

Hypertext Markup Language

```
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=windows-1252">      <meta name="keywords"
content="My Web Page, Web Page">
<meta name=" description" content="My New Web Pages">
<title>First Web Page</title>

</head>

<body>

</body>

</html>
```

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What is HTML?

Hypertext Markup Language is a system of codes used by web page designers to enable one computer to talk with another computer. The World Wide Web W3C consortium has issued an ISO standard so that different types of computers can talk to each other.

The standard HTML code is now version 4.01. Your web page should start with this data:

```
<!doctype html public "-//w3//dtd html 4.0 transitional//en">
```

HTML Document Structure

An *element* is a fundamental component of the structure of an HTML document. Some examples of elements are heads, tables, paragraphs, and lists. Use HTML tags to mark the elements of a file for your browser.

What are tags?

To denote the various elements in an HTML document, you use **tags**. HTML tags consist of a left angle bracket (<), a tag name, and a right angle bracket (>). Tags are usually paired (<**xxx**> </**xxx**>) e.g., <**HI**> and </**HI**> to start and end the tag instruction. The end tag looks just like the start tag except a slash (/) precedes the text within the brackets.

HTML Declaration <html> </html>

Every HTML document must begin and end with the HTML element. Place the HTML Declaration at the top of the web page editor. The end tag goes at the very bottom of the page. The other tags are nested in a hierarchy.

Head element <head> </head>

The head element is not a heading. This is data about your web page that the user does not see on the web page. For librarians the data in the Head element is very important to catalog a web resource. It contains **meta-data** or data about data.

Here are some of the elements that are often found in the head.

Meta tags <meta>

- Keywords <meta name="keywords">: The keywords meta-data allows the page to be indexed by search engines. The search engine then matches the user's search terms with the keywords in the meta tag.
- Description <meta name="description">: Some search engines also incorporate the meta tag description in the indexing of files. This enables a description of the page to be returned as part of the search result.

Title `<title> </title>` This is the title that displays in the title bar of the browser's window and is the only head element that is visible to the user.

Exercise:

To create a web page you need an HTML editor. For this workshop, open **Adobe Dreamweaver** Enter the data changing the preset elements with your elements as illustrated below.

```
<!doctype html public "-//w3c//dtd html 4.0 transitional//en">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<meta name="description" content="Your description">
<meta name="Keywords" content="Your keywords, other keywords">
<meta name="Author" content="Your name">
<title> Your title</title>
</head>
```

Now we are ready for the web page that people can see.

Designing a Home Page

The primary function of the Home Page is to guide a user to the information the user needs. Here are a few guidelines.

Follow the KISS theory

Keep it simple. The best sites are those that offer simple site navigation. Bells and whistles might look nice, but there comes a point where the gadgets on the page overshadow the content **usability** should be your guide.

Motivate your user

Think about the users' goals in coming to the page. In what ways can you facilitate their search and ease their task flow?

Organization is key

Be sure to organize the home page so that a flow can be detected. One guideline to keep in mind **-if they can't find it in three clicks they leave the site.** Keep the number of links on the home page to a minimum. Keep file size as low as possible. Pages that are quite large in size take a long time to download. Users tend to frustrate easily and will leave if the page takes too long to download. All kinds of numbers are floating around on recommended file size for a web page. The best indicator, however, is your own use. How long would you wait for a page to download?

Choose color scheme carefully

While some may think that black is just a dandy color for a web page, be cautious. Dark colors are not seen as formal colors, whereas light colors are seen to be more professional. Many theories regarding color exist. However, suffice it to say that regardless of the color scheme chosen, the links and font color must coordinate with the remaining image and background colors.

Type faces

Typesetters try to stick with one font at all times. HTML documents should also work to minimize the number of fonts in a page. Stick with the two-font maximum. Use one font for the images and another for the body text. However, if different fonts are used for images and body, make sure the fonts look different enough to distinguish one from another.

Body element <body>

The body element encloses everything the user will see displayed on a web page. Since many of the default display attributes of an HTML document can be altered, it is important to override the default settings in the first tag such as background color, text color, text face, link color, visited link color, and background image.

