EXTENDED LEARNING MODULE F

BUILDING A WEB PAGE WITH HTML

Student Learning Outcomes

1. DEFINE AN HTML DOCUMENT AND DESCRIBE ITS RELATIONSHIP TO A WEB SITE.

2. DESCRIBE THE PURPOSE OF TAGS IN HYPERTEXT MARKUP LANGUAGE (HTML).

3. IDENTIFY THE TWO MAJOR SECTIONS IN AN HTML DOCUMENT AND DESCRIBE THE CONTENT WITHIN EACH.

4. DESCRIBE THE USE OF BASIC FORMATTING TAGS AND HEADING TAGS.

5. DESCRIBE HOW TO ADJUST TEXT COLOR AND SIZE WITHIN A WEB SITE.

6. DESCRIBE HOW TO CHANGE THE BACKGROUND OF A WEB SITE.

7. LIST THE THREE TYPES OF LINKS IN A WEB SITE AND DESCRIBE THEIR PURPOSES.

8. DESCRIBE HOW TO INSERT AND MANIPULATE IMAGES IN A WEB SITE.

9. DEMONSTRATE HOW TO INSERT LISTS IN A WEB SITE.

Introduction

Creating a Web site . . . everyone seems to be doing it. Businesses create Web sites to sell products and services, provide support information, and conduct marketing activities. Individuals build Web sites for a variety of reasons. Some want a family Web site. Some want a Web site for their evening sports leagues. Your instructor has probably built a Web site to support your class. And we've created a Web site to support your use of this text.

Whatever the case, building a basic Web site is actually not that difficult. If you want a Web site that supports product ordering capabilities, then you'll need specific expertise. But putting up a Web site with just content is simple and easy. In this extended learning module, we'll show you how.

Before we begin, let's discuss several important issues. First, be careful what sort of private personal information you include on your Web site. We definitely recommend that you do not include your social security number, your address, or your telephone number. You always need to keep in mind that there are almost 1 billion people on the Internet. Do you really want them all to know where you live?

You also need to consider your target audience and their ethics. Having a Web site with profanity and obscene images will offend many people. And, more than likely, your school won't allow you to build a Web site of questionable content. Even more basic than that, you need to consider your target audience and their viewing preferences. For example, if you're building a Web site for school-age children, you'll want to use a lot of bright colors such as red, blue, green, and yellow. If you're targeting college students to advertise concerts and other events, you'll want your Web site to be more edgy and include sharp contrasting colors (including black).

Just remember this: The most elegant solution is almost always the simplest. If you consider eBay, it uses a very simple and elegant presentation of information. The background is basic white. You'll see very little if any flashy movement. You'll hear very little sound. eBay is one of the most visited sites on the Web today. And it's making money with a very simple and elegant Web site.

In this module, we'll introduce you to the basics of building a Web site. If you're interested in learning more about what you can do with a Web site, we recommend that you connect to the Web site that supports this text at www.mhhe.com/haag (and select XLM/F). There, we've included more about building a Web site and useful resources on the Web.

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Hypertext Markup Language (HTML)

Hypertext markup language (HTML) is the language you use to create a Web site. HTML simply allows you to (1) specify the content of your Web site and (2) specify formatting such as bold, underline, and numbered lists.

To create a Web site with HTML, you must first create an HTML document. An ***HTML document*** is a file that contains your Web site content and HTML formatting instructions. In Figure F.1, on this page, we've provided the HTML document that creates the corresponding Web site in Figure F.2 on page 4. We created the HTML document in Figure F.1 using Notepad, a utility that comes with every Microsoft operating system. Notepad is a simple and easy-to-use version of Microsoft Word. You can access Notepad by clicking on **Start,** pointing at **All Programs,** pointing at **Accessories,** and then clicking on **Notepad.** Once we started Notepad, we typed in the text you see in Figure F.1 and saved it as **Astronomy.html.** When you create an HTML document, be sure to save it with either **html** or **htm** as the extension.

As you begin to draft your HTML document, we recommend that you first type in the necessary structure tags. An ***HTML tag*** specifies the formatting and presentation of information on a Web site. ***Structure tags*** are HTML tags that set up the necessary sections and specify that the document is indeed an HTML document.

In Figure F.1, we included the **<html>** structure tag at the beginning of the document and included the corresponding ending **</html>** tag at the end. This tag provides a frame around your Web site and tells every operating system and piece of application software that this is an HTML document and that the content within it should be displayed as a Web site.

In each HTML document, you must have two sections: the head section and the body section, in that order. So we included those two as well. Notice the **<head>** tag appears right after the **<html>** tag and the **</head>** tag appears after the title of the Web site. Immediately after the head section we included the **<body>** tag to start the body

Figure F.1

The HTML Document That Creates Your Astronomy Web Site (see Figure F.2)

Head section

Body section

Structure tags

```
<html>

<head>
<title>Interesting Facts in Astronomy</title>
</head>

<body>

<center><h1>ASTRONOMY FACTS</h1></center>
<hr>
<img src="hubblephoto.jpg" align=right>

<h3>THE FIVE CLOSEST STARS TO THE EARTH</h3>
Traveling at a speed of 25,000 miles per hour (which is <u>faster</u> than any human has ever
traveled), it would take you a little over 110,000 years to reach the Earth's closest star,
excluding the Sun.  The five closest stars are:

<ol>
<li>Proxima Centauri - 25 million miles
<li>Alpha Centauri - 25.5 million miles
<li>Barnard's Star - 35 million miles
<li>Wolf 359 - 45.5 million miles
<li>Lalande 21185 - 48 million miles
</ol>

<h3>LARGEST METEORITES FOUND IN THE UNITED STATES</h3>
Throughout the history of the Earth, it has been literally pounded by meteorites.  In the U.S. alone
about <strong>1,200</strong> meteorites have been recorded to reach the surface. The ten largest
meteorites have been found in the following states:

<ul>
<li>Arizona - 3
<li>California - 2
<li>Kansas - 2
<li>Oregon - 1
<li>Nevada - 1
<li>Georgia - 1
</ul>

</body>
</html>
```

section and we included the **</body>** tag immediately before the **</html>** tag to end the body section.

Every HTML document you create must have those structure tags. You might also notice that those tags have a starting tag (format is **<tag name>**) and an ending tag (format is **</tag name>**). It's very important that you use both the starting and ending tag. The ending tag basically tells a Web browser when certain formatting or sections end.

In the head section, you can include a variety of tags for creating a description that will appear in search engines, key words that search engines will use to categorize your Web site, and a title. We included a title using the **<title>** and **</title>** tags. The title of your Web site is what appears in the upper left title bar area of a Web browser. The head section doesn't require that you have anything inside it.

WORKING WITH AND VIEWING YOUR WEB SITE LOCALLY

For everyone to see your Web site, you must store your HTML document (along with any photos and pictures) in your Web space. *Web space* is a storage area where you keep your Web site. Your Web space must be on a Web server for everyone to see it. Most ISPs and perhaps even your school provide you with Web space. However, while you're creating your Web site, we recommend that you do so locally on your personal computer.

When you save your HTML document (as we'll be doing with Notepad), you'll be saving it to your computer. We recommend that you create a special folder just for your HTML document and your photos and pictures. To view your Web site, simply start Internet Explorer and follow these steps:

1. Click on **File** and **Open.**
2. Click on the **Browse** button.
3. Choose the appropriate folder and HTML document name.
4. Click on **Open** and then **OK.**

Now, as you draft your HTML document, you can periodically save the file, go to your Web browser, click on the **Refresh** button, and view the changes you've made.

