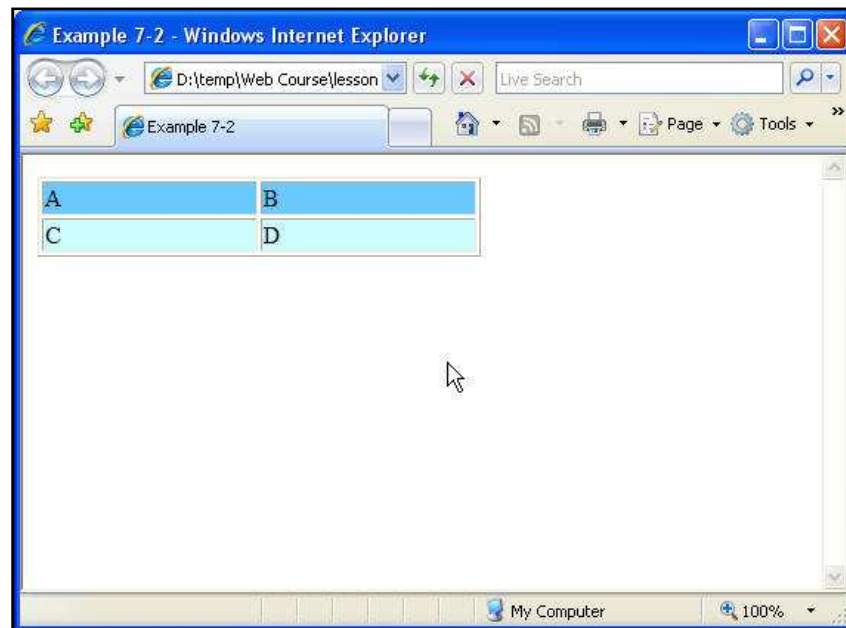
FIGURE 7-2: example7-2 view

As we mentioned earlier, it is also possible to specify a color for individual cells by using BGCOLOR option in <TD> </TD> cell tags. You can of course mix all above options to create a specific table design. In example 7-3 we change color of the first row to "#336699". We also change color of two cells in second row to "#66CCFF" and "#CCFFFF" respectively.

Example 7-3: page7-3.html

```
<HTML>
<HEAD>
<TITLE>Example 7-3</TITLE>
</HEAD>
<BODY>
<TABLE width="300" BORDER=1>
  <TR BGCOLOR="#336699">
    <TD width="50%">A</TD>
    <TD width="50%">B</TD>
  </TR>
  <TR>
    <TD width="50%" BGCOLOR="#66CCFF">C</TD>
    <TD width="50%" BGCOLOR="#CCFFFF">D</TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```
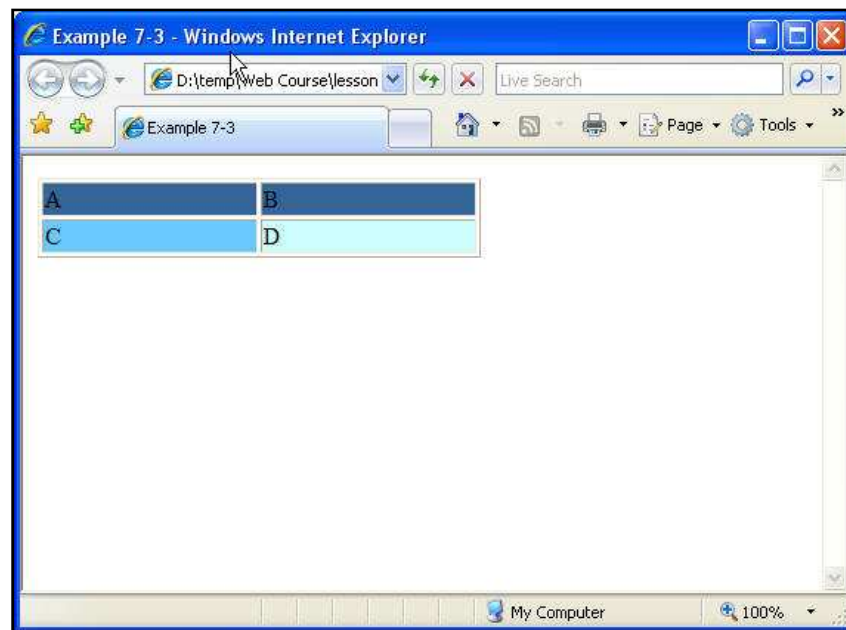
FIGURE 7-3: example7-3 view

Column Span

Sometimes you need to join two cells in a row to each other. For example in a 2*3 table we may want to join two first cells with each other to create something like Figure 7-4. COLSPAN=2 in <TD> tag means this specific column (cell) will span to two cells instead of one.

FIGURE 7-4: A table with two first cells joined

Example 7-4: page7-4.html

