

Creating a Web Site



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Introduction

HyperText Markup Language is a way of adding various attributes to plain text files which are published on the World Wide Web. HTML lets you mix graphics with text, change the appearance of text and create hypertext documents which interact with the user and engage the user.

HTML is based around the concept of tags. A tag looks like this: . Most HTML functions have an opening and closing tag - the tag applies to all text in between. For example, is the tag for bold. Any text between and will be displayed in bold type when the document is viewed by the appropriate browser. So Hello World would be displayed as **Hello World** .

The HTML language has a number of different “flavors”, or specifications. Most browsers today support the HTML 2 specification, although this has not been finalized by the appropriate Standards Committee. Netscape implements its own extensions to HTML 2. There are not supported by all browsers, if you use them, not everyone will be able to read your pages.

HTML 3 is the next generation of the HTML language. This is still a draft proposal a long way from being finalized. There are only a few browsers that fully support this specification.

One of the key strengths of HTML is that a document conforming to HTML standard can be understood no matter what sort of software or computer the reader has. For example, the same page can be interpreted by someone using Netscape in Windows and someone using Lynx in UNIX.

The best HTML authors manage to create attractive and innovative Web sites that display well on all browsers. This obviously takes more work and it is up to you to decided if you are prepared to put this effort in for the benefit of all Internet users.

Writing HTML

HTML documents are in plain text format (also known as ASCII) and can be created using any text editor (i.e. Word for Windows, Notepad, Write in Windows machines).

An HTML Document

Here is a sample HTML document:

```
<HTML>
<HEAD>
<TITLE>This is example 1</TITLE>
</HEAD>
<BODY BGCOLOR="#FFFFFF">
<H1>This is a level one heading</H1>
Welcome to my first creation on the World Wide Web
This is paragraph one <P>
This is paragraph two<P>
</BODY>
</HTML>
```

HTML uses markup tags to tell the Web browser how to display the text. The above example uses the following tags:

- <HTML> -- specifies the beginning of a HTML document
- <HEAD>..</HEAD> -- specifies the heading of the HTML document
- <BODY>..</BODY> -- specifies the start of the body and the background color of the HTML document
- <TITLE>..</TITLE> -- specifies the title of the HTML document. Will be displayed in the bookmark and in the title bar of the window
- <H1>..</H1> -- specifies the first header for the HTML document
- <P> -- paragraph separator

HTML tags consist of a left angle bracket followed by the name of the tag and closed by a right angle bracket. Tags are usually paired and the ending tag looks just like the starting tag except with a slash (i.e. <H1> is the starting tag for the first header and </H1> is the ending tag).

NOTE: HTML is not case sensitive, so <TITLE> is the same as <title>.

Formatting Tags

HTML consists of a set of elements that allow browsing software to display documents in an easy to read format. In this section we will cover some of the most commonly used tags for HTML.

Title

Every HTML document should have a title. A title is generally displayed separately from the document is used primarily for document identification in other context (i.e. title bar of window, bookmark, searching, etc.). Choose about half a dozen words that describe the document's purpose.

```
<TITLE> {description} </TITLE>
```

Body

In the document you can define the body of the document and within the body you can specify the background color, text color, link color, visited link color and absolute link color. Use the following tag to specify the colors for the document:

```
<BODY BGCOLOR="#FFFFFF" TEXT="#000000" LINK="#008000"
VLINK="#800080" ALINK="#000000">
```

In this example, the background color is white, the text color is black, the links will have a green color, the visited links will have a burgundy color and the absolute link will be black. The colors are in HEX format and there are sites where you can visit to find the correct HEX format for the color you wish to use (see References).

By default, the background color is gray, the text is black, and the link colors are specified in the set up of the browser.

Headings

HTML has 6 levels of headings numbered 1 to 6. Headings are displayed in bolder fonts than normal body text with the first heading being the largest.

```
<Hx> {heading} </Hx>
```

where x is a number between 1 and 6.

Paragraphs

In HTML, carriage returns are not significant. Word wrapping can occur at any point and multiple spaces are converted to a single space. The <P> tag will place a carriage return within the paragraph or sentence.

```
<P>
```

NOTE: There is no </P> for paragraphs

Line Break

You can use the
 tag to force a line break while retaining the formatting of the text. The
 tag forces a line break with no extra space between lines.