Figure F.2

Your Astronomy Web Site

Image

Numbered list

Bulleted list
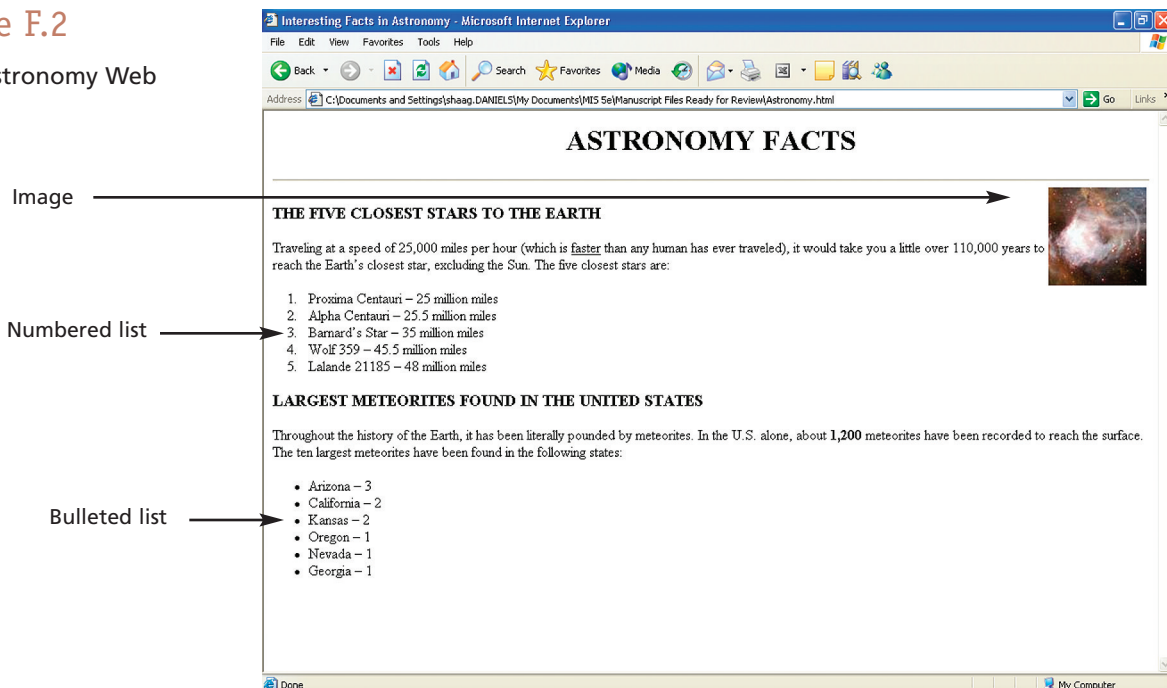
Basic Text Formatting

Basic formatting tags are HTML tags that allow you to specify formatting for text. In Figure F.2, on page 4, you can easily find some basic formatting including bolding (the number 1,200) and underlining (the word *faster*). You can also italicize information (among many other types of formatting) and combine basic formatting tags. The three most commonly used basic HTML formatting tags are:

- Strong for bold—** **
- Underline—**<u> </u>**
- Emphasis for italics—** **

In Figure F.3, you can see a sample HTML document that illustrates the use of these three tags. In Figure F.4, on page 6 you can see how content of the Web site is displayed. Notice that we combined the tags in a couple of instances. For example, we bolded and underlined the phrase "It's really easy!" by placing in the HTML document **<u>**It's really easy!**</u>.**

You should also notice that we've introduced the **
** tag. The **
** tag is essentially a carriage return in cyberspace. When a Web browser displays your Web site, it gives no regard to multiple spaces, hard carriage returns, or tabs in your HTML document. To cause text to start on a new line, you must use the **
** tag (it has no corresponding ending tag). So, no matter how many blank lines you have in your HTML document, none of them will be displayed in your Web site. If you want seven blank lines, you must insert the **
** tag seven times.

You'll also see the use of another tag in Figure F.3: the horizontal rule tag (**<hr>**). The horizontal rule tag places a solid horizontal line in your Web site. This often helps to separate information.

Figure F.3

HTML Document with Basic Formatting and Heading Tags

```
<html>

<head>
<title></title>
</head>

<body>

<br>
<br>

<h1>THE LARGEST HEADING</h1>
Using basic formatting HTML tags is easy.  Below are some samples:
<br>
<strong>Building a Web site is simple.</strong>          ← Bold
<br>
<em>You can easily italicize information.</em>          ← Italics
<br>
<strong><u>It's really easy!</u></strong>
<br>
<hr>
<h6>SMALLEST HEADING SIZE</h6>
<h3>AN INTERMEDIATE HEADING SIZE</h3>          ← Heading size of 3

</body>
</html>
```

Creating Headings

Heading tags are HTML tags that make certain information, such as titles, stand out on your Web site. To create the Astronomy Web site in Figure F.2 we used heading tags for the title of the Web site (ASTRONOMY FACTS) and the two sections (THE FIVE CLOSEST STARS TO THE EARTH and LARGEST METEORITES FOUND IN THE UNITED STATES). Heading tags bold information and adjust its size according to the number you use.

Heading sizes can be from 1 to 6, with 1 being the largest and 6 being the smallest. So, **<h1>** starts the formatting for the largest size of heading whereas **<h6>** starts the formatting for the smallest size of heading. In Figure F.3, on the previous page, we've included the use of several heading tags in the HTML document. Figure F.4 shows how the heading information is then displayed on a Web site.

When you use the heading tags, your Web browser assumes that the heading information is to appear on its own line. So, your Web browser, when encountering a heading tag, will move the heading information to a new line and place a blank line after the heading information (when it encounters the **</hnumber>** ending tag).

It's very important that you remember to end each heading tag you use. If you start a heading tag with **<h1>,** for example, and then don't ever provide an ending **</h1>** tag, your entire Web site content will be very large and bolded.

As you can already start to see, building a Web site is a simple process. You just need to determine what content you want on your Web site and how you want it formatted. Then it's a relatively easy process of typing your content into your HTML document and using the appropriate HTML tags to format the content. As you begin this whole process, we would recommend that you first type in your content, along with the necessary structure tags, save your HTML document, and then review it. When your content is correct, we then recommend that you begin applying the necessary formatting tags and periodically reviewing your Web site.

Figure F.4

The Web Site That Figure F.3 Creates

Heading of size 1 ⟶

Horizontal rule ⟶
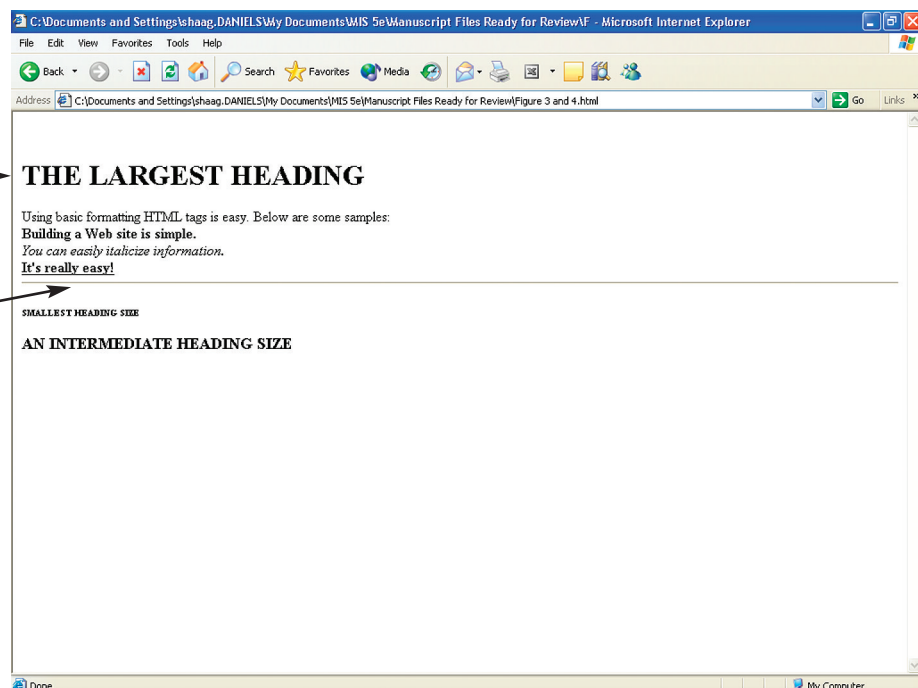
Adjusting Text Color

The default text color on a Web site is black. You can easily adjust this for some or all of your text. Adjusting the text color is another way to make certain information on your Web site stand out.

To adjust the color of your text, you use the **** tag whose format is **,** followed by **** to return the remaining text to the default of black. For the color name, you can choose from a wide variety, blue, black, magenta, green, and so on. Consider the following statement in an HTML document:

I like the color blue.

When your Web browser displays "I like the color" that statement, along with the ending period, will appear in the default color of black. The word *blue* will in fact appear in the color blue. That's about all there is to it.

If you want your entire Web site to appear in a specific color, say green for example, you would include **** in your HTML document right after the **<body>** tag. You would then also include **** in your HTML document right before the ending **</body>** tag.

In Figure F.5, we've illustrated the use of text color in an HTML document. Figure F.6 on page 8, shows how that HTML document is displayed as a Web site.