```
<HTML>
<HEAD>
<TITLE>Example 7-4</TITLE>
</HEAD>
<BODY>
<TABLE BORDER=1 WIDTH=300>
  <TR>
    <TD COLSPAN=2 WIDTH=100>A</TD>
    <TD WIDTH=100>B</TD>
  </TR>
  <TR>
    <TD>A</TD>
    <TD>B</TD>
    <TD>C</TD>
```

```
   </TR>
</TABLE>
</BODY>
</HTML>
```
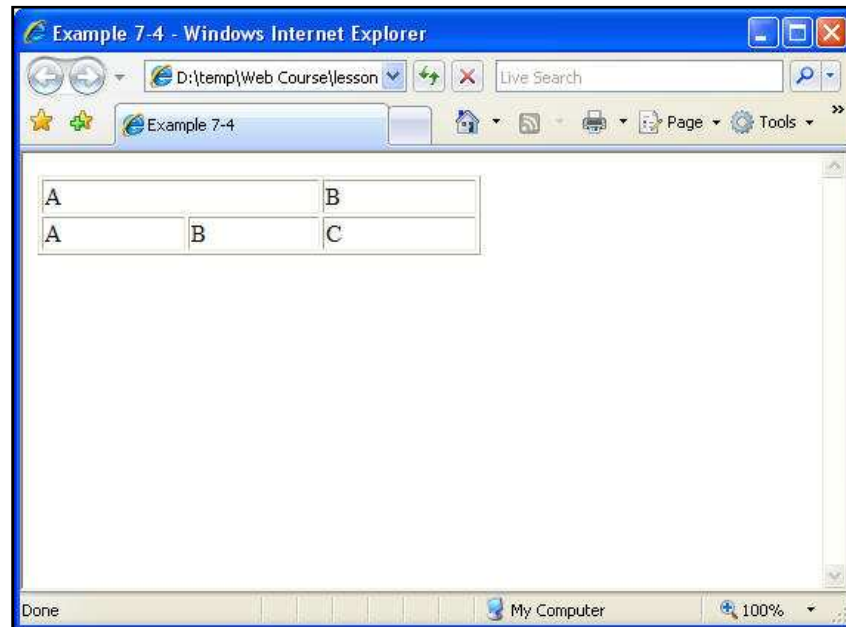

FIGURE 7-5: joining two columns using colspan

If you have 3 cells in each row by default and you extend a cells using COLSPAN=2 to two cells you should have two <TD> tags in that row instead of 3. In above figure 7-5, for the first row we have two <TD> tags and for second row we have 3 of them. Also if you define a width of 100 for a cell which has a COLSPAN=2, the resulting joined cell will have a width of 200.

Row Span

This time we want to join two cells in a column (from different rows) to each other. This is very similar to previous section with the difference that we now want to join cells from different rows rather than cells in different columns. We use ROWSPAN instead of COLSPAN to do this.

FIGURE 7-6: joining two rows using rowspan

Example 7-5: page7-5.html

```
<HTML>
<HEAD>
<TITLE>Example 7-5</TITLE>
```

```
</HEAD>
<BODY>
<TABLE BORDER=1 WIDTH=200>
  <TR>
    <TD ROWSPAN=2>A</TD>
    <TD>B</TD>
    <TD>C</TD>
  </TR>
  <TR>
    <TD>D</TD>
    <TD>E</TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```
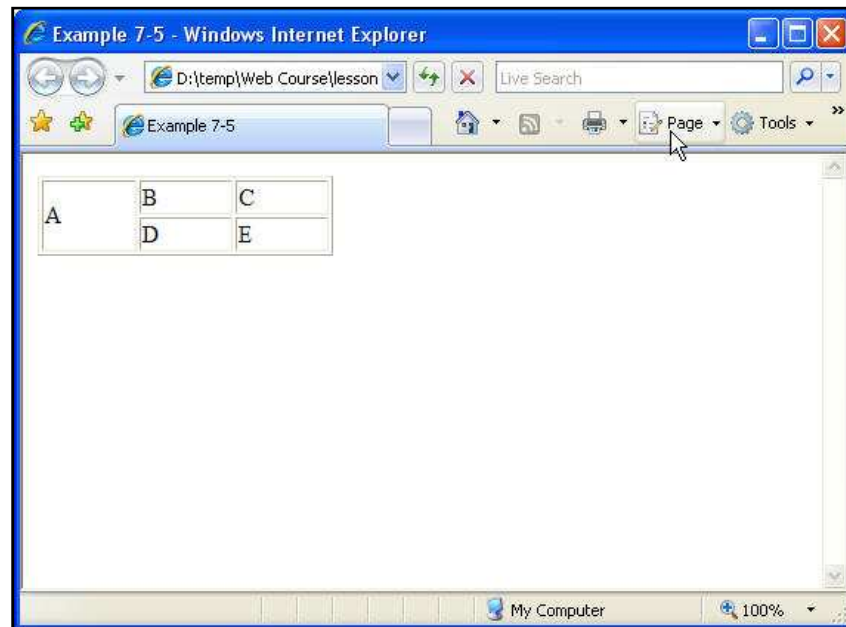

FIGURE 7-7: joining two rows using rowspan

Again when you have joined two cells using the option ROWSPAN=2 and your table has a total of 2 rows, first <TR> which shows the first row will contain 3 cells or <TD> tags but second row will have only 2 cells (because the first cell of second row has been joined to a cell in first row and actually has become a part of first row). Look carefully at example 7-5 and try to understand how ROWSPAN works. Again you may mix different tags to create your custom designed tables.

