

PLUG-IN

T10

Creating Web Pages Using HTML

LEARNING OUTCOMES

1. Explain what HTML is.
2. Describe the purpose of HTML tags.
3. Explain how browsers display tagged HTML documents.
4. Describe how an HTML document is structured.
5. Describe what an HTML attribute is.
6. Describe how to create, save, and view HTML documents.
7. Explain what a structure tag is.
8. Explain how to apply bold, italic, and underline formatting to an HTML document.
9. Describe how to create ordered and unordered lists.
10. Describe the different types of Web links and how to insert them in an HTML document.
11. Explain how to insert images in an HTML document.

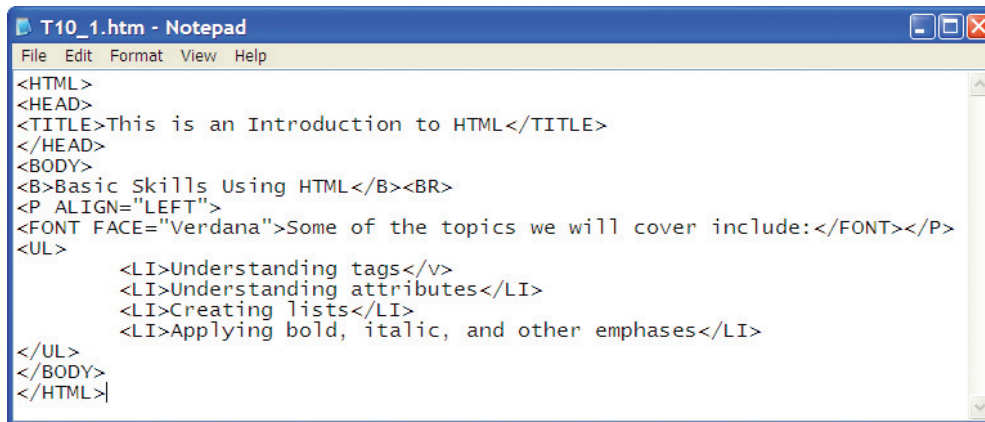
Introduction

Hypertext markup language, or *HTML*, is a system of codes used to create Web pages. You are probably familiar with the most common HTML application—World Wide Web pages. Visitors can jump from topic to topic, fill out forms, submit information, and search databases, among other things, rather than slogging through information in a linear fashion. HTML, though, is not what you see on-screen as a Web page. Instead, HTML is the behind-the-scenes code that tells browsers what to display.

This plug-in introduces you to HTML—what it looks like, what you use it to accomplish, and what tools you need to get started.

HTML

HTML is a system of codes that identify the parts and characteristics of a Web page. As Figure T10.1 shows, HTML pages (or HTML documents as they are often referred to) are plain text files. They contain no images, no sounds, no videos, and



```
<HTML>
<HEAD>
<TITLE>This is an Introduction to HTML</TITLE>
</HEAD>
<BODY>
<B>Basic Skills Using HTML</B><BR>
<P ALIGN="LEFT">
<FONT FACE="Verdana">Some of the topics we will cover include:</FONT></P>
<UL>
  <LI>Understanding tags</LI>
  <LI>Understanding attributes</LI>
  <LI>Creating lists</LI>
  <LI>Applying bold, italic, and other emphases</LI>
</UL>
</BODY>
</HTML>
```

FIGURE T10.1
HTML Documents Are Text Files

no animations; however, they can include “pointers,” or links, to these file types, which is how Web documents end up looking like they contain nontext elements.

HTML documents look nothing like the Web pages you see. Instead, HTML is made up of tags and attributes that work together to identify document parts and tell browsers how to display them. Figure T10.2 shows how the tags and attributes of Figure T10.1 work together to create a Web page.

UNDERSTANDING TAGS

HTML tags serve two purposes. First, they identify logical document parts—that is, the major structural components in HTML documents such as headings (<H1>), numbered lists (, for ordered list), and paragraphs (<P>). For example, if you want to include a heading, a paragraph, and a list in your document, you type the text and apply the appropriate tags to it.

Second, HTML tags reference other elements; tags can include pointers and links to other documents, images, sound files, video files, multimedia applications, animations, applets, and so on.

If you want to include an image of your company’s logo in your HTML document, rather than pasting in an image (as you might in a word processing document), you simply include a tag that points to the image file name, such as:

In this example, the (image) tag points to a logo file (logo.gif) that the browser should display. Here again, the browser relies on the information contained within an HTML document to tell it what to display as well as how to display it.

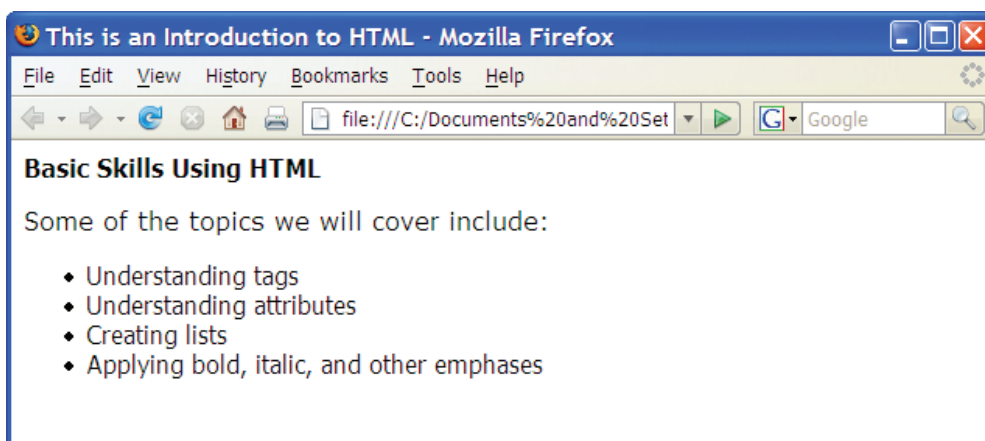


FIGURE T10.2
Browsers Interpret Code to Display HTML Documents

UNDERSTANDING TAG COMPONENTS

HTML tags are fairly intuitive. Although tags are occasionally cryptic, you can usually get an idea of a tag's function just from its name. By looking at tag components, you can learn how to apply tags to your HTML documents.

First, all tags are composed of elements that are contained within angle brackets (< >). The angle brackets simply tell browsers that the text between them is an HTML command. A few examples of tags look like these:

```
<H2> (for heading level 2)
<BODY> (for document body)
<B> (for bold)
```

Second, most tags are paired, with an opening tag (for example, <H1 >) and a closing tag (</H1>). Both tags look alike, except the closing tag also starts with a forward slash (/). To apply tags to information in a document, place the opening tag before the information, and place the closing tag after the information, for example:

```
<H1>This is a heading </H1>
```

It is a good idea to type both the opening and closing tag at the same time so that you do not forget the closing tag. If you forget it, most paired tags will run on and on until the browser finds a matching closing tag.

To apply more than one tag to a chunk of information, nest the tags. Nesting means placing one set of tags inside another set. For example, to apply italic to a heading, you nest the tags, like this:

```
<H1> <I>This is an italicized heading </I> </H1>
```

or like this:

```
<I> <H1>This is an italicized heading </H1> </I>
```

When you nest tags, the first tag should be paired with the last tag, and the second tag should be paired with the next to last tag, and so on.

IMPROVING READABILITY

You will find it easier to read and use tags in your HTML code if you follow a few conventions. Type tags using all caps and use hard returns to create shorter lines. These conventions do not affect how browsers display code; they just make it easier for you to read the HTML.

The following two examples show how using caps and hard returns can improve readability of the HTML code. The code in the examples is identical.

```
<html> <head> <title>HTML Document Title </title>
</head> <body>HTML Document Body </body> </html>
```

or

```
<HTML>
<HEAD>
<TITLE> HTML Document Title </TITLE>
</HEAD>
<BODY>
HTML Document Body
</BODY>
</HTML>
```

Typing HTML code in this manner also makes it easier to be sure that you have not forgotten any end tags.

UNDERSTANDING ATTRIBUTES

Some tags work in conjunction with attributes, which provide additional information about an element, such as how elements should align, what other files should be accessed, or even the color of an element. For example, an attribute might indicate that a heading should appear centered in the browser window, that the browser should load an image file from the Web, or that the Web page background should appear in sky blue.

If you want to center a heading in the browser window, you start with your heading and tags, such as:

```
<H1>A heading goes here </H1>
```

and then add the `ALIGN =` attribute to the opening tag, like this:

```
<H1 ALIGN = "CENTER">A centered heading goes here </H1>
```

All attributes go in the opening tag and are separated from other attributes and the tag itself by a space. Some attributes require quotes; some do not. As a general rule, most attributes—those that include only letters, digits, hyphens, or periods—work fine without quotes. For example, you can type `ALIGN = CENTER` or `ALIGN = "CENTER"`; all browsers should display these in the same way.

Attributes that have other characters, such as spaces, % signs, or # signs, however, always require quotes. For example, if you use the `WIDTH =` attribute to indicate a percentage of the document window, type `WIDTH = "75%"`.

When in doubt, use quotes with attributes. Although they are not always necessary, they never hurt. Throughout this plug-in, we have included the quotes, for good practice and good example.

In HTML, the attributes can go in any order after the tag, but the tag must always go first. You can include multiple attributes in a tag by using one space between each attribute, for example:

```
<H1 ALIGN = "CENTER" SIZE = " + 2" COLOR = "#FF0000">A wildly formatted heading goes here </H1>
```

HTML TOOLS

To create an HTML document, you need only two basic tools:

1. An HTML editor, to create and save your HTML documents.
2. A Web browser, to view and test your HTML documents.

HTML Editors

In general, HTML editors fall into two categories:

1. *Text- or code-based*, which allows you to see the HTML code as you are creating documents.
2. *WYSIWYG (What You See Is What You Get)*, which shows the results of code, similar to the way it will appear in a browser, as you are formatting your document.