Let's stop for a moment and talk about Web site design guidelines. When building your Web site, you must be careful to create information that is valuable to someone; otherwise no one will ever visit your site. You must also create a visually appealing presentation. Although adjusting text color can certainly help, it can also be harmful. If you use too many different colors, the text can become hard to read. And, if you use light colors such as yellow against a white background, the text can be equally difficult to read.

Don't add text color to your Web site just because you know how. Use it properly to make your most important information stand out.

Figure F.5

HTML Document
Adjusting the Text Color
and Size

Changing the color
of various words

Adjusting Text Size

Another way to make certain text stand out is to adjust its font size. To adjust the size of your text, use the **** tag whose format is **,** followed by **** to return the remaining text to the default size (which is usually 3). The larger the font size number, the larger the text. Consider the following statement in an HTML document:

Astronomy is interesting.

When your Web browser displays that statement the "A" in the word *Astronomy* will be very large, a format many books and magazines use to start a paragraph, while the remaining text will be the standard size of 3.

As with changing the color of your text, you can adjust the size of all the text on your Web site. To change the size of all your text to 8, you would include **** in your HTML document right after the **<body>** tag. You would then also include **** in your HTML document right before the ending **</body>** tag.

In the previous Figure F.5 on page 7 we illustrated the use of text sizing in an HTML document. Figure F.6 on this page shows how that HTML document is displayed as a Web site.

Again, we would stress the importance of not overusing adjustments to text sizes. While creating a starting letter or word with a bigger text size is a common format, or perhaps highlighting a certain word by making it larger or smaller is acceptable, don't change the text size too often. Every time you change text sizes, the person viewing your Web site must stop reading for a split second and make a mental adjustment. If that happens too often, your content will become fragmented and lose some of its value.

Figure F.6

The Web Site That Figure F.5 Creates

Font size of 12

Font size of 1
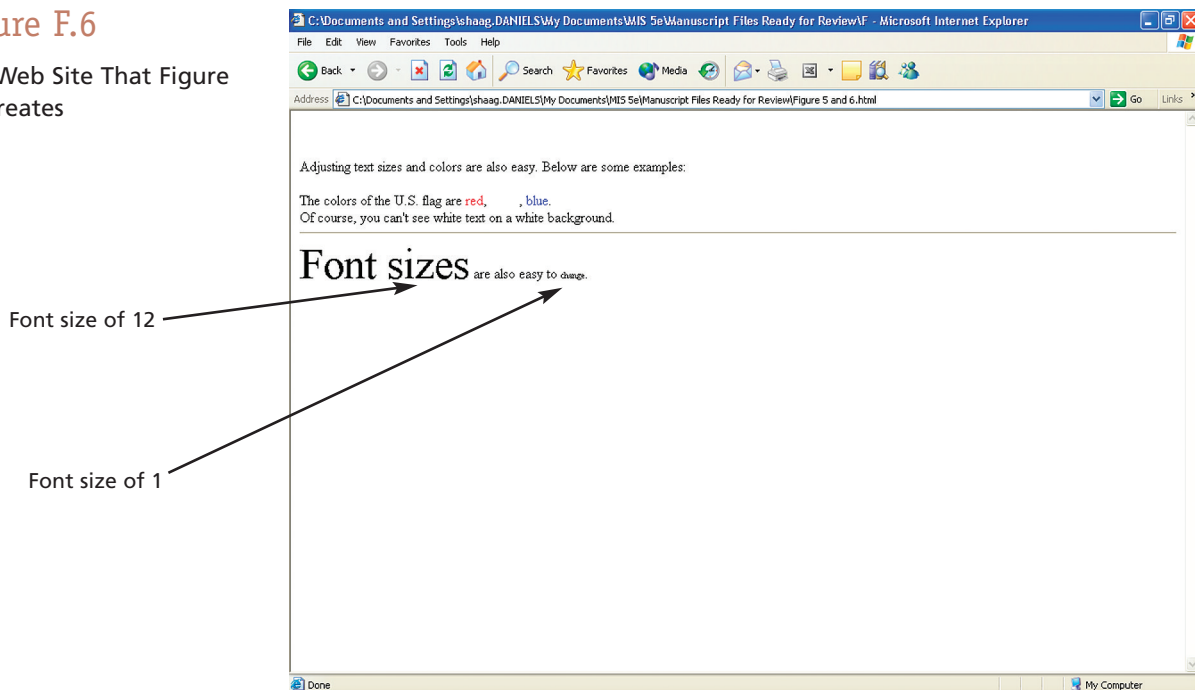
Changing the Background Color

As we just illustrated in Figures F.5 and F.6, you can't see some content if its text color is the same as the background color. You have one of two options here. You can use text colors that are not the same as the background color or you change the color of the background. The default background color is white.

To change the background color, you use the **<body bgcolor>** tag whose format is **<body bgcolor="color name">.** So, to change the background color to green, you would insert the following line in your HTML document immediately after the **<body>** tag:

<body bgcolor="green">

What you need to keep in mind is that the above tag will change the background color for your entire Web site. You cannot use that command again halfway through your HTML document to change the bottom half of your Web site to a different background color.

As always, we would stress to you that you should carefully consider why you need to change the background color before doing so. Some of the most well-known and successful e-commerce sites such as eBay, Amazon, and eBags all use a white background. There's obviously good reason for this. Don't change the background color of your Web site just because you know how.

You also need to consider the overall theme of your Web site when considering adjusting colors. As you can see in Figure F.7, we changed the color of the background to green so that the word *white* would be readable.
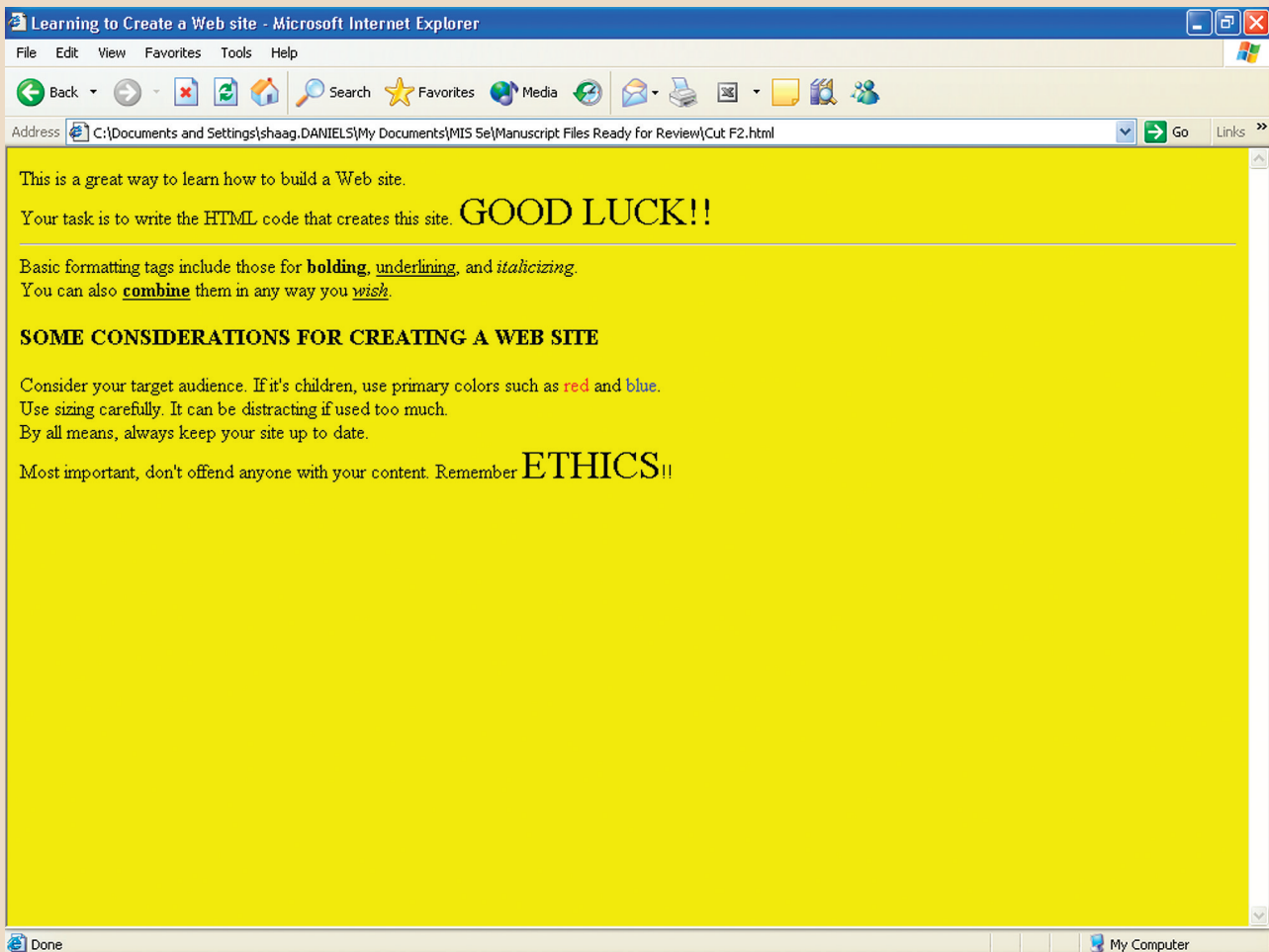
Change the background color with the
<body bgcolor> tag