NOTE: There is no </BR> for line breaks

Separator Line

To create a separator between sections of text, use the <HR> tag.

NOTE: There is no </HR> for separators

Formatting Text

You can format your text in a few different ways to make your document more interesting. Here are the tags:

 {text to bold}

<I> {text to italicize} </I>

<U> {text to underline} </U>

<TT> {text to place in typewriter font} </TT>

<ADDRESS> {text to place in the address part of the document} </ADDRESS>

NOTE: the address tag is used at the bottom of the document to place you name and contact information, if needed.

Centering

To center an object, whether it be text or an image, use the center tags:

<CENTER> {object to be centered} </CENTER>

Creating Lists

With HTML you can also create a few different lists, to break up your document thus making it easier for the user to read. Here the different types of lists:

Unnumbered List

To create an unnumbered list, follow these steps:

First item in the list

Second item in the list

Third item in the list

Numbered List

To create a numbered list, follow these steps:

```
<OL>  
<LI>First item in the list  
<LI>Second item in the list  
<LI>Third item in the list  
</OL>
```

Definition List

To create a definition list, follow these steps:

```
<DL>  
<DT> Grace Hopper  
<DD> Ms. Hopper was an admiral in the Navy and was the inventor of COBOL, a well  
known programming language.  
<DT> Ada Lovelace  
<DD> Ms. Lovelace is known as the first computer programmer.  
</DL>
```

The output would look like this:

Grace Hopper

Ms. Hopper was an admiral in the Navy and was the inventor of COBOL, a well known programming language.

Ada Lovelace

Ms. Lovelace is known as the first computer programmer.

Formatting Exercises

Exercise I

Create a page with the title Grocery List and the first heading of Grocery. Then type and center the following paragraph:

My shopping list is growing so I thought I would see if I could get any help from the users of the Internet. I have listed all the items that I need below. Please help me complete my list as soon as possible. I will pay for all your expenses.

-- Thank you!

Exercise II

Create the grocery list with the following items in an ordered list:

Apples, Bananas, Juice, Milk, Cheese, Ice Cream

Exercise III

With this list, change the following formats for each item:

Apples - Bold and Italics

Bananas - Underline and Bold

Juice - Italics

Milk and Cheese - Bold & Typewriter Text

Ice Cream - Underline

HyperText Linking

The greatest asset to HTML is the ability to link documents to other documents or even within the same document, making the job of the user easier and more enjoyable.

Uniform Resource Locator

The World Wide Web uses Uniform Resource Locators (URLs) to specify the address of a WWW document. A URL includes the type of resource being accessed (i.e. gopher, telnet, FTP, etc.), the address of the server and the location of the file. Every document on the WWW had a URL.

Linking to Other Documents

To link to another document on the WWW, you must first find the URL. Once you know the URL, follow these steps to create a link from your document:

1. Specify the URL for the document using this format:
 - `` and use the quotation marks to define the URL
2. Enter the text that the user will see as follows:
 - `Description of URL`
3. End the statement with a ``, the ending anchor tag

Here is an example of a hypertext link:

```
<A HREF="http://www.hopper.com/">Hopper Business Solutions</A>
```

This entry will link the user to the Hopper Business Solutions page if they click on the hypertext, Hopper Business Solutions.

NOTE: The file that the browser looks for by default is index.html

If you want to link a user to a file that is within the same directory, you can just specify the file name. For example, if you are creating a Web site and there are many files in the main directory, then you can just specify the name of the files. Here is an example of file within the same directory:

```
<A HREF="welcome.html">Welcome Message</A>
```

Here is an example of a file in a lower directory:

```
<A HREF="../sample/welcome.html">Sample Welcome Message Down</A>
```

This will open the file welcome.html in the lower subdirectory sample.

Here is an example of a file in a subdirectory at the same level:

```
<A HREF="sample/welcome.html">Sample Welcome Message Up</A>
```

This will open the file welcome.html in the upper subdirectory sample.

Linking to Specific Text in Current Document

You can also use hypertext to move a user to another spot in your document. The first step is to mark the text that will be linked to. For example, let's say you have a main index in your document at the beginning and you would like the user to be able to get back to the index quickly. You can define the link by following these steps:

Create your main index and create your anchor `Main Index`. Then, to link to this particular area in the document, simply place the following line in the appropriate area: `Return to Index`.