Although dozens of excellent WYSIWYG editors are available, you should learn to code HTML using a standard text editor. Text editors force you to hand-code HTML, meaning that you, not the software, enter tags and attributes. Hand-coding helps you learn HTML tags and structure and lets you see where you have made mistakes. Also, with hand-coding, you can easily include the newest HTML enhancements in your documents. Notepad for all Windows versions and SimpleText for Macintosh are good choices for text editors. Notepad is included with all versions of Windows, and you will find it in the Accessories folder on the All Programs submenu of the Start menu. It is a simple text editor that saves only in plain text format. That is ideal for HTML editing because you do not have to worry about any extra word-processing

formatting being included in the file. When saving or opening files in Notepad, the default file extension is .txt. The Save and Open dialog boxes are set by default to filter file listings so only those files with .txt extensions appear. That means each time you browse for a file, you have to change the file type to All Files so you can browse for Web pages (which have .htm or .html extensions).

Using a word processing program such as Word or even WordPad to create HTML documents can often introduce extra formatting and control characters, which will cause problems. HTML requires plain text with no formatting, so either make a special effort to save all documents as plain text, or just use a text editor.

Simple WYSIWYG editors, such as Adobe Dreamweaver and Microsoft Visual Web Developer Express, are good for quickly generating HTML documents. These editors give you only a close approximation of page layout, design, and colors, but allow viewing the general arrangement of features. They do not, however, give you, as much control over the final appearance of a document as code-based editors do. Review Plug-In T11, “Creating Web Pages Using Dreamweaver,” for a tutorial on how to use this application.

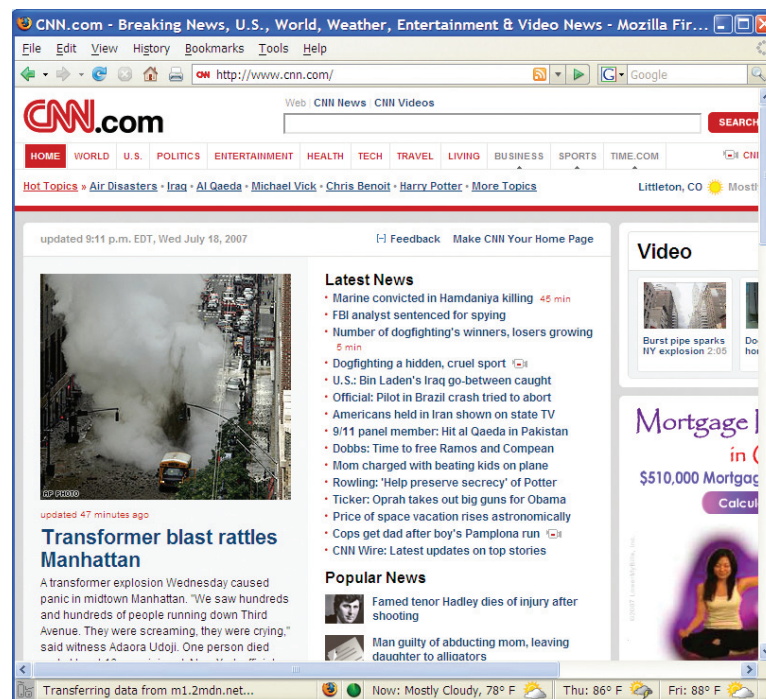
Web Browsers

The most common browsers are Mozilla Firefox and Microsoft Internet Explorer, although a variety of browsers are available for virtually all computer platforms and online services. Hundreds of browsers are in use today, including dozens of versions of Internet Explorer alone, once you count all the past releases, partial releases, and various platform versions.

Browsers tend to display things a bit differently. For example, one browser might display a first-level heading as 15-point Times New Roman bold, whereas another browser might display the same heading as 14-point Arial italic. In both cases, the browser displays the heading as bigger and more emphasized than regular text, but the specific text characteristics vary. Figure T10.3 and Figure T10.4 show how two browsers display the same HTML document.

Finally, computer settings can also make a big difference in how HTML documents appear. For example, the computer’s resolution and specific browser settings can alter a document’s appearance, as shown in Figure T10.5.

FIGURE T10.3
An HTML Document
Displayed in Mozilla
Firefox



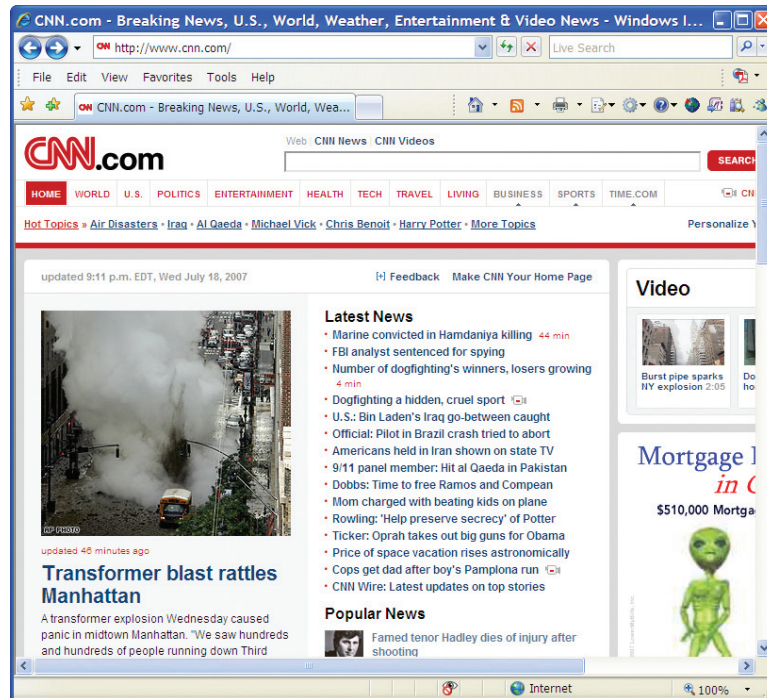


FIGURE T10.4

An HTML Document
Displayed in Internet
Explorer

As you are developing and viewing your HTML documents, test your documents in as many different browsers at as many different resolutions and color settings on as many different computers as possible.

Creating, Saving , and Viewing HTML Documents

Exactly how you start a new HTML document depends on which operating system and editor you are using. In general, though, starting a new HTML document is similar to starting other documents.



FIGURE T10.5

A Web Page Viewed
with Low Resolution

Frequently save and view your work so that you can see your progress. By doing so, you can make sure that things appear as you expect them to and you can catch mistakes within a few new lines of code. For example, add a few new lines of code, save the HTML document, then view it. Add a few more lines of code, save the document, and then view it, and so on. Exactly how often you save and view your documents depends on your preference, but, at least initially, save it frequently.

Here is the general process of creating an HTML document:

1. **Open** a text editor (such as Notepad or SimpleText).
2. Start a new document by choosing **File**, then select **New**.
3. Enter the HTML code and text you want to include.
4. Save your document with the extension .htm or .html by choosing **File Save** or **File Save As**.

Viewing the HTML documents that you develop is as simple as opening them from your local hard drive in your browser. If you are working with an open HTML document in your editor, remember to save your latest changes, and then follow these steps in your browser:

1. Choose **File**, then select **Open** and type the local file name or browse your hard drive until you find the file you want to open.
2. Select the file, and click **OK** to open it in your browser.

APPLYING STRUCTURE TAGS

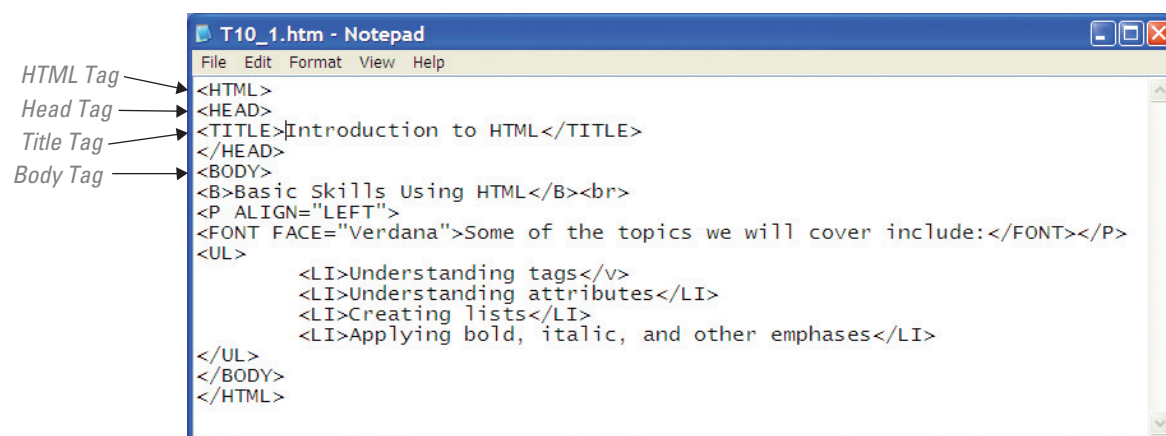
After you create a new document, your first task is to include *structure tags*, which provide browsers with information about document characteristics. For example, structure tags identify the document as HTML, provide introductory information about the document, and include the title, among other similar things. Most structure tags, although part of the HTML document, do not appear in the browser window. Instead, structure tags work “behind the scenes” and essentially tell the browser which elements to include and how to display them. Although these tags do not produce the snazzy results you see in Web pages or help files, they are essential for telling browsers how to interpret the document.

All HTML documents should include four structure tags, nested and ordered as displayed in Figure T10.6.

The following sections describe these tags and how to use them.

FIGURE T10.6

HTML Structure Tags



The <HTML> Tags

The <HTML> tags identify the document as an HTML document. To use the <HTML> tags, enter them in your document like this:

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

The <HEAD> Tags

The <HEAD> tags contain information about the document, including its title, scripts used, style definitions, and document descriptions. Not all browsers require these tags, but most browsers expect to find any available additional information about the document within the <HEAD> tags. Additionally, the <HEAD> tags can contain other tags that have information for search engines and indexing programs. To use the <HEAD> tags, enter them between the <HTML> tags, for example:

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

Do not confuse this document head tag, which is a structure tag, with heading formatting tags such as <H1> that create heading text in a document body. We discuss heading tags later in this plug-in in the “Headings” section.

The <TITLE> Tags

The <TITLE> tags are contained in the document title. The title does not appear within the browser window, although it is usually visible in the browser’s title bar. Between the opening and closing tags, include a title that briefly summarizes your document’s content. To use the <TITLE> tags, enter them between the opening and closing <HEAD> tags, such as:

```
<HTML>
<HEAD>
<TITLE>
An HTML Tutorial
</TITLE>
</HEAD>
</HTML>
```

The title tag text is also used to describe a page in a “Favorites” or “Bookmarks” list. Therefore, titles should represent the document, even if the document is taken out of context. Here are some examples of good titles:

- Sample HTML Code.
- Ride a Bicycle in Colorado.
- Web Surfing for Profit.