Figure F.7

Changing the
Background Color
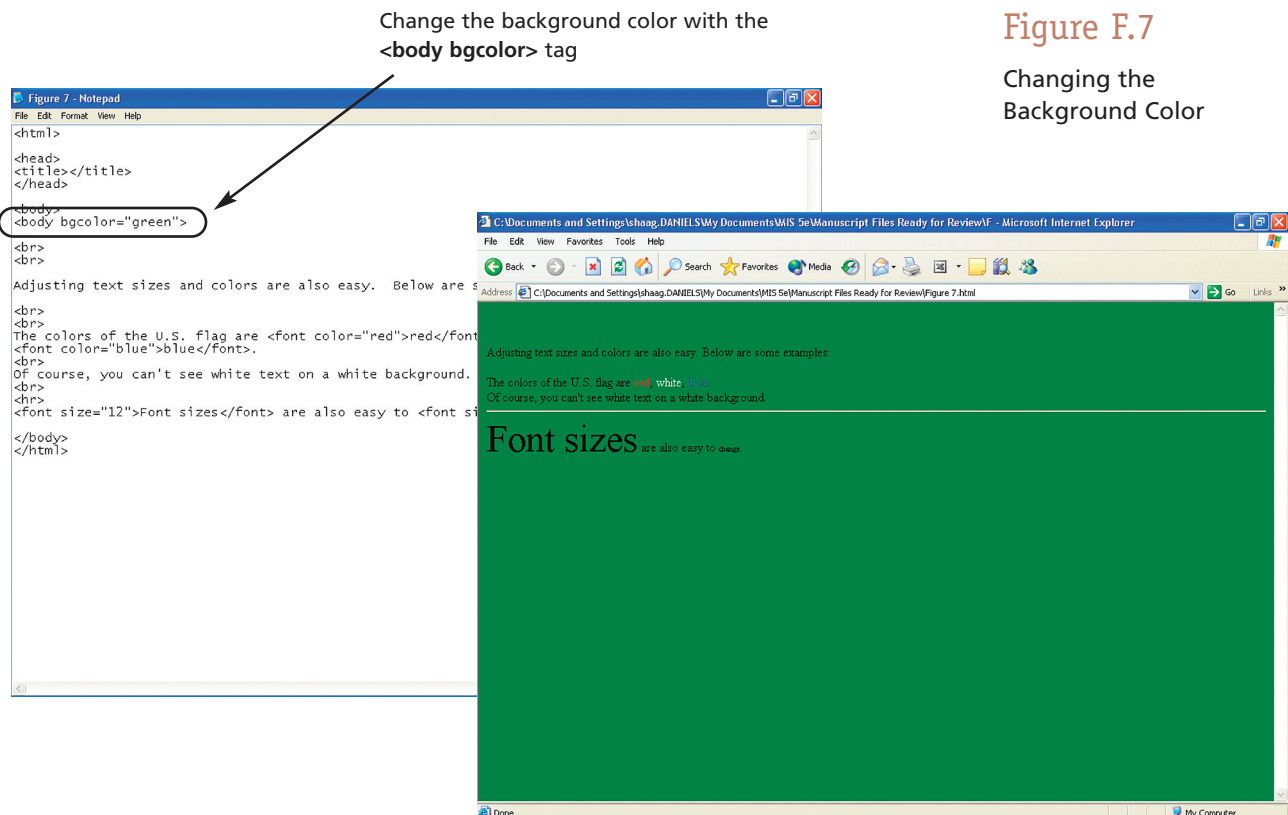
CREATING A BASIC WEB SITE

It's time for you to practice building a Web site using the basics we've just introduced: basic text formatting, headings, text sizes, text colors, and background colors.

Below, we've provided a screen capture of a Web site. Your task is to build the HTML document that would create that Web site. Use a simple editor such as Notepad. We would offer you the following hints and suggestions:

1. Save your HTML document locally on your own computer.
2. Open Internet Explorer or Netscape Communicator to periodically review your work.
3. Don't forget to include the structure tags.
4. Have fun.

Learning to Create a Web site - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   Search   Favorites   Media

Address   C:\Documents and Settings\shaag.DANIELS\My Documents\MIS 5e\Manuscript Files Ready for Review\Cut F2.html   Go   Links

This is a great way to learn how to build a Web site.

Your task is to write the HTML code that creates this site. GOOD LUCK!!

Basic formatting tags include those for **bolding**, underlining, and *italicizing*. You can also **combine** them in any way you *wish*.

SOME CONSIDERATIONS FOR CREATING A WEB SITE

Consider your target audience. If it's children, use primary colors such as red and blue. Use sizing carefully. It can be distracting if used too much. By all means, always keep your site up to date.

Most important, don't offend anyone with your content. Remember ETHICS!!

Done   My Computer

Adding Links to a Web Site

One of the great benefits of the Web is the ability to link logically related Web sites. You do this with a link. A *link* (the technical name is *hyperlink*) is clickable text or an image that takes you to another site or page on the Web. If you've spent any amount of time surfing the Web, you've undoubtedly come across and used links. There are actually three types of links:

1. Links to other Web sites or pages
2. Links to downloadable files
3. Links to e-mail

Once you learn how to build one type, you can easily build the others.

LINKS TO OTHER WEB SITES OR PAGES

Links to other Web sites or pages are the most common types of links on the Web. In Figure F.9 on page 12, you can see several different links (including the words *here* and *Visit MTV*). The default format for the presentation of links is underlined and in the color blue. If you move the pointer over a link, it will turn into a pointing hand.

The general tag format for a link in an HTML document is

text to appear on screen

In Figure F.8 on this page, you can see the tag for linking to MTV's Web site. The tag is

Visit MTV

As you can see, the Web site address (in this case) appears within the quote marks after the equal sign **(=)**. The text that will appear as a link on the displayed Web site appears after the greater than sign **(>)** and before the ending tag of **.**


```
Figure 8 and 9 - Notepad
File  Edit  Format  View  Help
<html>

<head>
<title></title>
</head>

<body>
<br>
<br>
<h2><center>USING LINKS</center></h2>
<hr>
<br>
Inserting links is easy.  Below are some examples.
<br>
<br>
<h4>Links to other Web sites</h4>
Click <a href="www.mhhe.com/haag">here</a> to visit the site for this book.
<br>
<a href="www.mtv.com">Visit MTV</a>
<br>
<br>

<h4>Links to Downloadable Documents</h4>
<a href="HTML.doc">Click here to download a document explaining HTML</a>
<br>
<a href="Sample.xls">You can click here to download an Excel workbook</a>
<br>
<a href="animals.html">View animal photos</a>
<br>

<h4>Links to E-mail</h4>
<a href="mailto:shaag@du.edu">E-mail us your thoughts and questions</a>

</body>
</html>
```

Figure F.8

HTML Document with Links

Insert links into your Web site with the **<a href>** tag

If you created another Web page or Web site to which you want to provide a link, all you have to do is provide the name of the HTML document between the quote marks. We did so in Figure F.8 to provide a link to a Web page containing photos of animals.

LINKS TO DOWNLOADABLE FILES

You may often want to provide the person viewing your Web site with files that he or she can download. In this case, you use the same HTML tag, except that you provide the filename in quote marks after the equal sign **(=)** instead of a Web site address. When the person viewing your Web site clicks on this link, he or she will see a screen that prompts either to open the file or to save it to disk.

In Figure F.8, on page 11, you can see the tag for creating a link to a downloadable file named HTML.doc (a Word document). Its link text that appears on the Web site is "Click here to download a document explaining HTML."