Exercise:

Let's alter the default background color, text color, text face, link color, etc. Go back to the Front page document you started.

Enter:

```
<body text="#000000" bgcolor="#FFFFCC" link="#336600" vlink="#008000"
alink="#00FF00">
```

Let's see why we entered these color codes.

HTML Color Values

Colors for <body> tag attributes (and most other color attributes in HTML) are referenced using a hexadecimal code, a base-16 numbering system. Colors are broken down into the three primary colors of light: **red, green, and blue**. As with an artist's palette, hues change by adding more or less of each primary color. By establishing a 16- degree range from 0 to F, the hexadecimal code establishes blended intensities for each of the three values.

Hexadecimal Color Notation #RRGGBB

Whereas RR= Intensity of Red GG=Intensity of Green BB= Intensity of Blue

Value Range: 0 >9 >A >F Minimum Value: 00 Highest Value: **FF**

Exercise:

1. What is the hexadecimal value for red? #FF0000
2. What is the hexadecimal value for green? #_____
3. What is the hexadecimal value for blue? #_____
4. What is the hexadecimal value for white? #_____
5. What is the hexadecimal value for black? #_____

Following basic mathematical calculations, one can easily calculate the number of possible colors available using hexadecimal notation. With 16 possible digits for each character place and six places, 16,777,216 colors can be represented using hexadecimal notation.

$$16^6 = 16,777,216$$

However, the webmaster must anticipate the hardware limitations of the target audience. Many, if not most, users have monitors set to **8-bit color, capable of displaying only 256 colors**. To further complicate matters, 40 of those of 256 colors display differently on Mac's and PC's and therefore should be avoided. That leaves the designer with only **216** colors considered web safe. In other words, while millions of colors are technically possible, designers should limit themselves to the 216 that are web or "browser" safe. Colors that are considered browser safe evade the risk of "dithering." When the browsers encounter a color they cannot display they dither, or simulate the color by pattern of the closest colors they can find. This pattern can cause a grainy look and color variations.

Many available applications have palettes displaying the 216 browser safe color. Here is another fast trick to determining the "safety" of a color. Multiples of 3 in the underlying base 16 math yield specific value pairs consisting of 0,3,6,9,C, and F. Any hexadecimal representation

composed entirely of these value pairs is considered web safe: 00,33,66,99, CC, FF. These are not web safe: 80, DD, AA etc.

Headings Not to be confused with Head

We are now ready to code the part of the document you can see on the web. Many web designers like to start out the web page with a Heading (**not to be confused with Head which contains the meta data the user can't see**).

HTML has six levels of headings, numbered 1 through 6, with 1 being the largest. Headings are typically displayed in larger and/or bolder fonts than nonnal body text. The first heading in each document should be tagged <H1>.

The syntax of the heading element is:

<Hy>Text a/heading </Hy>

where **y** is a number between **1** and **6** specifying the level of the heading. <h1>My Web Page</h1> renders:

My Web Page

Exercise:

Enter the Heading tags for your web page. View the page. Change the size and view the results.

Formatting:

You may want to "center" text and images on your web page. HTML is very literal so you need special tags to make the text and images align in the center. <align> Tag

The <align> tag can be employed to apply alignment to a section of the document. Let's now go back and center our heading:

<h3 align="center">My Web Page</center></h3> renders:

My Web Page

<p> Paragraph Tag

The <p> tag will give you a blank space between lines of type. Place a <p> next at the left.

