

Intermediate HTML for Macintosh and PC

Course Description: This class is an intermediate class in HTML. Topics covered include various types of lists, tables for formatting, and the set-up of frames.

Prerequisites: This class assumes you know how to use Netscape Navigator and have some experience with word processing applications. We also hope that you are somewhat familiar with the basics and structure of HTML. You are also expected to have your own 3 1/2" floppy disk if you wish to store your data.

REVIEW AND NEW FUNCTIONS

- The *Intermediate to HTML* class will give you a chance to explore more of the formatting options allowed by HTML. We will review some of the elements of the Beginning class, and then move on to new features.
- Although HTML is not case-sensitive, for this class, all HTML tags and attributes will be in capital letters.
- You should be familiar with some of the terminology used. For instance, <A> is a tag, but HREF="www.berkeley.edu" is an attribute of the <A> tag.
- You should also understand how to make links, load images, and create a basic functional web page.

ALIGNMENT

You can format text on an HTML page in many different ways. One of the simplest ways to format text is to change the alignment, so that it is centered, or flush right on the screen.

To do this, you need to tell the browser that you want do something to a paragraph. Surround the text that you want to format with <P> and </P> tags. Once you do this, you simply add an attribute to the <P> tag.

Change the <P> tag to <P ALIGN=RIGHT>, and save your file. When you view it again with your browser, the text will be right aligned. ALIGN=CENTER can center the text as well. This will work for almost any amount of standard text.

For example:

```
<P ALIGN=CENTER> This is a fun  
example to try. Berkeley looks  
spectacular and magnificent from  
the campanile.</P>
```

```
                  This is a fun example to try.  
                  Berkeley looks spectacular and  
                  magnificent from the campanile.
```

However, this tends not to work if you use heading tags. If you need to center text surrounded with <H3> or <H1> pairs, try using <CENTER> and </CENTER>

LISTS

HTML supports many different types of lists. Lists can be arranged with letters, numbers, or other symbols, depending on the type of list you use. List entries can contain any HTML tags, and can go on for any length.

Unordered Lists

An unordered list is a collection of items, each marked off with a bullet or other symbol. The list begins with a `` tag, and ends with a ``. All items of the list are contained within these two tags.

A list item in the list begins with the `` tag. List items do not have a closing tag.

For example:

```
<UL>
<LI>This is item one
<LI>This is item two
<LI>This is item three
<LI>This is item four
</UL>
```

This unordered list will look like

- This is item one
- This is item two
- This is item three
- This is item four

You can specify different symbols for the bullets. By default, `<UL TYPE=DISC>` is used.

Try `TYPE=CIRCLE` or `TYPE=SQUARE` for different results.

Ordered Lists

Ordered lists allow you to create lists with numbers or letters. Ordered lists begin with the `` tag and end with the `` tag. List items are exactly the same as in unordered lists.

For example:

```
Things to do today:<BR>
<OL>
<LI>Get up
<LI>Take shower
<LI>Get dressed
<LI>Eat breakfast
</OL>
```

This ordered list will look like

- Things to do today:
1. Get up
 2. Take shower
 3. Get dressed
 4. Eat breakfast.

Like the `` tag, `` has other types associated with it. You can specify `TYPE=1` for a list with numbers. You can also use `TYPE=A` for lists with A, B, C, etc. `TYPE=a` is for lists with a, b, c, etc. `TYPE=I` is for roman numerals I, II, III, IV, etc. `TYPE=i` is for lower case roman numerals i, ii, iii, iv, etc. Ordered lists are frequently used for outlines.

LISTS (continued)

Definition Lists

A definition list <DL> consists of alternating a definition term <DT> with a definition <DD>. Web browsers generally will place the definition on a new line after the term it defines. <DT> and <DD> terms are free to include any HTML code within them.