LINKS TO E-MAIL

You may also want to add a link in your Web site that allows people to send you an e-mail. In this case, you would use the following format

**text to appear on screen**

As you can see in the previous Figure F.8, on page 11, we included a link to an e-mail address for one of the authors of this text. The text that appears on the screen as a link in Figure F.9 on this page is "E-mail us with your thoughts and questions." That HTML statement is

E-mail us with your thoughts and questions

Three words of caution here. First, if you place links in your Web site to other Web sites, you need to periodically make sure that those links are still active. Links to dead Web sites are bad. Second, if you place links in your Web site to other Web sites you've created, you'll need to store those Web sites in your Web space. Finally, if you provide a link in your Web site for e-mail, be prepared to receive a lot of e-mail.

Figure F.9

The Web Site That Figure F.8 Creates

Links to Web sites

Links to downloadable files

Links to e-mail
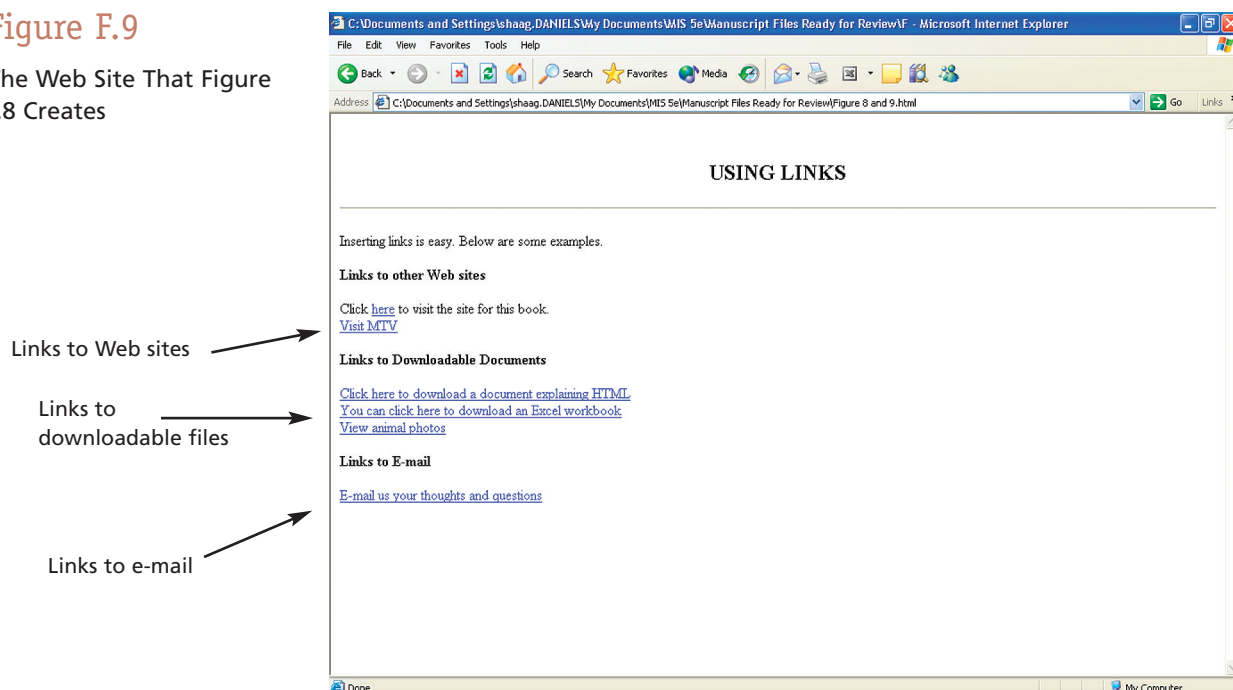
Adding Images

Another nice feature of the Web is the ability to add images and photos to your Web site. If you refer back to Figure F.2 on page 4, you'll notice that we added a nice image that the Hubble telescope captured of a distant galaxy.

The basic tag format for inserting an image or photo to your Web site is

<img src="filename.extension">

Wherever that statement appears in your HTML document is where the photo or image will appear in your Web site.
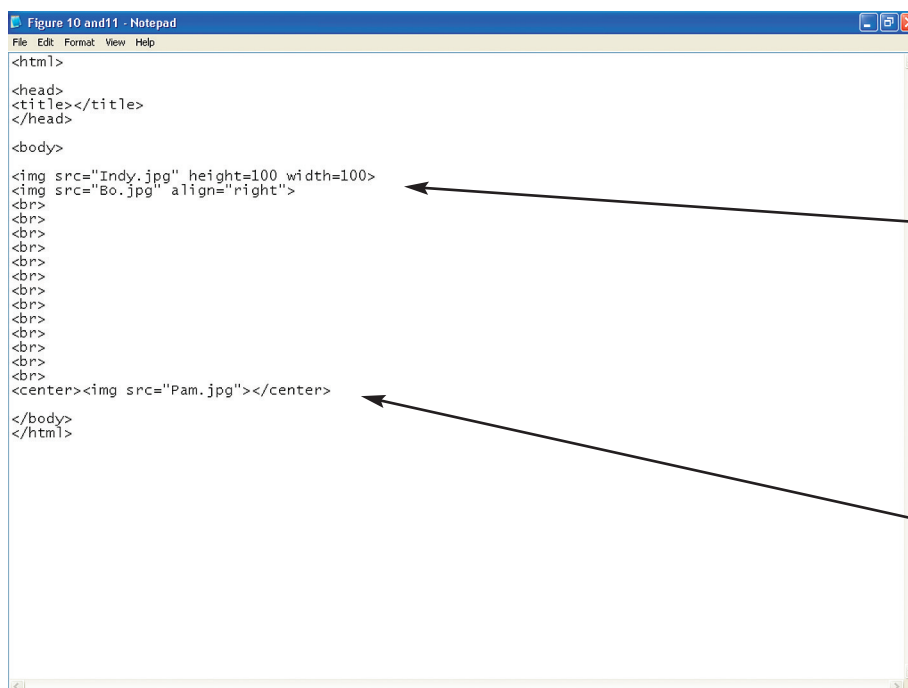
So, to insert an image or photo into your Web site, you must first store the photo or image in a separate file, and you must also place that file in your Web space. Your image or photo file must also be captured and stored in a certain format, usually either jpg or gif. That is to say, you can't use certain image types, such as bmp (bitmap) that Word often provides, in your Web site. This is important to keep in mind when you're scanning in a photo and storing it.

In Figure F.10, on this page, you can see we've created an HTML document that includes several images. In Figure F.11, on page 14, you can see how these images are displayed within the Web site. Notice they are different sizes and that one appears centered within the Web site, one appears on the left side of the Web site, and one appears on the right side of the Web site. Where you place them and how you size them is completely up to you. In the next two sections, we'll explain how to size and position images.

SIZING IMAGES

To size an image, you insert the **height** and **width** parameters into the image tag. The general format for this is

<img src="filename.extension" height=pixel count width=pixel count>

Figure F.10

HTML Document with Images

Sizing an image

Centering an image

As you can see, you size an image according to the number of pixels. Pixels are the smallest display elements on a screen. In Figure F.10, on page 13, we sized the first image for 100 pixels in height and 100 pixels in width. Depending then on the size of the viewable screen, the first image is approximately 1.5 inches by 1.5 inches square.

Of course, you can provide different values for the height and width parameters, but that might skew the image one way or the other.

POSITIONING IMAGES

The default placement for an image is left justified. You can right justify an image by inserting the **align** parameter in the image tag. As you can see in Figure F.10, on page 13, we used the following statement:

<img src="Bo.jpg" align="right">

to right justify the image. You should keep in mind that when you right justify an image, the text will appear immediately to the left. Figure F.2 on page 4 illustrates this. If you don't want this, you'll have to insert several **
** tags.

If you want to center an image, you must surround the image tag with **<center>** and **</center>.** (There is no **align="center"** option.) That's what we did with the third image in Figure F.10; you can see the result in Figure F.11.

Once again, let's talk about good design guidelines. Images are nice to have in your Web site *if* they add value. However, images take a long time to transfer from a Web server to the person viewing your Web site. If you have large images or numerous smaller images, your Web site will take a long time to load, and the person viewing your Web site may become impatient and move on to another Web site. Exercise caution when adding images.