Nested Tables

In HTML (and also in Word processors) it is possible to nest tables in each other. If you are going to design complicated web pages you will do this most of the time. For example let's assume you need a table with a border size of 3 in a specific part of a web page. To fix the position of that table in your

desired place you can use a table with border size of 0 (hidden) which is just supposed to help us to position the other table. Nested table code is almost straightforward.

Example 7-6: page7-6.html

```
<HTML>
<HEAD>
<TITLE>Example 7-6</TITLE>
</HEAD>
<BODY>
<TABLE border=0 width=500>
  <TR>
    <TD width="25%"> </TD>
    <TD width="25%"> </TD>
    <TD width="25%">
      <TABLE border="2" width="100%">
        <TR>
          <TD width="50%">1-</TD>
          <TD width="50%">HTML</TD>
        </TR>
        <TR>
          <TD width="50%">2-</TD>
          <TD width="50%">C Prog.</TD>
        </TR>
        <TR>
          <TD width="50%">3-</TD>
          <TD width="50%">JScript</TD>
        </TR>
      </TABLE>
    </TD>
    <TD width="25%"> </TD>
  </TR>
</TABLE>
</BODY>
</HTML>
```

In this example we have a 1*4 table. We want to hold our main table inside this table in its third column so that our main table will be shown in right side of the center of the screen. Main table has a border size of 1 while first table is hidden. In below figure you can see both the hidden table and the main table. You can see the actual web page in figure 7-9.
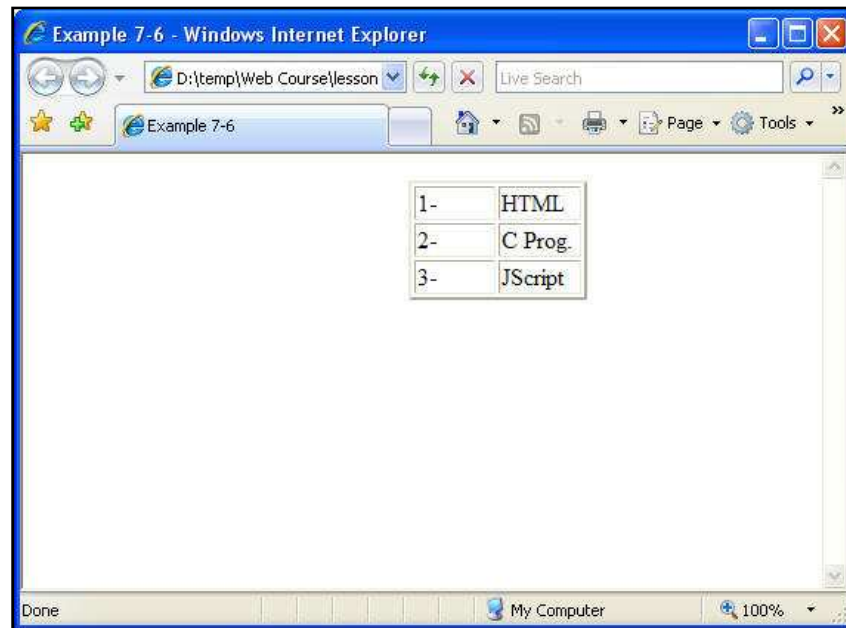

FIGURE 7-8: A sketch of what we want to have

FIGURE 7-9: Nested tables, outer table is hidden, inner table can be seen

You have learned basics of creating tables in 3 recent lessons. Tags related to html tables are not very difficult to learn but creating a page with a lot of nested and complicated tables might become difficult. You need to work for some time to be able to use tables effectively. In next lesson we will start studying on Frames. Until then, you can use your free time to work on tables.

Exercises

▪ **Important:** Do **not** use any html authoring program like MS FrontPage, Expression or Dreamweaver. You must work on the codes using a simple text editor.

▪ Paid students need to submit their exercises inside e-learning virtual campus. Corrected exercises will be available inside virtual campus.

▪ If you have obtained the e-Book only, you can discuss your homework questions in Learnem.com support forums (in registered e-book users section).

1. **Create a 3*2 table (2 rows) similar to below picture. Apply same alignment in cells.**

2. Rewrite above example so that first row cells have a specific color and each cell in second row has a separate color.

3. Create a table with 3 columns and 1 row. Now nest a 2*2 table in center of the screen using previous table so that first table is invisible but second one has a border size of 3.