Linking to Specific Text in Other Document

You can also link to specific text in another document. For example, if we had two documents, one that was a welcome message and the other a definition of terms, we could link words in the welcome message with the definitions and keep them as separate files. Here is that example:

welcome.html

```
<TITLE>Welcome Document</TITLE>
```

.....

```
We welcome you to our humble Web site and hope that you find happiness here.
```

.....

definition.html

```
<TITLE>Definitions</TITLE>
```

```
Sadness - A state of being sad
```

```
Glad - A state of being glad
```

```
Happiness - A state between sadness and gladness
```

To place a link to the definition of Happiness in the definition document from the welcome document you would change the documents to look like this:

welcome.html

```
<TITLE>Welcome Document</TITLE>
```

.....

```
We welcome you to our humble Web site and hope that you find <A  
HREF="definition.html#happiness">happiness</A> here.
```

.....

definition.html

```
<TITLE>Definitions</TITLE>
```

```
Sadness - A state of being sad
```

```
Glad - A state of being glad
```

```
<A NAME="happiness">Happiness</A> - A state between sadness and gladness
```

Document Linking Exercises

Exercise I

Create the following files:

index.html with the title Calendar of Events, default background and the first heading as Calendar of Events

calendar.html with the title 1996 Calendar, default background and the first heading as Calendar for 1996

Exercise II

In the index.html file, type the following text:

Welcome to the Hopper Business Solutions, Inc. calendar of events planner. Here we have information on the variety of programs we will be offering throughout the year. Feel free to browse!

- January
- February
- March

Place a Horizontal Rule after this paragraph.

Sign the bottom with your name and date the document. REMEMBER TO USE THE ADDRESS TAG

In the calendar.html file, type the following text:

January 1996 - Technology Conference at the Amway Grand Plaza

February 1996 - Kids Fair at the Ionia Fairgrounds

March 1996 - Library Open House

Place a Horizontal Rule after this paragraph.

Sign the bottom with your name and date the document. REMEMBER TO USE THE ADDRESS TAG

Exercise III

Create a link from the text in index.html (calendar of events) to the calendar.html document.

Create a link from the text in index.html (January) to the calendar.html text January. Do the same for February and March.

Exercise IV

Create a link from the calendar.html to the index.html file after the Horizontal Rule and label it HOME

Adding Images

Most web browsers can display images that are in .jpg or .gif format. To include an image, use the following tag:

```
<IMG SRC="image_URL" ALT="Image">
```

where image_URL is the URL for the image.

By default the bottom of an image is aligned with the text.

If you want the browser to align adjacent text with the top of the image, use the following tag:

```
<IMG ALIGN=TOP SRC="image_URL" ALT="image">
```

If you want the browser to align the text with the center of the image, use the following tag:

```
<IMG ALIGN=MIDDLE SRC="image_URL" ALT="image">
```

Also, for those browsers that cannot display graphics, make sure that you use the ALT tag to give a description of the image.

Images Exercises

Using the linking exercise files, index.html and calendar.html, place the images on your diskette in the following places:

Place kids.gif in the calendar.html file centered and after the heading

Place welcome.gif in the index.html file centered and before the heading

References

WWW & HTML Developer's JumpStation - <http://oneworld.wa.com/htmldev/devpage/dev-page.html>

Introduction to HTML - http://melmac.corp.harris.com/about_html.html

A Beginner's Guide to HTML - <http://www.ncsa.uiuc.edu/demoweb/html-primer.html>

HTML Quick Reference - http://kuhttp.cc.ukans.edu/lynx_help/HTML_quick.html

W3 HyperText Markup Language - <http://www.w3.org/hypertext/WWW/MarkUp/MarkUp.html>

Composing Good HTML - <http://www.cs.cmu.edu/~tilt/cgh/>

Style Guide for online hypertext - <http://www.w3.org/hypertext/WWW/Provider/Style/Overview.html>

Hopper Business Solutions - <http://www.hopper.com>

Backgrounds - <http://www.netscape.com/people/hagan/html/bg.html>

Colormaker - <http://www.missouri.edu/~c588349/colormaker.html>