Figure F.11

The Web Site That Figure F.10 Creates

Left-justified is the default positioning for an image

A right-justified image
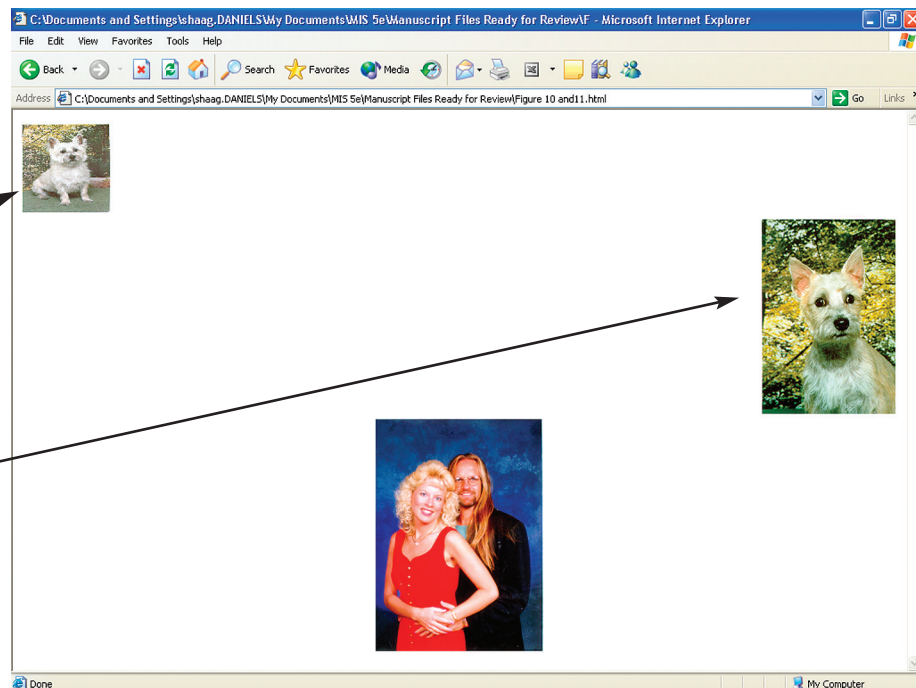
CREATING A WEB SITE WITH LINKS AND IMAGES

It's your turn to practice how to build a Web site. For this project, your team is to re-create the Web site provided below. Notice that it contains links to five popular e-commerce Web sites. If you need the addresses for these sites, simply search for them on the Web.

Also notice that the Web site contains two images. You don't have to use these exact images. You can search the Web and download two images of your choice, scan in two images yourself, or use a downloaded and scanned image.

As you re-create the Web site below, take some time to position the images in different places and change their sizing.
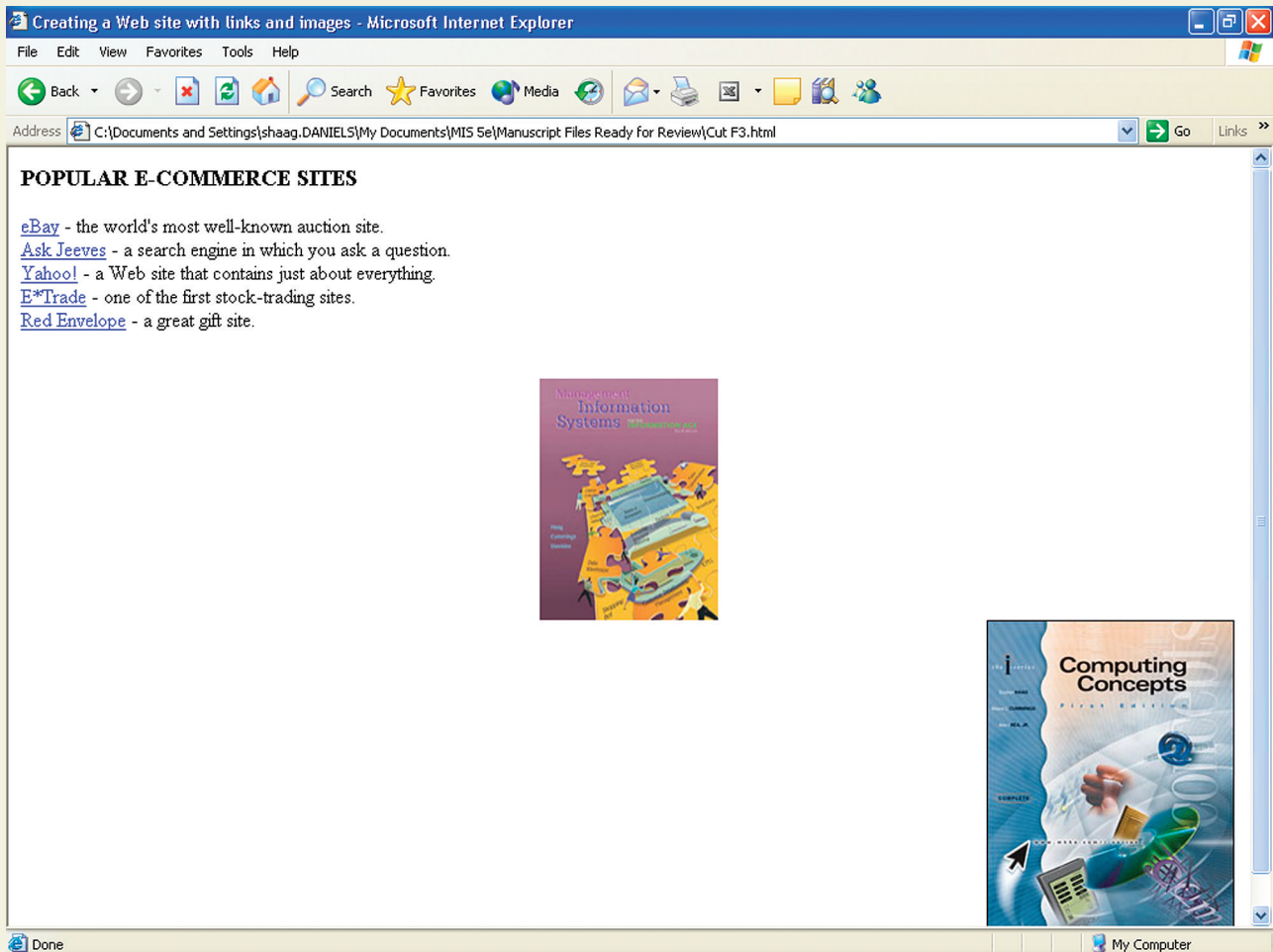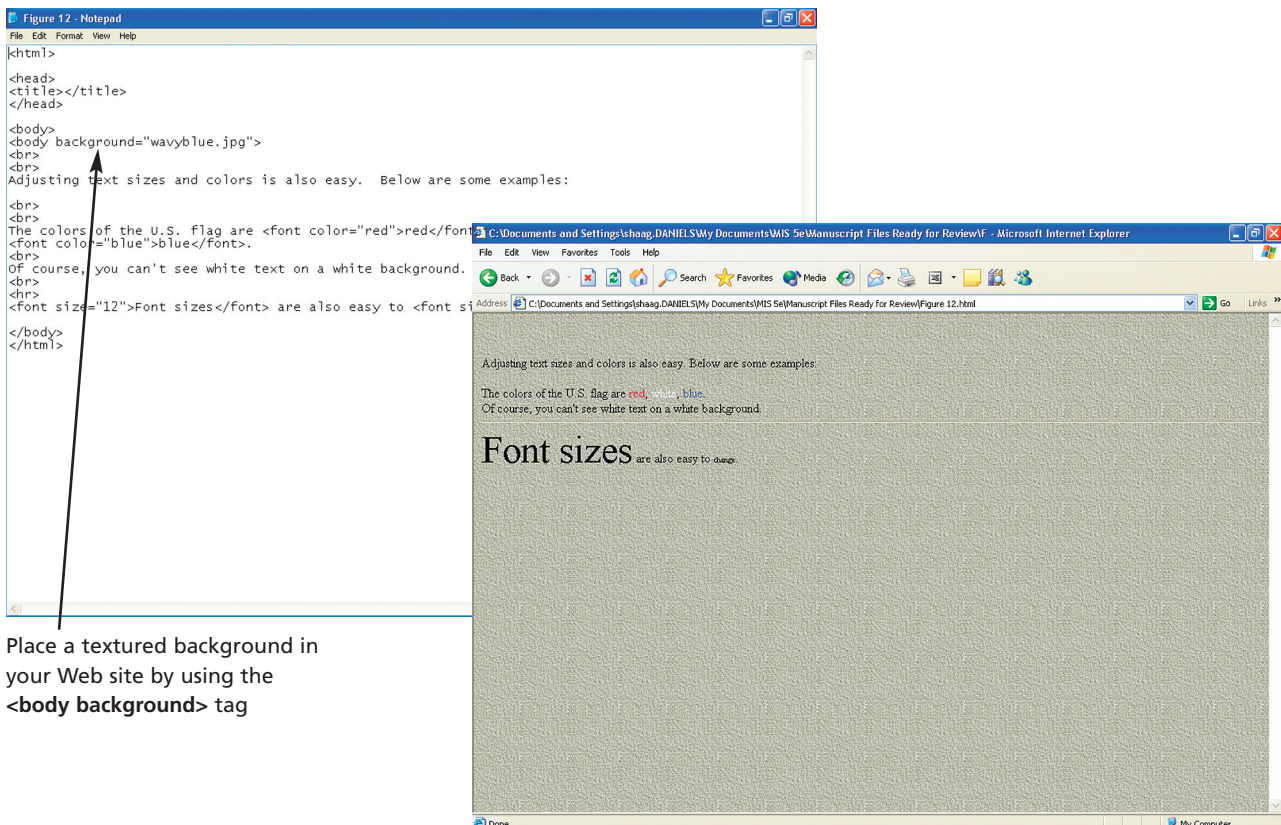
Using a Textured Background