 Tag

The default font is Times Roman (the font used in this document). You can change the font face and size. Change the font face to "Arial" and size to + 1 by adding this tag:

This web page is to learn HTML

This renders:

This web page is to learn HTML

** Bold Tag**

To make the type bold enter the `` tag in front of the text. Don't forget to put `` when you want to finish. Make the next line in your document bold by entering:

```
<b> This line is bold </b>  Some editors use <strong>This is bold</strong>
```

<i> Italic Tag

To make the type *italic* enter the `<i>` tag in front of the text. Don't forget to put `</i>` when you want to finish. Make the next line in your document italic by entering:

```
<i> This line is italic </i> Some editors use <em>This is italic</em>
```

Unnumbered Lists

Sometimes you may want to have a bulleted list of items on your web page. Start with an opening list `` (for unnumbered list) tag

Enter the `` (list item) tag followed by the individual item; no closing `` tag is needed. End the entire list with a closing list `` tag Below is a sample three-item list:

```
<ul>
<li> apples </li>
<li> bananas </li>
<li> grapefruit</li>
</ul>
```

The output is:

- apples
- bananas
- grapefruit

Numbered Lists:

Sometimes you may want to have a numbered list of items on your web page. Start with an opening list `` (for the ordered list) tag. Enter the `` (list item) tag followed by the individual item; no closing `` tag is needed End the entire list with a closing list `` tag Below is a sample three-item list:

```
<ol>
<li> apples </li>
<li> bananas</li>
<li> grapefruit</li>
</ol>
```

The output is:

1. apples
2. bananas
3. grapefruit

Adding Hyperlinks

One of the most interesting aspects of web pages is the ability to add hyperlinks to other web resources so that a user can click and go to another web page.

<a> Hyperlink tag

The hyperlink tag is a two-part tag. The first part contains the **Uniform Resource Locator (URL)** of the other web site and the second part is the wording you give to alert the user to the nature of the other web site. Let's add a hyperlink to go to the School of Library and Information Science web site:

Absolute Link:

Let's add an absolute hyperlink to go to the School of Library and Information Science web site:

```
<a href="http://slis.cua.edu">School of Library and Information Science</a>
```

Relative Link:

A relative link will take us to another page on our own web site and does not need the full web URL, only the file name if it is in the same share on the server.

```
<a href="secondpage.html">My second page</a>
```

Adding Images

Images are another element that make web pages come alive. However, even though you put the code into the web page, the image will not display unless you place that object file in the same server space as you point to in the code. The web page merely points to the image.

** Image tag**

The `` tag can have many attributes nested in it, such as the height, width, border size and alignment. Let's code for the image of Marist Hall. Enter:

`` It has no end tag.

Experiment with changing the height and width pixels until the picture looks right.

Tables

Tables add structure to web pages that would be very linear otherwise. Tables can provide "containers" for images and text next to each other that would not be possible with just the image tags alone.

`<table></table>` Table tag

The `<table>` tag begins the coding for a table. You need to then use the `<tr>` table row tag and then the column/cell tag `<td>`. Within the `<td>` tag you put all the attribute tags for that cell such as color, font, links, images, then use its end tag `</td>` before starting the next cell. After you have added then final cell then you use the `</tr>` tag to end the row and the `</table>` to end the table. You can nest tables within tables. Let's code for a table with one row and two columns that takes up 60 % of the page and is aligned in the center.

```
<table cellpadding="2" cellspacing="2" border="1" width="60%" align="Center">
<tr>
<td valign="Top">My first cell </td>
<td valign="Top">My second cell </td>
</tr>
</table>
```

This renders:

--	--

Now take out the code for the border and change the percentage.

Copy coding:

Because coding is time consuming it is very useful to do "**copy coding**" for elements that are the same on nearly the same on a page or across several pages. In fact, if you make a design you like, use it for a template and just change the elements that differ. Let's "copy code" the table we have just made.

Left click and drag across the code for the table, then click Edit in the menu bar and select "**copy**" on the menu. Move your cursor down in the web code and click Edit in the menu bar again then select "paste" on the menu.

Save your web page

It is important to save your web page in the correct format. You should give your page a short significant name with no spaces. Long names are difficult for users to type in the URL. You should add the correct extension such as .htm or .html (Newer servers accept the fourth letter as in .html). An example file name would be: **mypage.htm** or **mypage.html**

View code in documents and experiment!

In Netscape, select **File** then **Open** and navigate to where you saved your page to view it. Next select **Edit**, and **Page source** to see the code. In Internet Explorer, select **File** then **Open** and again navigate to where you saved your page to view it. To see the code, select **View** and select **Source**.