Here are some examples of less useful titles, particularly taken out of context:

- Examples
- Chapter 2
- My Web Page

The <BODY> Tags

The <BODY> tags enclose all the tags, attributes, and information that you want a browser to display. To use the <BODY> tags, enter them below the closing </HEAD> tag and above the closing </HTML> tag, like this:

```
<HTML>
<HEAD>
<TITLE>
An HTML Tutorial
</TITLE>
</HEAD>
<BODY>
```

All the tags, attributes, and information in the document body go here.

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

Figure T10.7 displays the HTML code above as it would look in a browser.

APPLYING STYLE TAGS AND ATTRIBUTES

After you include the structure tags, you are ready to start placing basic content in the document body. You do this by using *style tags*, which tell the browser exactly how to present the labeled text. The following sections show how to include paragraphs, headings, lists, and rules (horizontal lines). These elements constitute the basic HTML document components and, unlike the structure tags, do appear in the browser window. Learning to apply these basic tags and attributes will prepare you to apply practically any HTML tag or attribute.

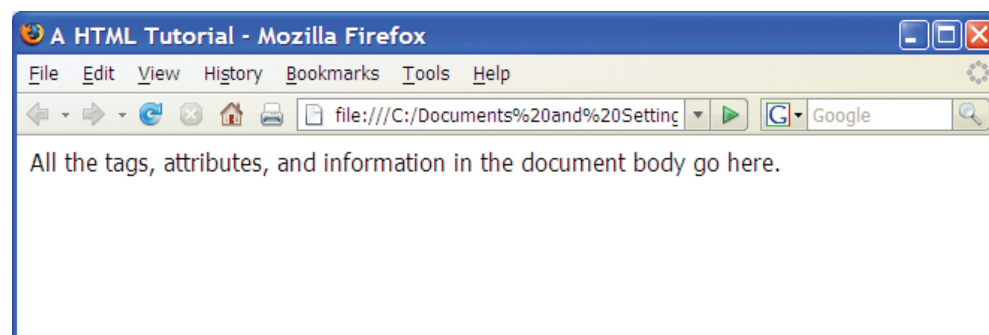
Paragraphs

One of the most common tags you will use is the paragraph tag, <P>, which is appropriate for regular body text. The paragraph tag does not have to be paired—you can simply use the opening tag, <P>, where you want to start a new paragraph. As with many tags, however, it is easier to identify where the tag begins and ends if you use both opening and closing tags.

HTML automatically adds an extra blank line before and after a paragraph. To use the paragraph tags, put them around the text you want to format as a paragraph, for example:

```
<P>
A whole paragraph goes right here.
</P>
```

FIGURE T10.7
An HTML Document with
Structure Tags



Paragraph Format	Effect
<ADDRESS >	Used for address and contact information. Often appears in italics.
<BLOCKQUOTE >	Used for formatting a quotation. Usually appears indented from both sides and with less space between lines than a regular paragraph.
<PRE >	Effective for formatting program code or similar information. Usually appears in a fixed-width font with ample space between words and lines.

FIGURE T10.8
Other Paragraph
Formatting Tags

You can also apply other paragraph formats instead of the <P> tag to achieve some slightly different paragraph formats, as explained in Figure T10.8.

Alignment attributes are often used with these paragraph formatting tags, including ALIGN = "LEFT", ALIGN = "CENTER", and ALIGN = "RIGHT". To apply these attributes, include them in any of the opening paragraph tags, such as:

```
<P ALIGN = "CENTER">
```

A paragraph of information goes here, which gets centered on the Web page.

```
</P>
```

Creating Headings

Headings break up large areas of text, announce topics to follow, and arrange information according to a logical hierarchy. HTML provides six levels of headings; <H1> is the largest of the headings, and <H6> is the smallest:

```
<H1 > ... </H1>
```

```
<H2 > ... </H2>
```

```
<H3 > ... </H3>
```

```
<H4 > ... </H4>
```

```
<H5 > ... </H5>
```

```
<H6 > ... </H6>
```

To use heading tags, enter them around the heading text, like this:

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>Sample HTML Headings </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<H1>First Level Heading </H1>
```

```
<H2>Second Level Heading </H2>
```

```
<H3>Third Level Heading </H3>
```

```
</BODY>
```

```
</HTML>
```

Figure T10.9 shows how a browser displays a few heading levels using the HTML code from above.

In general, use heading tags only for document headings, not for figure captions or to emphasize information within text. Why? First, you do not always know how a browser will display the heading. It might not create the visual effect you intend. Second, some indexing and editing programs use headings to generate tables of contents and other information about your document. These programs will not

FIGURE T10.9
HTML Heading Levels



exclude headings from the table of contents or other information just because you used them as, say, figure captions.

By default, all browsers align headings on the left. Most browsers, however, support alignment attributes, which also let you right-align and center headings. Figure T10.10 shows the alignment attributes.

To use the alignment attributes, include them in the initial heading tag, such as:

```
<H1 ALIGN = "LEFT" Left-aligned Heading </H1>
<H1 ALIGN = "CENTER" Centered Heading </H1>
<H1 ALIGN = "RIGHT" Right-aligned Heading </H1>
```

Although most browsers support the ALIGN = attribute, consider using Style Sheets to create the same effect. The HTML specification strongly discourages using the ALIGN = attribute, in favor of using Style Sheets. Style Sheets are beyond the focus of this plug-in; however, for comprehensive information about creating Style Sheets, see Plug-In T11, “Creating Web Pages Using Dreamweaver.”

Creating Lists

Lists are a great way to provide information in a structured, easy-to-read format. They help easily spot and draw attention to important information. In addition, a list is a good form for a procedure. Lists come in two varieties:

- 1. Numbered (ordered)
- 2. Bulleted (unordered)

To create either kind, you first specify that you want information to appear as a list, and then you identify each line item in the list. Figure T10.11 shows the list and line item tags.

The following steps show how to create a bulleted list:

- 1. Start with text you want to format as a list:
Lions
Tigers
Bears
Oh, My!

FIGURE T10.10
Alignment Attributes

Heading Attribute	Effect
ALIGN = "LEFT"	Aligns the heading on the left (default).
ALIGN = "CENTER"	Aligns the heading in the center.
ALIGN = "RIGHT"	Aligns the heading on the right.

List Tag	Effect
	Specifies that the information should appear as an ordered (numbered) list.
	Specifies that the information should appear as an unordered (bulleted) list.
	Specifies a line item in either ordered or unordered lists.

FIGURE T10.11
List and Line Item Tags

2. Insert the tags around the list text:

```
<UL>
Lions
Tigers
Bears
Oh, My!
</UL>
```

3. Type the tag for each list item:

```
<UL>
<LI>Lions
<LI>Tigers
<LI>Bears
<LI>Oh, My!
</UL>
```

The resulting list, viewed in a browser, looks like that shown in Figure T10.12.

To change your list from unordered (bulleted) to ordered (numbered), change the to (and to).

By default, numbered lists use Arabic numerals, and bulleted lists use small, round bullets. You can change the appearance of these by using the attributes listed in Figure T10.13.

To use any of these attributes, include them in the beginning or tag or in the tag, such as:

```
<OL TYPE = "A">
<LI>Outlines use sequential lists with letters.
<LI>And numbering schemes for documentation.
</OL>
```

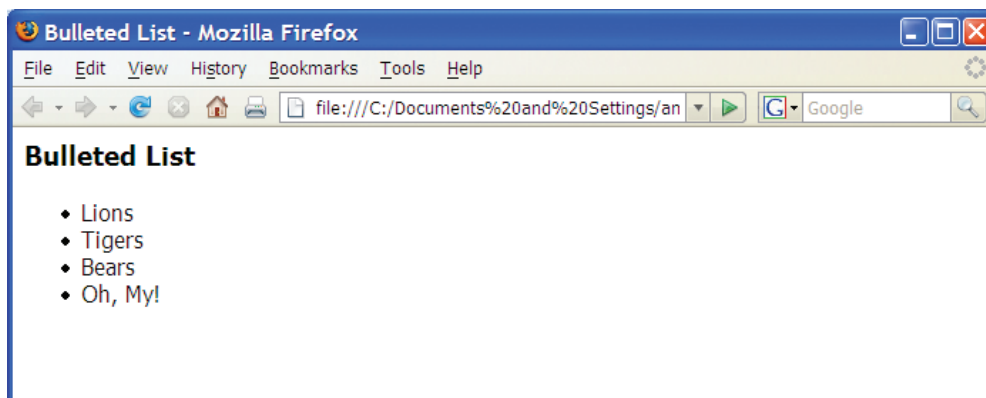


FIGURE T10.12
Bulleted List

FIGURE T10.13
List Attributes

List Tag	Effect
For numbered lists:	
TYPE = "A"	Specifies the number (or letter) with which the list should start: A, a, I, i, or 1 (default).
TYPE = "a"	
TYPE = "I"	
TYPE = "I"	
TYPE = "1"	
For bulleted lists:	
TYPE = "DISC"	Specifies the bullet shape.
TYPE = "SQUARE"	
TYPE = "CIRCLE"	

or like this:

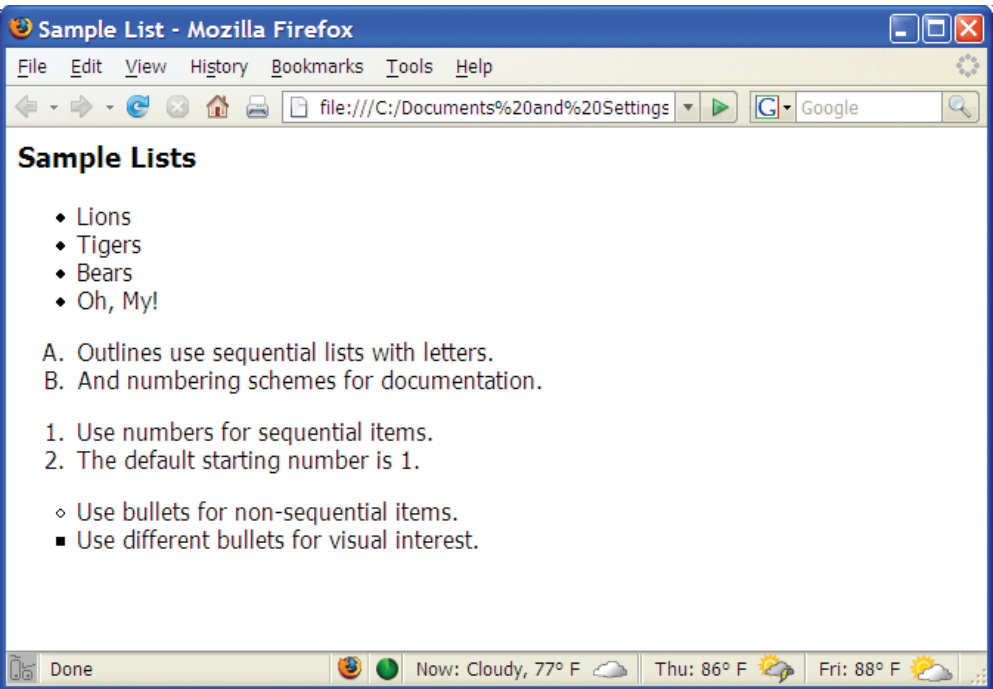
```
<OL>
<LI> Use numbers for sequential items.
<LI> The default starting number is 1.
</OL>
```

or like this:

```
<UL>
<LI TYPE = "CIRCLE"> Use bullets for non-sequential items.
<LI TYPE = "SQUARE"> Use different bullets for visual interest.
</UL>
```

Figure T10.14 shows how these attributes appear in a browser. Ordered lists have additional attributes that you can use to specify the first number in the list, as well as to create hierarchical information.

FIGURE T10.14
List Attributes
in a Browser



First, you can start a numbered list with a value other than 1 (or A, a, I, or i). Simply include the `START =` attribute in the initial `` tag, as in `<OL START="51">`. Or, you can change specific numbers within a list by using the `VALUE =` attribute in the `` tag, as in `<LI VALUE="7">`. To use these attributes, include them in the `` tag, for example:

```
<OL START="51">
<LI>This is the fifty-first item.
<LI>This is the fifty-second.
<LI TYPE="i" VALUE="7">This item was renumbered to be the seventh,
using lowercase roman numerals.
</OL>
```

Figure T10.15 shows how this code appears in a browser.

APPLYING BOLD, ITALIC, AND OTHER EMPHASES

In addition to creating paragraphs, headings, and lists, you can also apply formatting to individual letters and words. For example, you can make a word appear *italic*, **bold**, underlined, or superscript (as in e^2). You use these character-level formatting tags only within paragraph-level tags, that is, you cannot put a `<P>` tag within a character-level tag such as ``. You have to close the character-level formatting before you close the paragraph-level formatting, for example:

Correct:

```
<P><B>This is the end of a paragraph that also uses boldface. </B> </P>
</P>This is the beginning of the following paragraph.
```

Incorrect:

```
This text <B>is boldface. </P>
</P>As is this </B> </P>
```

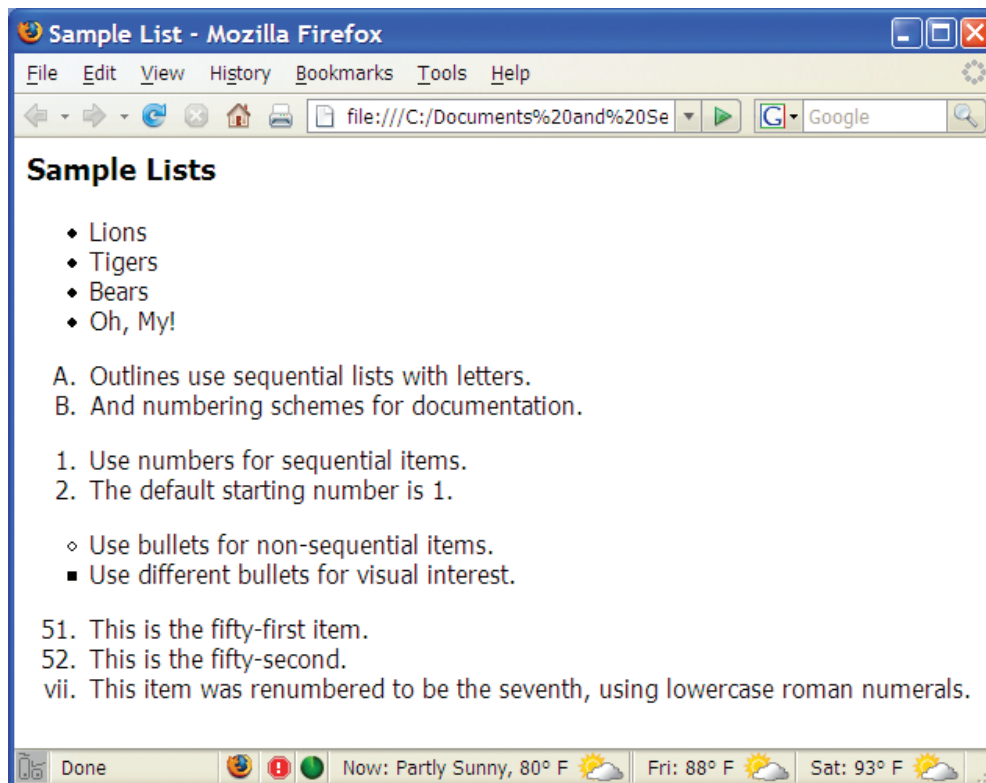


FIGURE T10.15
Customized List Attributes
in a Browser

FIGURE T10.16
Common Character-
Formatting Tags

Character Tag	Effect
	Applies boldface.
<BLINK>	Makes text blink (usually considered somewhat unprofessional in Web page design).
	Applies emphasis; usually displayed as italic.
<I>	Applies italics.
<S> , <STRIKE>	Applies strikethrough to text. Use of these tags is discouraged in the HTML specification.
	Applies stronger emphasis; usually displayed as bold.
<SUB>	Formats text as subscript.
<SUP>	Formats text as superscript.
<TT>	Applies a fixed-width font.
<U>	Applies underline. Use of this tag is discouraged in the HTML specification.

Although many character-formatting tags are available, you will probably use (for boldface) and <I> (for italics) most often. Figure T10.16 shows a list of the most common character-formatting tags.

To use these tags, put them around the individual letters or words you want to emphasize, such as:

Making some text **bold ** or *<I>italic </I>* is a useful technique, more so than ~~<STRIKE>strikethrough </STRIKE>~~ or ~~<BLINK>blink </BLINK>~~.

Figure T10.17 shows a few examples of character formatting. (Obviously, the blinking word cannot appear in this figure.)

USING HORIZONTAL RULES

Horizontal rules are lines that break up long sections of text, indicate a shift in information, or help improve the overall document design. The <HR> tag is a nonpaired tag; it has no ending tag. To use a horizontal rule, put the <HR> tag where you want the rule to appear, like this:

<P>Long passages of text should often be broken into sections with headings and, optionally, horizontal rules. **</P>**

<HR>

<H3>A Heading Also Breaks Up Text **</H3>**

<P>A new long passage can continue here. **</P>**

FIGURE T10.17
Character Formatting
Helps You Emphasize
Words or Letters



Rule Attribute	Effect
SIZE = "n"	Specifies rule height; measured in pixels.
WIDTH = "n"	Specifies rule width (length); measured in pixels.
WIDTH = "n%"	Specifies rule width (length); measured as a percentage of the document width.
ALIGN = "LEFT"	Specifies left alignment.
ALIGN = "CENTER"	Specifies center alignment.
ALIGN = "RIGHT"	Specifies right alignment.
NOSHADE	Specifies that the rule has no shading.

FIGURE T10.18
Horizontal Rule Attributes

By default, horizontal rules appear shaded, span the width of the browser window, and are a few pixels high. You can change a rule's shading, width, height, and alignment by including the appropriate attributes. Figure T10.18 shows horizontal rule attributes.

Note: Pixels are the little dots on a computer screen that, taken together, produce an image. The word *pixel* is actually an abbreviation for "picture element." If your display is set to 800×600 , you have 800 pixels horizontally and 600 pixels vertically.

To use any of these attributes, include them in the <HR> tag, for example:

<HR WIDTH = "80%" SIZE = "8">

<HR WIDTH = "50%">

<HR WIDTH = "400" ALIGN = "RIGHT" SIZE = "4">

<HR NOSHADE ALIGN = "CENTER" WIDTH = "200">

Figure T10.19 shows the HTML code written above as it appears in a browser.

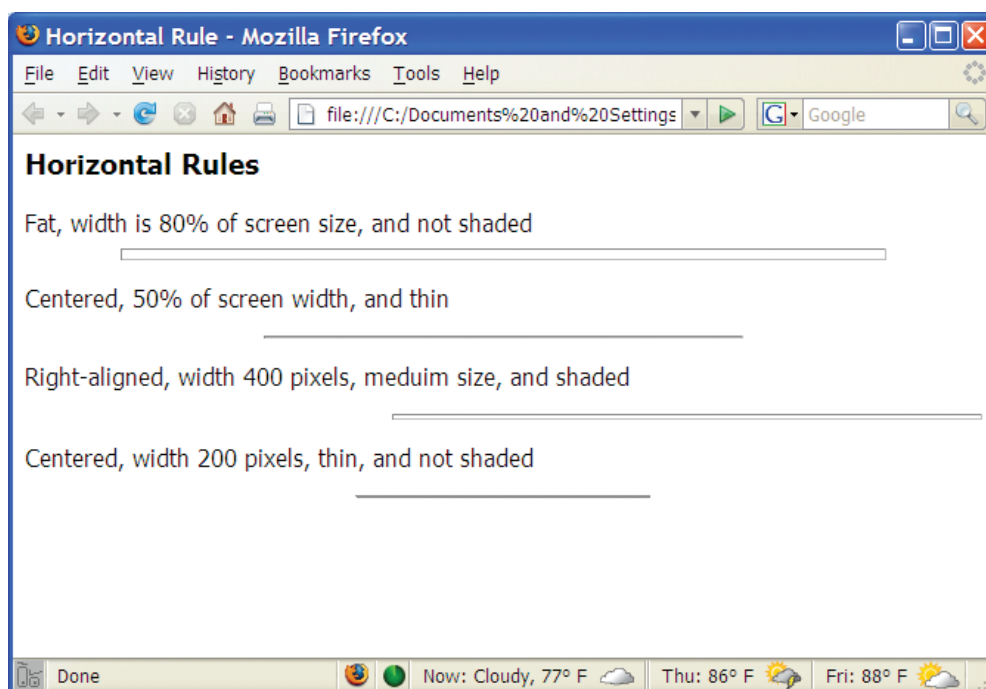
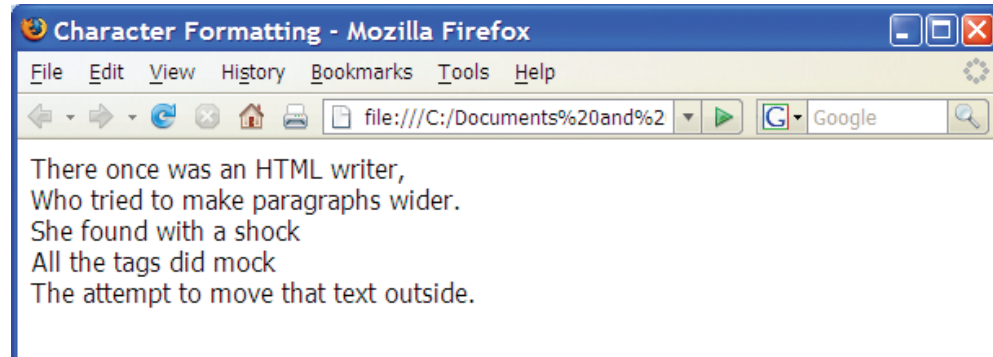


FIGURE T10.19
Horizontal Rules Displayed
in a Browser

FIGURE T10.20

Paragraph Breaks
Displayed in a Browser



INSERTING LINE BREAKS

Sometimes you need to break a line in a specific place, but you do not want to start a new paragraph and insert the associated empty vertical space that comes with a paragraph break. For example, you might not want lines of poetry text to go all the way across the document; instead, you might want to break them into several shorter lines with no space between them. You can easily break paragraph lines by inserting the `
` tag where you want the lines to break, like this:

`<P>`

There once was an HTML writer, `
`

Who tried to make paragraphs wider. `
`

She found with a shock `
`

All the tags did mock `
`

The attempt to move that text outside. `
`

Figure T10.20 displays the code above as rendered by a browser.

Using Fancier Formatting

In the following sections, we will show you how to add colors and specify fonts and sizes. Although most newer browsers support these effects, not all browsers do; your fancier effects might not reach all visitors. Also, the HTML specification discourages many of these effects in favor of Style Sheets. You might consider using Style Sheets instead of the tags and attributes mentioned here.

ADDING COLORS

One of the easiest ways to jazz up your documents is to add colors to the background or text. You can enliven an otherwise dull Web page with a splash of color or an entire color scheme. For example, add a background color and change the text colors to coordinate with the background. Or highlight a word or two with color to make the words leap off the page. Or, if you are developing a corporate site, adhere to the company's color scheme to ensure a consistent look.

Note: Review Plug-In T9, "Designing Web Pages," to understand how to develop a color scheme to help unite your pages into a cohesive Web site.

You specify colors using hexadecimal numbers, which combine proportions of red, green, and blue—called RGB numbers. RGB numbers use six digits, two for each proportion of red, green, and blue. As you are choosing colors, remember that not all RGB numbers display well in browsers; some colors dither, meaning that they appear spotty or splotchy. We recommend that you select RGB values that are

appropriate for Web page use, as listed in Figure T10.21. Although you will never go wrong with these “safe” colors, it is most important to use these colors in page backgrounds or in places with large patches of color, where dithering will occur if you do not use these number combinations.

To create an RGB number from the values in this table, simply select one number from each column. For example, choose FF from the Red column, 00 from the Green column, and 00 from the Blue column to create the RGB number FF0000, which has the largest possible red component but no blue and no green, therefore appearing as a pure, bright red. You will find a complete list of appropriate RGB numbers and corresponding descriptions at <http://www.lynda.com/value.html>.

R	G	B
00	00	00
33	33	33
66	66	66
99	99	99
CC	CC	CC
FF	FF	FF

FIGURE T10.21
Recommended RGB
Values

SETTING BACKGROUND COLORS

Using a background color, which is simply a color that fills the entire browser window, is a great way to add flair to your Web pages. By default, browsers display a white or gray background color, which may be adequate if you are developing pages for an intranet site or a pure reference site, where flashy elements are not essential. If you are developing a public or personal site, however, you will probably want to make your site more interesting and visually appealing. For example, if you are developing a public corporate Web site, you might want to use your company’s standard colors—ones that appear on letterhead, logos, or marketing materials. Or, you might want to use your favorite color if you are developing a personal site. In either case, using a background color can improve the overall page appearance and help develop a theme among pages.

As you will see in the next section, pay careful attention to how text contrasts with the background color. If you specify a dark background color, use a light text color. Likewise, if you specify a light background color, use a dark text color. Contrast is key for ensuring that visitors can read the information on your pages.

To specify a background color for your documents, include the BGCOLOR = “#...” attribute in the opening <BODY> tag, like this:

```
<BODY BGCOLOR = "#FF0000">
```

SPECIFYING TEXT COLORS

Like background colors, text colors can enhance your Web pages. In particular, you can specify the color of the following:

- Body text, which appears throughout the document body.
- Unvisited links, which are links not yet followed.
- Active links, which are links as they are being selected.
- Visited links, which are links previously followed.

Changing body text is sometimes essential, such as if you have added a background color or an image. If you have added a dark background color, the default black body text color will not adequately contrast with the background, making the text difficult or impossible to read. In this case, change the text color to one that is lighter so that it contrasts with the background sufficiently.

Changing link colors helps keep your color scheme intact—for unvisited as well as visited links. Set the visited and unvisited links to different colors to help visitors know which links they have followed and which ones they have not.

To change body text and link colors, simply add the attributes listed in Figure T10.22 to the opening <BODY> tag.

We recommend setting all Web page colors at one time; that way you can see how background, text, and link colors appear as a unit.

FIGURE T10.22
Text and Link Color
Attributes

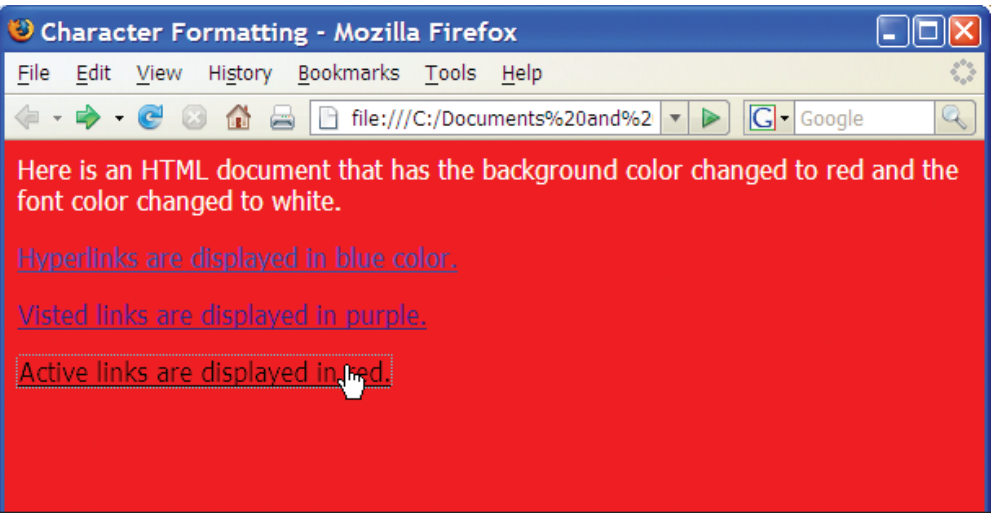
Attribute	Description
TEXT = "..."	Sets the color for all text within the document with a color name or a #RRGGBB value.
ALINK = "..."	Sets the color for active links, which are the links at the time the visitor clicks on them, with a color name or a #RRGGBB value.
VLINK = "..."	Sets the color for links the visitor has recently followed with a color name or a #RRGGBB value (how recently depends on browser settings).
LINK = "..."	Sets the color for unvisited links with a color name or a #RRGGBB value.

To change text and link colors, follow these steps:

1. Within the **<BODY>** tag, add the **TEXT=** attribute to set the color of text within the document. The example presented here makes the text white. However, unless you change the background color you will not see the text, as the background default color is also white.
<BODY TEXT = "#FFFFFF">
Note: When setting text colors, using a “safe” color is less important for text than it is for backgrounds. Dithering is less apparent in small areas, such as text.
2. Add the **LINK=** attribute to set the link color. This example uses blue (**#0000FF**) for the links.
<BODY TEXT = "#FFFFFF" LINK = "#0000FF">
3. Add the **VLINK=** attribute to set the color for visited links. If you set the **VLINK =** to the same as the color for links, links will not change colors even after visitors follow them. This could be confusing, but also makes it look like new material is always available. This example sets the visited link to a different shade of blue.
<BODY TEXT = "#FFFFFF" LINK = "#0000FF" VLINK = "#000099">
4. Set the **ALINK=** to specify the active link color. This is the color of a link while visitors are clicking on it. This example sets **ALINK =** to black.
<BODY TEXT = "#FFFFFF" LINK = "#0000FF" VLINK = "#000099" ALINK = "#000000">

Figure T10.23 displays a Web page using the document code from above.

FIGURE T10.23
Background, Text, and Link
Color Attributes Displayed
in a Browser



Tag/Attribute	Description
	Sets font characteristics for text.
SIZE = " . . . "	Specifies relative font size using a scale of 1 through 7. Three (3) is the default or normal size. You can also specify the relative size by using + or - (for example, SIZE = " + 2").
COLOR = " . . . "	Specifies font color in #RRGGBB numbers or with color names. This color applies only to the text surrounded by the tags.
FACE = " . . . "	Specifies typefaces as a list of possible typefaces, in order of preference, separated by commas (for example, FACE = "Verdana, Arial, Helvetica").
<BASEFONT >	Sets the text characteristics for the document.

FIGURE T10.24
Font Characteristics

SPECIFYING FONTS AND FONT SIZES

Specify fonts and increase font sizes to improve readability with dark backgrounds and light colored text. Use the tag to specify font characteristics for your document, including color, size, and typeface. Figure T10.24 describes the tag and attributes you will use to set font characteristics.

As you are determining which font face to use, keep in mind that the font must be available on users' computers for them to view the fonts you specify. For example, if you specify Technical as the font and viewers do not have Technical, their computers will substitute a font. To partially overcome this problem, list multiple font faces in order of preference; the computer then displays the first available. For example, a list of "Comic Sans MS, Technical, Tekton, Times, Arial" will display Comic Sans MS if available, then try Technical, then Tekton, and so forth.

Figure T10.25 lists fonts that are commonly available on Macintosh and PC platforms and a few free fonts that are available for download for both platforms.

To specify font characteristics, follow these steps. You can set some or all of the characteristics used in this example.

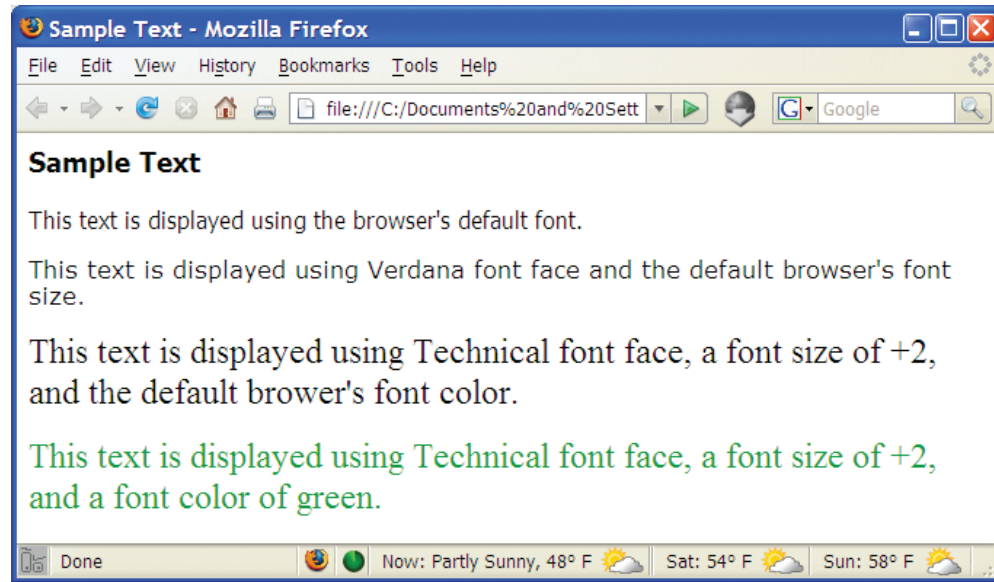
1. Identify the text to format with the tag.
This text is displayed using the browser's default font.
2. Select a specific font using the **FACE =** attribute.
This text is displayed using Verdana font face and the default browser's font size.

Macintosh	Windows	Free Web Fonts
Courier	Arial	Arial Black
Times	Courier New	Comic Sans
Charcoal	Times New Roman	Georgia
Chicago	Wingdings	Impact
Geneva	Symbol	Monotype
Helvetica		Trebuchet MS
Monaco		Verdana
New York		Webdings
Palatino		
Symbol		

FIGURE T10.25
Fonts Commonly Available
on Macintosh and PC
Platforms

FIGURE T10.26

Font Characteristics
Displayed in a Browser



3. Change the font size using the **SIZE=** attribute. You set the size of text on a relative scale—from 1 to 7, with the default size being 3. Either set the size absolutely (with a number from 1 to 7) or relatively (with + or – to change the size).
`Look at this! `
4. Add a **COLOR=** attribute to set the color, using a color name or a **#RRGGBB** value.
`This text is displayed using Technical font face, a font size of +2, and a font color of green. `

Figure T10.26 shows the resulting appearance.

Creating Hyperlinks

The Web is based on hyperlinks. Each Web page contains active links to other pages, which in turn link to even more pages, until presumably the entire Web (or at least a great chunk of it) is bound together. In fact, that is where the name “web” comes from. Hyperlinks can connect to other places on a Web page, to other pages within your Web site, to pages outside your site, and to many types of Web and non-Web content.

A *hyperlink* is a bit of text or a graphic that you can click to move to a different location on the page, open a different Web page, start an e-mail message, download a file, view a movie, listen to a sound clip, activate a Web-based program, and so on. You have probably clicked thousands of hyperlinks, perhaps without thinking much about the coding behind them.

HYPERLINKING TO A WEB PAGE

No matter what type of hyperlink you want to create, the basic syntax is the same. It starts with the `<A>` tag, and then uses an `HREF =` argument that provides the URL or the path to the destination. For example, a hyperlink tag might look like this:

```
<A HREF = "http://www.du.edu"> University of Denver </A>
```

Hyperlinks, when viewed in a browser, are underlined by default. You can specify alternate formatting of hyperlinks by changing the `<LINK>` color in the `<BODY>` tag explained in the previous section. Figure T10.27 displays several examples of hyperlinks.



FIGURE T10.27
Examples of Hyperlinks

HYPERLINKING TO AN E-MAIL ADDRESS

Hyperlinks can point to anything, not just to Web pages. You can create e-mail hyperlinks, for example, that start the user's default e-mail program, create a new message, and enter the recipient's address. You can also set it to fill in the message subject if you like. E-mail hyperlinks are useful when you want to direct someone to send e-mail to a particular person. For example, it is common to include a link to e-mail a Web site's Webmaster (or Web page author). To create a hyperlink to an e-mail address, use the same HREF= argument mentioned in the previous section, but instead of a Web address, type MAILTO: followed by the e-mail address, like this:

```
<A HREF = "MAILTO:amy.phillips@du.edu">Contact Me </A>
```

To add a default subject line to the e-mail, add SUBJECT = subject after the e-mail address, such as:

```
<A HREF = "MAILTO:  
amy.phillips@du.edu?SUBJECT = COMMENT">Contact Me </A>
```

The person using the hyperlink to contact you can change the subject line in his or her e-mail program before sending the message. Figure T10.28 shows an e-mail hyperlink added to Figure T10.27.



FIGURE T10.28
E-mail Hyperlink

HYPERLINKING TO OTHER CONTENT

A hyperlink can reference any file, not just a Web document. You can take advantage of this to link to other content such as Microsoft Office documents, compressed archive files such as .zip files, and even executable program files such as setup utilities for programs you want to provide. The procedure for linking to other content is the same as for linking to a Web page; the only difference is the file name entered in the hyperlink.

When making non-HTML content available, remember that not everyone has the same software. At first it might seem like a great idea to provide a set of reports as Word documents, for example, but not every computer has Word installed. Some browsers have a feature that automatically tries to download an appropriate viewer, player, or plug-in (an extension to the browser for handling a certain type of file) for any content it cannot natively display. But not all computers have a browser with this capability. If you do not provide an HTML alternative for a proprietary-format file, at least provide a hyperlink to a free viewer that can display that file type. This is especially important with audio and video clips.

Figure T10.29 displays the HTML code for Figures T10.27, T10.28, and an added link to allow a user to click on a hyperlink to download a Microsoft Word document.

Displaying Graphics

Text-only Web pages are perfectly functional, but a bit dull. Web pages are more interesting and attractive when they include graphics. In a word processing program such as Microsoft Word, graphics are embedded in the document. When you distribute the document to others, the graphics are included with it. In HTML, however, each graphic displayed on a Web page is stored in a separate file, which must be stored on a Web server.

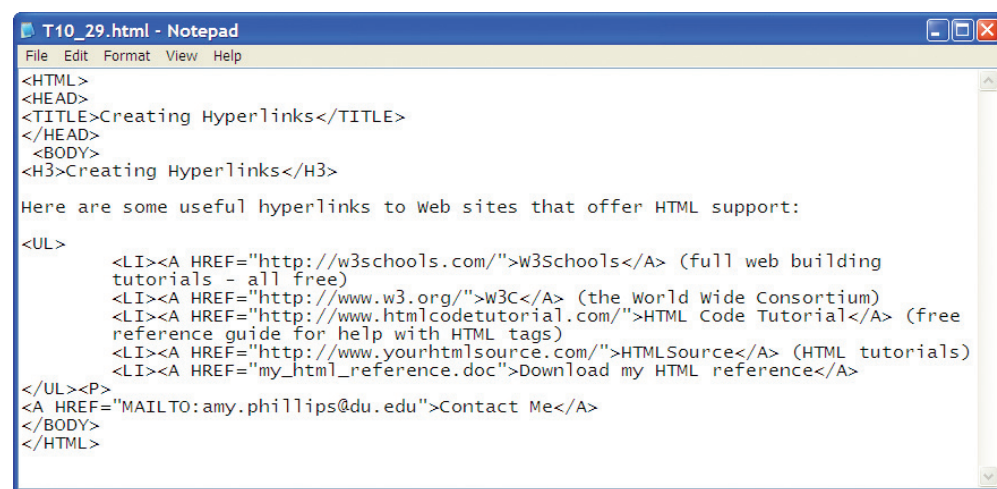
Note: Graphic or image? HTML calls them images, but the term *graphic* is more popular in everyday usage. This plug-in uses the two terms interchangeably.

INSERTING GRAPHICS

Inserting a graphic on a Web page is as simple as placing an tag where you want the graphic to appear, like this:

When a file is stored in the same folder as the HTML document in which it is referenced, you can refer to the file name only, without any location information. If

FIGURE T10.29
HTML Hyperlink Code



```
T10_29.html - Notepad
File Edit Format View Help
<HTML>
<HEAD>
<TITLE>Creating Hyperlinks</TITLE>
</HEAD>
<BODY>
<H3>Creating Hyperlinks</H3>
Here are some useful hyperlinks to Web sites that offer HTML support:
<UL>
<LI><A HREF="http://w3schools.com/">W3Schools</A> (full web building
tutorials - all free)
<LI><A HREF="http://www.w3.org/">W3C</A> (the World Wide Consortium)
<LI><A HREF="http://www.htmlcodetutorial.com/">HTML Code Tutorial</A> (free
reference guide for help with HTML tags)
<LI><A HREF="http://www.yourhtmlsource.com/">HTMLSource</A> (HTML tutorials)
<LI><A HREF="my_html_reference.doc">Download my HTML reference</A>
</UL><P>
<A HREF="mailto:amy.phillips@du.edu">Contact Me</A>
</BODY>
</HTML>
```


you want to store your graphics in a subfolder of the folder containing the text files (to organize your files more tidily), you must refer to the graphic with the subfolder name, such as:

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

To refer to a file that is up one level in the folder structure, use two periods and a forward slash (../); for example:

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

To refer to an image that is stored somewhere else, perhaps on your company's main Web server or at a partner's server, use the complete path to the file, like this:

```
<IMG SRC="http://www.du.edu/display/images/core/tour-btn.jpg">
```

By default, unless you place the image within a block-level tag such as a paragraph or heading, the image blocks off all the space horizontally, even if it takes up only a fraction of the available vertical space.

To force the image to the left or right side of the screen and wrap surrounding text around the image, apply an ALIGN attribute rule that uses a left, right, or center argument:

```
<IMG SRC = "image.jpg" ALIGN = "LEFT">
```

Figure T10.30 displays what the earlier example looks like aligned to the left.

Figure T10.31 displays the image to the right. Notice that align to the right moves the image all the way to the right end of the page, not simply to the right of the text.

Figure T10.32 displays a summary of the tags used in this plug-in.

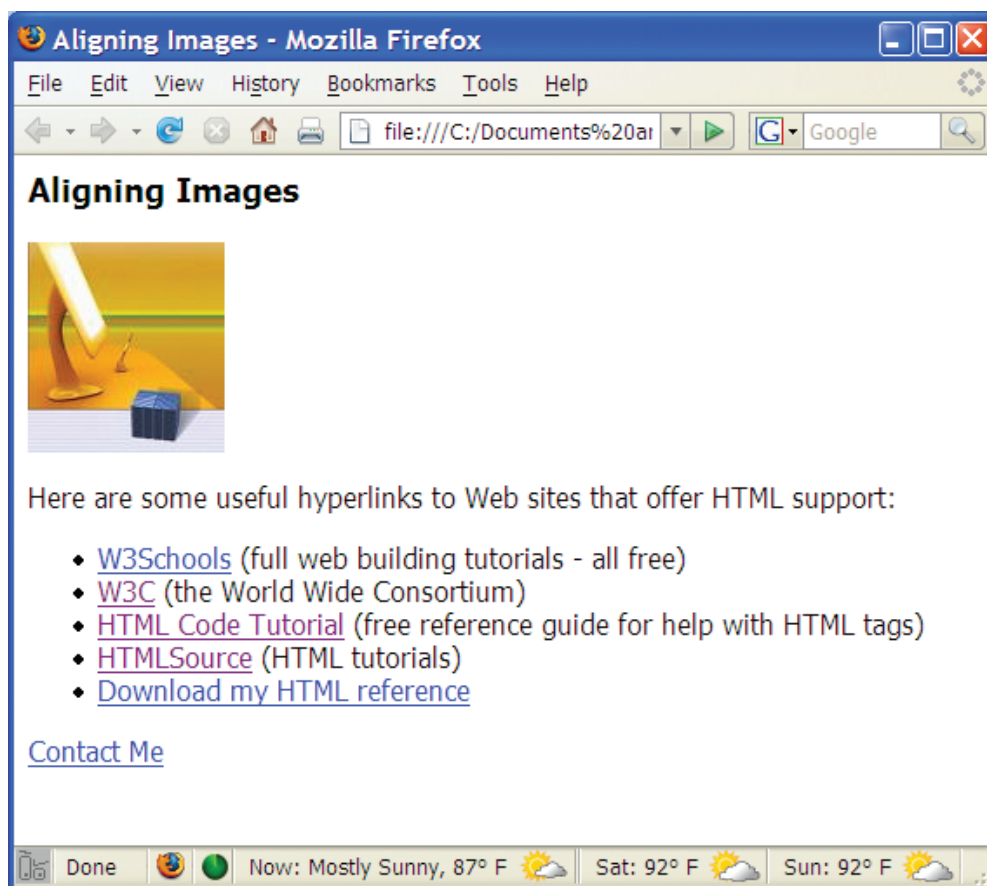


FIGURE T10.30

Image Aligned to the Left
on a Web Page

FIGURE T10.31

Image Aligned to the Right
on a Web Page

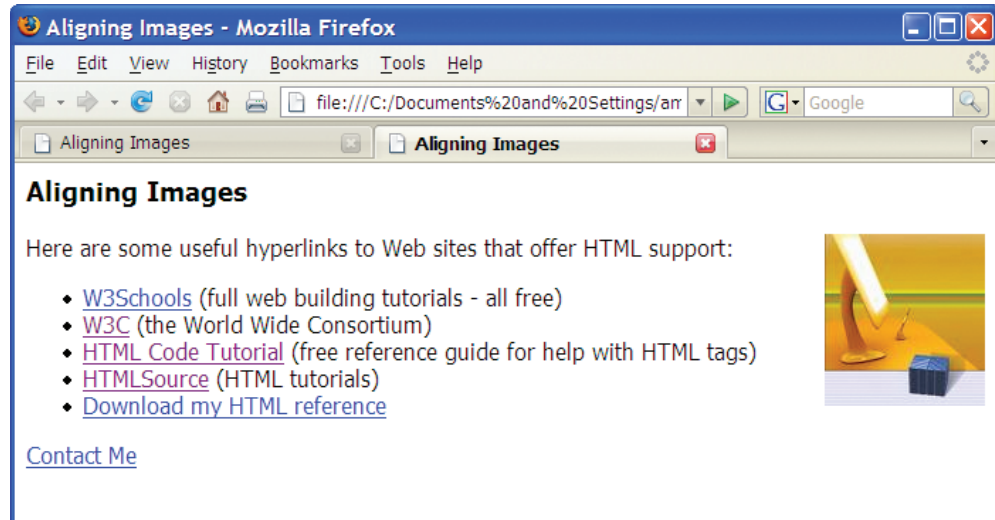
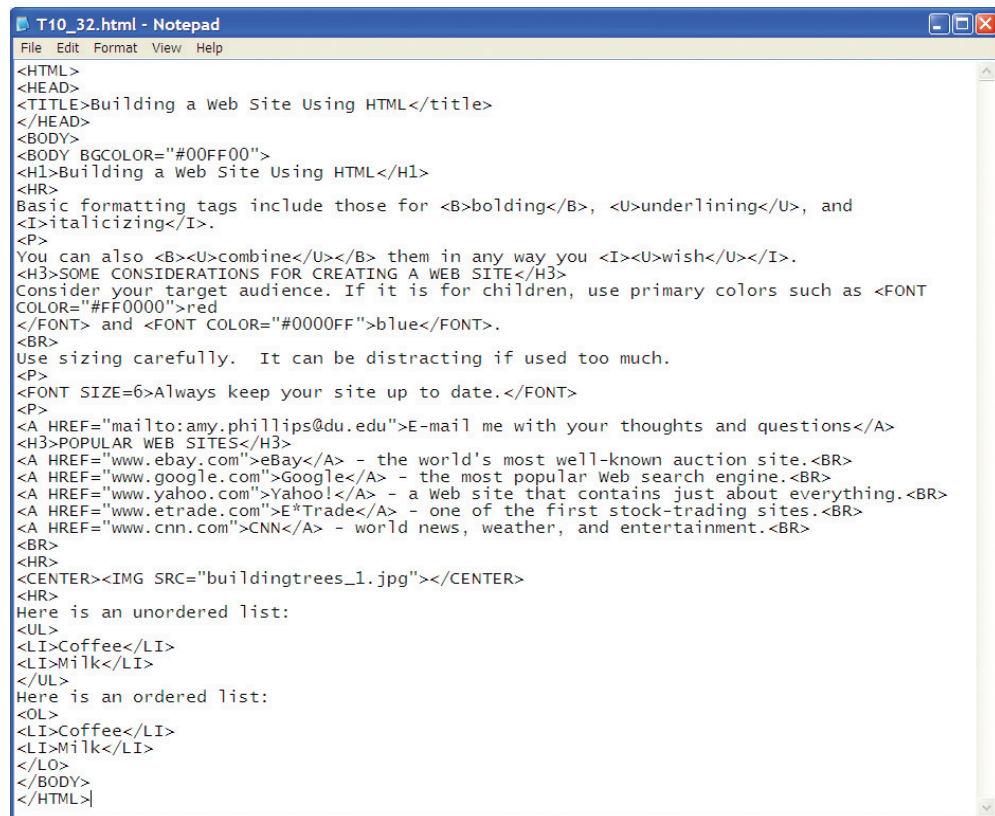
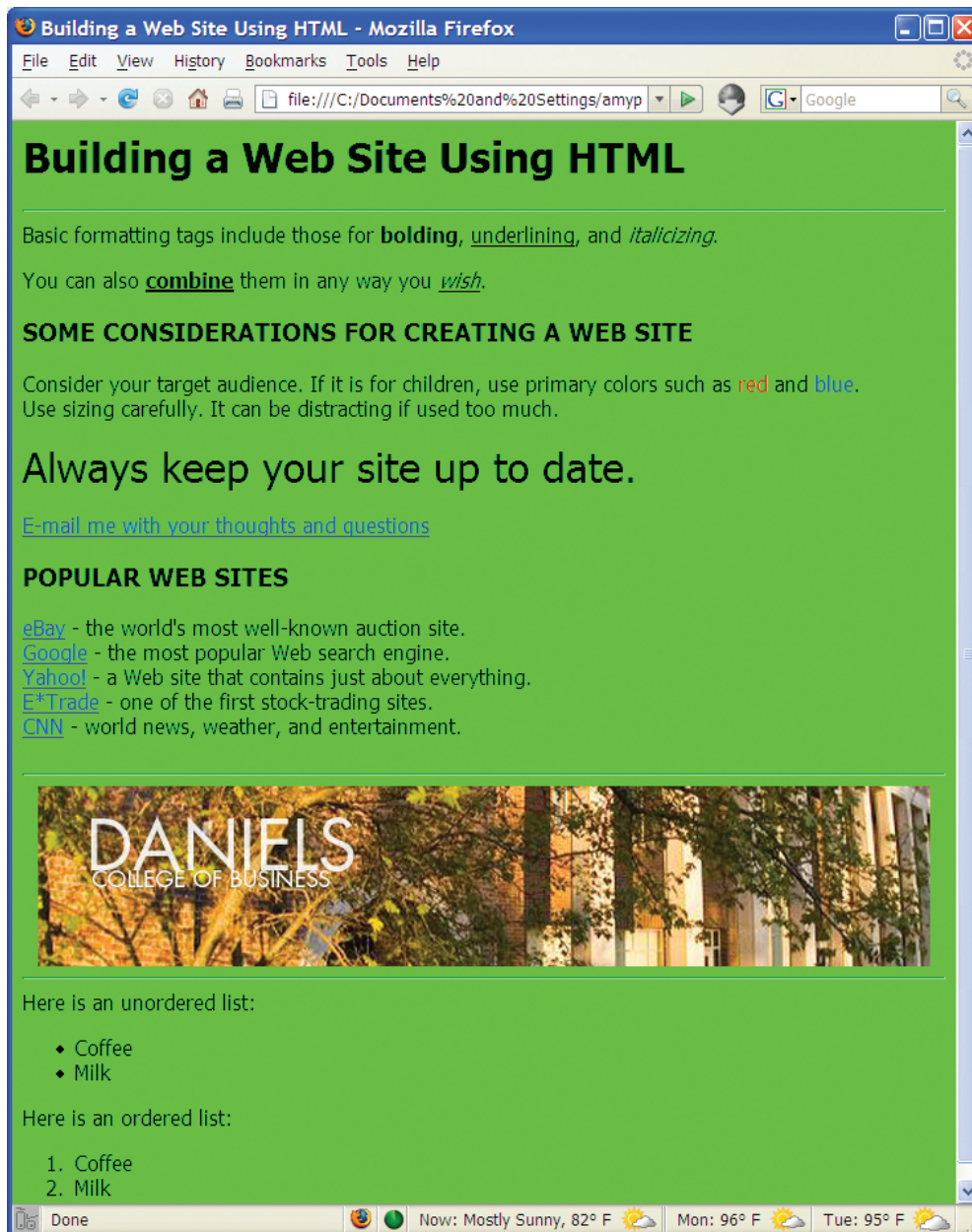


FIGURE T10.32

Summary of HTML Code





* PLUG-IN SUMMARY

Hypertext Markup Language (HTML) is the basic programming language of the World Wide Web. It's the common thread that ties together virtually every Web site, from large-scale corporate sites like Microsoft's to single-page classroom projects at the local grade school.

You can create a simple Web page in just a few minutes in an ordinary text-editing program like Microsoft Notepad. You don't need special software or extensive training. The code within an HTML file is enclosed in tags. These tags indicate where the formatting should be applied, how the layout should appear, what pictures should be placed in certain locations, and more.

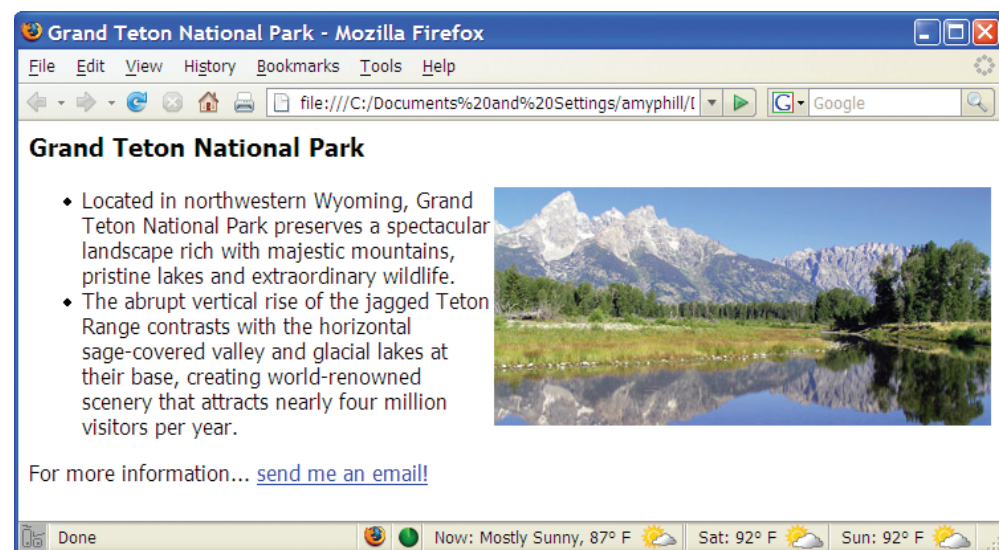
* MAKING BUSINESS DECISIONS

1. Using Images as Hyperlinks

Images can be used as hyperlinks, which allow users to click a picture and link to another location. This is an effective way to create visual reference to your pages on a Web site. Look at www.cnn.com for an example of an image that is used as a hyperlink. Several images will bring you to a detailed story if you click them.

- a. Using a text editor create a Web page that will give the same visual appearance as Figure T10.33.
- b. Add all the text and attributes according to Figure T10.33.
- c. Search the Internet to find an image of the Tetons and download that to your computer.
- d. Insert the image you just downloaded onto the Web page you created in step 1 and align the image to the right of the text.
- e. Create a hyperlink on the image that takes users to www.nps.gov/grte/.
- f. **Save** the file as **tetons.htm** or **tetons.html**.