A few pages back, we demonstrated how to change the color of the background. It's a simple process of using the **<body bgcolor>** tag along with a color name. Another alternative is to create a textured background.

Textured backgrounds make use of an image (jpg or gif as we just discussed). But the image doesn't have to be big enough to cover the entire background of your Web site. Instead, when you include an image as a background, your Web browser will replicate the image as many times as it needs to both across and down.

To use an image and create a textured background, you use the **<body background>** tag whose format is **<body background="filename.extension">.** This statement should appear immediately after the **<body>** statement in your HTML document. For example, suppose you had stored a wavy blue image in a file called wavyblue.jpg. To use it as the background, you would use the statement **<body background="wavyblue. jpg">.** That's all.

Another word of caution concerning Web site design. Textured backgrounds can often be distracting to the person viewing your Web site. And textured backgrounds with dark colors will often hinder the person viewing your Web site from being able to easily read your content. As always, use textured backgrounds with caution and don't use them if your intended audience doesn't like them. Figure F.12 illustrates the use of a textured background.

Figure F.12

Using a Textured Background

Place a textured background in your Web site by using the **<body background>** tag

Creating and Using Lists

We'll conclude our presentation of how to build a Web site with HTML by demonstrating how to create and use lists. Of course, we've really only scratched the surface of everything you can do with HTML.

There are two types of lists: numbered lists and unnumbered or bulleted lists. If you refer back to Figure F.2 on page 4, you'll find an example of each. The five closest stars to the earth are a numbered list, while the list of states with the largest meteorites is an unnumbered list. Once you learn how to create one type of list, you have to change only two characters in your HTML document to create the other.

NUMBERED LISTS

To create a numbered list, you would use three HTML tags: **
, ,** and **
.** The **
** tag starts the numbered list (the o in ol stands for ordered); the **
** tag ends the numbered list; and you use the **<li>** tag for each item in the list (li stands for list item). If you take a look at Figure F.13, on this page, you'll see the HTML document that contains a numbered list—the five highest paying jobs in the United States according to a 2000 survey. Figure F.14 on page 18 shows how that HTML document will be displayed as a Web site.

Notice that the list begins with the **
** tag and ends with the **
** tag. And notice that each item in the list is preceded by the **
** tag (you don't need to use a corresponding **
** tag for each **<li>** tag).

The default numbering for numbered lists is Arabic. You can change that as well by adding the **type** parameter to the **<ol>** tag. Examples include

- **<ol type=a>**—lowercase letters
- **<ol type=A>**—uppercase letters
- **<ol type=i>**—lowercase Roman numerals
- **<ol type=I>**—uppercase Roman numerals

Figure F.13

HTML Document with Lists

```
<html>

<head>
<title></title>
</head>

<body>
<h1><center>USING LISTS</center></h1>
<hr>
<br>
<br>
Creating lists is easy to do with HTML.  Below are two examples.
<br>
<br>

<h3>The Five Highest Paying Jobs in the U.S.</h3>
<ol>
<li>Physician
<li>Lawyer
<li>Airplane pilot/navigator
<li>Aerospace engineer
<li>Pharmacist
</ol>

<h3>U.S. Companies Making the Greatest Profit per Second</h3>
<ol>
<li>Exxon Mobil ($561)
<li>Citigroup ($428)
<li>General Electric ($403)
<li>Verizon Communications ($374)
<li>Intel ($334)
</ol>

</body>
</html>
```

All items in a list must start with the **<li>** tag

CREATING A WEB SITE WITH LISTS

For this project, your team is to create a Web site that contains three different lists. The first list (numbered) should contain the top 10 Web sites in terms of number of visits or hits. You'll have to do a little researching to find this list (we, of course, recommend that you use the Web).

The second list (unnumbered) should be a list of all the business classes each student at your school is required to take regardless of his or her major.

The final list should be some sort of list within a list. That is, this list must be a numbered list within an unnumbered list or an unnumbered list within a numbered list. The content of this list is completely your choice. However, do make the content meaningful.

UNNUMBERED LISTS

Once you know how to create numbered lists, creating unnumbered lists is like falling off a log. All you have to do is use the tags **
** and **
** (the u in ul stands for un-ordered) instead of the tags **
** and **.** Figure F.13 on page 17 shows an HTML document that contains an unnumbered list, and Figure F.14 on this page shows how that HTML document will be displayed as a Web site.

Figure F.14

The Web Site That Figure F.13 Creates

A numbered list

An unnumbered list
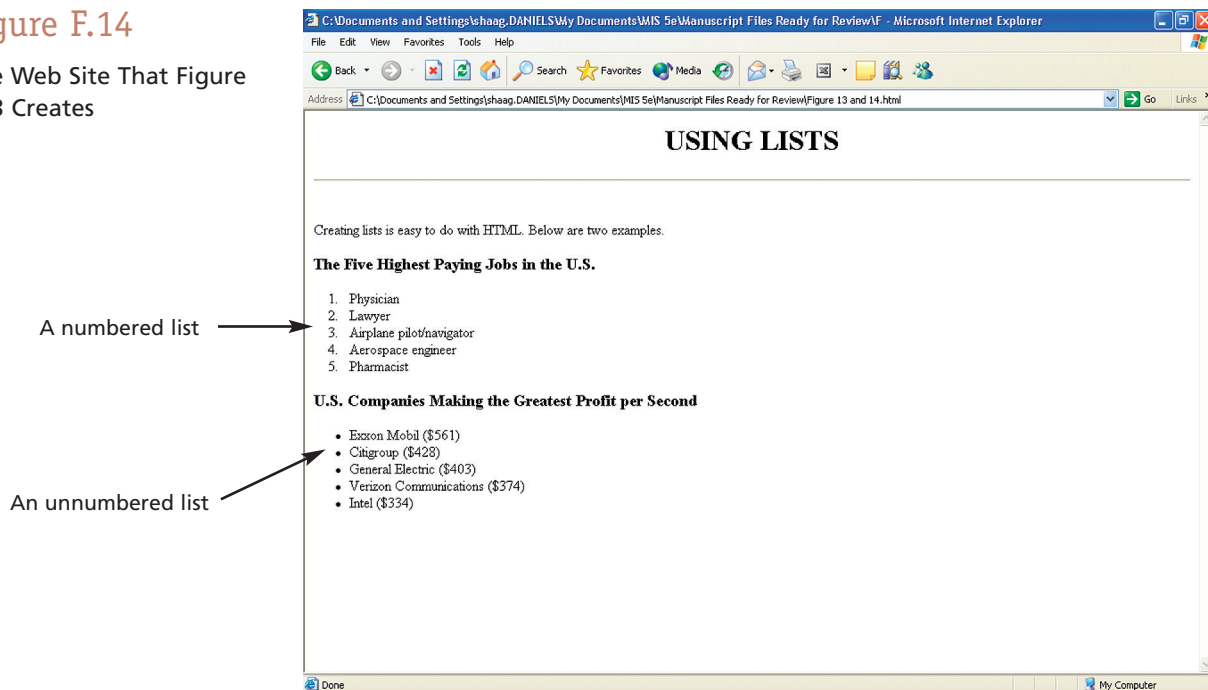
CREATING YOUR OWN WEB SITE

As you finish working through this module, it's time to start thinking about building a personal Web site. And that's your task for this project. Your personal Web site should include the following:

1. An image
2. At least two different sizes of headings
3. Different sizes and colors of text
4. At least two horizontal rules
5. Text that is bolded, underlined, and/or italicized
6. Either a nonwhite or textured background
7. Links to at least five other Web sites
8. One downloadable file
9. A link to your e-mail
10. One numbered and one unnumbered list

Again, we would ask that you exercise caution when providing information. Please feel free to use fictitious information instead.

You can also create numbered lists within unnumbered lists or unnumbered lists within numbered lists. Below is the HTML code that produces unnumbered lists within a numbered list.

HTML Code

```
<ol>
<li>First numbered item
<ul>
<li>First bullet under #1
<li>Second bullet under #1
<li>Third bullet under #1
</ul>
<li>Second numbered item
<li>Third numbered item
<ul>
<li>First bullet under #3
<li>Second bullet under #3
</ul>
</ol>
```

What You'll See

1. First numbered item

   - First bullet under #1
   - Second bullet under #1
   - Third bullet under #1

2. Second numbered item
3. Third numbered item

   - First bullet under #3
   - Second bullet under #3

Summary: Student Learning Outcomes Revisited

1. **Define an HTML document and describe its relationship to a Web site.** An *HTML document* is a file that contains your Web site content and HTML formatting instructions. So, an HTML document consists of content and formatting tags. Web browsers use HTML documents to actually create and display a Web site.

2. **Describe the purpose of tags in hypertext markup language (HTML).** *Hypertext markup language (HTML)* is the language you use to create a Web site. It allows you to specify that a file is an HTML document, create the necessary sections, and provide formatting for Web content.

3. **Identify the two major sections in an HTML document and describe the content within each.** The two major sections in an HTML document are the head section and the body section. In the head section, you include such information as a Web site title, description, and key words. In the body section, you include your Web site content along with formatting instructions (tags).

4. **Describe the use of basic formatting tags and heading tags.** *Basic formatting tags* are HTML tags that allow you to specify formatting for text. The common basic formatting tags include bold **( ),** underline **(<u> </u>),** italics **( ),** carriage return **(<br>),** and horizontal rule **(<hr>).** *Heading tags* are HTML tags that make certain information, such as titles, stand out on your Web site. The heading tag format is **<hnumber>** and **</hnumber>,** where **number** is from 1 to 6 with 1 being the largest and 6 being the smallest.

5. **Describe how to adjust text color and size within a Web site.** You can adjust text color with **** and **,** where **color name** is the name of a color such as blue, green, magenta, and so on. You can adjust text size with **** and **,** where **font size** is a number. The default size is usually *3*.

6. **Describe how to change the background of a Web site.** You can change the background of a Web site in one of two ways. First, you can change the default color of white to another color with **<body bgcolor="color name">,** where color name is the name of a color such as blue or green. You can also add a textured background with **<body background="filename. extension">,** where **filename.extension** is the name of a file that contains an image (texture).

7. **List the three types of links in a Web site and describe their purposes.** The three types of links in a Web site include links to other Web sites, links to downloadable files, and links to e-mail. Links to other Web sites allow the person viewing your Web site to move to another site. Links to downloadable files allow the person viewing your Web site to download files you've created such as Word documents and Excel workbooks. Links to e-mail allow the person viewing your Web site to send you an e-mail message.

8. **Describe how to insert and manipulate images in a Web site.** To insert an image you use **<img src="filename.extension">,** where **filename.extension** is the name of a file that contains an image (art or photo). The default justification for an image is to the left. To right justify an image you use **<img src="filename.extension" align="right">.** To center an image you place **<center>** and **</center>** on either side of the **img src** tag. To adjust the size of an image you use **<img src="filename.extension" height=pixel count width=pixel count>,** where **pixel count** is the size of the image in terms of the number of pixels it will occupy on the screen.

9. **Demonstrate how to insert lists in a Web site.** Lists in a Web site can either be numbered or unnumbered (bulleted). To create a numbered list you use **
** and **.** To create an unnumbered list you use **
** and **.** You then place all items in the list between either set of tags and start each list item with the **<li>** tag.

Key Terms and Concepts

Basic formatting tag, 5
Heading tag, 6
HTML document, 3
HTML tag, 3

Hypertext markup language (HTML), 3
Link (hyperlink), 11
Structure tag, 3
Web space, 4

Short-Answer Questions

1. What two things does HTML allow you to do?
2. What is the relationship between an HTML document and a Web site?
3. What are the purposes of structure tags?
4. What are the two sections of an HTML document?
5. What is Web space?
6. What steps are involved in viewing a Web site locally?
7. How do you cause Web site content to move to the next line?
8. How do you insert a solid horizontal line in a Web site?
9. What is the format of the heading tag?
10. What guidelines do you need to consider when adjusting text size and color?
11. Why is it important to consider the theme of your Web site when adjusting the background color?
12. How do you add an image to a Web site?
13. How do you center an image?
14. How do you right justify an image?
15. What are the two types of lists you can create in a Web site?

Assignments and Exercises

1. **FINDING FREE IMAGES AND BACKGROUNDS ON THE WEB** To insert and use images and backgrounds, you don't necessarily need to scan them yourself. Literally thousands of Web sites provide free images and backgrounds. Below, we've listed two.
   - Animated GIFs—www.webdeveloper.com/animations/
   - Free Graphics—www.freegraphics.com/

   Connect to the sites above as well as three others that you can find and answer the following questions:
   A. How do you download an image?
   B. Do you have to register at the site first before downloading images?
   C. What categories of images can you find?
   D. Because there are so many sites offering free images, why would anyone want to scan their own?

2. **BUILD A NUMBERED LIST OF LINKS** In this module, we demonstrated to you how to combine various HTML tags such as bolding **(<strong>)** and underlining **(<u>).** There are many ways in which you can combine HTML tags to create a powerful presentation. One such way is to create a list (either numbered or unnumbered) of useful links. Go to the Web and find five job databases (Monster.com is one). Now create a small Web site that provides links to those five Web sites. You are to present those links in the form of a list.

3. **MAKE MODIFICATIONS TO FIGURE F.1** Figure F.1 on page 3 contains some very interesting information, but it does not include any links to other related Web sites and it contains only one image. You have two tasks here. First, connect to NASA's site at www.nasa.gov, download another astronomy image, and insert it into Figure F.1. To download an image, simply right click on the image and choose **Save Picture As . . .** Your second task is to provide links to the main Web site for each of the six listed states. So, the state names of Arizona, California, Kansas, Oregon, Nevada, and Georgia should all be links that will take the person viewing your site to each state's respective Web site.

4. **BUILDING A WEB SITE WITH MICROSOFT WORD** You can build a Web site in a variety of ways. You can use a simple text editor, such as Notepad, as we did in this module. You can use powerful Web authoring tools such as Microsoft FrontPage. And you can also use Microsoft Word. To use Microsoft Word, you create a Word document, insert images, and provide all the necessary formatting just as if you were creating a standard Word document. Then, you save the Word document as a Web page. Go through this process for creating a simple Web site with at least one image, some text, and one list (either numbered or unnumbered). How do you save the Word document as a Web page? Is this easier than using something like Notepad to actually write the HTML code? Why or why not? How do you go about changing a Web site you created in Word?

5. **BUILDING A TABLE IN HTML** On the Web site that supports this text (www.mhhe.com/haag, select XLM/F), we've provided more information about creating a Web site with HTML including how to build a table. Your task is to read that material and build a Web site that contains the table to the right. Did you find it easy or difficult to build a table? Is this perhaps one of those instances when using a Web authoring tool or Word to create Web site content is much easier than actually writing the HTML code? Why or why not?

Name	Job	Seniority
John Doe	Accountant	15 years
Jane Smith	Systems analyst	10 years
Sue Morgan	Web developer	18 years
Bill Rodriguez	Accountant	9 years

6. **WEB SPACE AT YOUR SCHOOL** Most schools offer their students Web space for building and posting Web sites. Check to see what your school offers. Does it offer Web space? How much storage memory are you provided? What sort of restrictions does your school have for what can and cannot be on your Web site? How long do you get to continue to use your school's Web space after you graduate?