- g. Open the file in your browser and click on the image. You should be taken directly to the National Park Service Grand Teton Web site.

FIGURE T10.33
Tetons Web Page



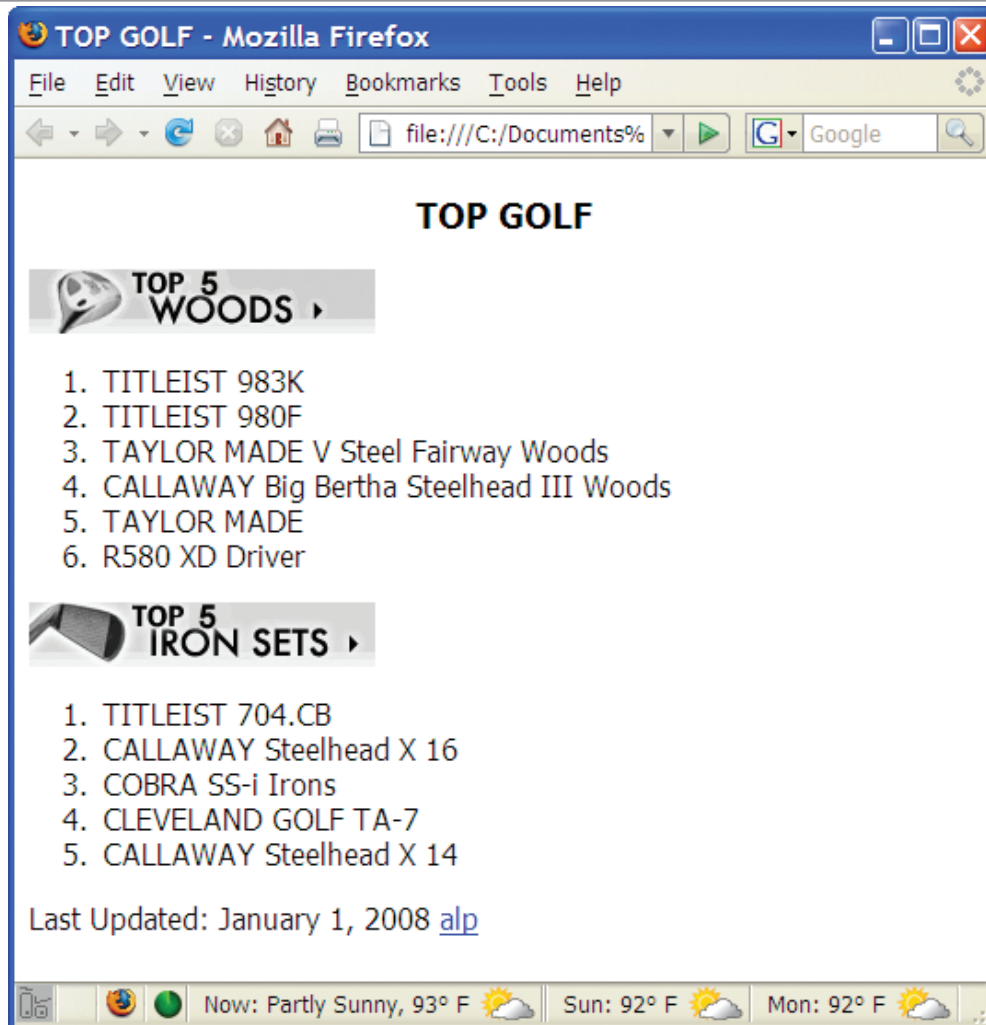


FIGURE T10.34
Top Golf Clubs
Web Page

2. Developing a Web Page

Your friend Arlene Palmer asked you to create a Web site to post the top golf clubs available. She wants to display the golf clubs in two categories: (1) woods and (2) iron sets.

- Using a text editor create a Web page that will give the same visual appearance as Figure T10.34.
- Add all the text and attributes according to Figure T10.34.
- Search the Internet for a graphical image you can use as part of the Web page heading.
- Create a hyperlink to the golf club manufacturer's Web site for the first golf club in each column. You will have to search the Internet to find the URL.
- In the last line, insert the text **Last Updated:** then add today's date.
- Add your initials next to the text that you typed in the previous step, highlight your initials, and insert an e-mail hyperlink.
- Save** the file as **topgolfclubs.htm** or **topgolfclubs.html**.

3. Express Yourself

One of the most popular Web sites among students is MySpace, a site that allows students to express themselves by personalizing their home page. What is your favorite band? Who

is your favorite author? What is your favorite movie? You can discover a lot about a person by finding out the answers to these questions.

Build a Web site dedicated to your favorite band, book, or movie. Your Web site must contain all of the following:

- An image.
- Two different size headings.
- Different sizes and colors of text.
- Two horizontal rules.
- Text that is bolded, underlined, and/or italicized.
- A textured background.
- A link to a Web site.
- A link to your e-mail.
- One numbered and one unnumbered list.

4. Creating a Presence

More than 1 billion people are on the Internet. Having an Internet presence is critical for any business that wants to remain competitive. Businesses need their Web sites to create a “buzz” to attract customers. E-business Web sites must be innovative, stimulating, add value, and provide useful information. In short, the site must build a sense of community and collaboration, eventually becoming the “port of entry” for business.

You are applying for a job at BagEm, a start-up e-business devoted to selling custom book bags that does not have any physical stores and sells bags only over the Internet. You are up against several other candidates for the job. BagEm has asked you to use your business expertise and Web site development skills to design and build a potential Web site. The candidate with the best Web site will be awarded the job.