For example:

```
<DL>
<DT>Do
<DD>a deer, a female deer.
<DT>Re
<DD>a lock of golden sun.
<DT>Mi
<DD>a name I call myself
<DT>Fa
<DD>a long long way to run.
```

This definition list will look like

```
Do
  a deer, a female deer.
Re
  a lock of golden sun.
Mi
  a name I call myself
Fa
  a long long way to run.
```

Nested Lists

List items can contain HTML tags. This also means that list items can contain other lists entirely within themselves.

```
<UL>
  <LI>Trees
    <UL>
      <LI> Oak
      <LI> Christmas
    </UL>
  <LI> Animals
    <UL>
      <LI> Elephants
      <LI> Big Bird
    </UL>
</UL>
```

- Trees
 - Oak
 - Christmas
- Animals
 - Elephants
 - Big Bird

Other notes on lists

Lists normally have extra whitespace, usually to make things clearer. However, you can add a COMPACT attribute to either or <DL> to turn them into compact lists. <DL COMPACT>, for instance, removes the blank lines between the definition and the list.

Lists do not have to contain list items. All the does is to tell the browser to put a bullet, number, or letter. Without the tag, the items in the list are indented still, but do not have an actual listing. This is very useful if you need to indent on the left side.

COLORS

It is possible to change the colors of your text and background. Most pages specify both as a straightforward method of changing the appearance.

Color Syntax

An HTML color looks like #BC0837 or #FFFFFF or #0000CC. It is a series of six hexadecimal digits. A hexadecimal digit is like a regular digit; it spans from 0, 1, 2, 3..., all the way up to 9. It can also continue further: A, B, C, D, E, and F. Each digit can take on one of 16 values, from 0 through F. A group of two regular numbers can go from 00 through 99. A group of two hexadecimal numbers can go from 00 through FF.

The browser breaks up the series of six digits into three groups of two digits. The first two digits tell the browser how much of the color red to use. The second group tells the browser how much green to use. The last group represents how much blue to use. The browser then takes those three amounts, and mixes them together to produce a single color.

By varying the amount of red, green, and blue used, a web designer can choose one of over 17 million possible color choices, ranging from dark black, to red, green, blue, and white.

Each group of two digits specifies how much of a red, green, or blue component it should use.

| | |
|----------------------|-----------------------------------|
| White = #FFFFFF | (maximum values of all colors) |
| Black = #000000 | (no red, green, or blue included) |
| Red = #FF0000 | (pure red, but no other colors) |
| Green = #00FF00 | (pure green, no other colors) |
| Blue = #0000FF | (pure blue) |
| Yellow = #FFFF00 | (mixture of red and green) |
| Magenta = #FF00FF | (mixture of red and purple) |
| Light Gray = #CCCCCC | (lighter mixture of all colors) |

A longer list can be found at <http://www.infi.net/wwwimages/colorindex.html>

Color issues

An HTML color is a combination of six hexadecimal digits. Since each digit can take 16 possible values, this gives over 17 million possible colors. The problem is that most monitors are not set up to display every possible color; the computers in the facilities are usually set up for 256 colors. To compensate, a browser must convert a particular color into colors that the computer is able to display. Sometimes, the computer will substitute another similar color in its place, or it may use a mosaic of similar colors to build up the needed color. This process is called dithering.

The problem is that the dithering process is not standard between the Macintosh and PC platforms, or even among different browsers on the same platform. A color or background may look perfect on one particular computer, but look completely different on another computer.

However, there is a set of colors that do look the same on both the Mac and PC platforms. Again, a color consists of three groups of two digit numbers, for the red, green, and blue parts. If all three parts are either 00, 33, 66, 99, CC, or FF, then the color is safe for the web. For instance, #003366 is a safe color, while #004466 is not considered a safe color. This restricts you to a smaller set of only 216 colors. However, if you are really concerned with the colors of your page, try to limit yourself to these.

COLORS (continued)

Style

For your pages, feel free to choose any type of color style that suits you. Three major schemes are:

- Black text on white backgrounds. This is used on many corporate pages, like <http://www.ibm.com>
- Black text on light textured backgrounds. A lot of personal pages use this approach, like <http://cafe.berkeley.edu/~rux/>
- Light text on black backgrounds, such as <http://www.mtv.com/>. This also seems to be somewhat popular for personal pages.

Format

All formatting of text colors, link colors, and backgrounds are done within the <BODY> tag. In the template above, the tag is empty. But, by adding various attributes, we can alter the way the page looks. For instance, we can replace the tag with:

```
<BODY TEXT=#000000 VLINK=#996699 LINK=#0000FF ALINK=#FF0000>
```

This will make the text black, the visited links purple, the regular links blue, and the active links red. An active link is a link that is in the process of being clicked on.

To change the color of a few words, you can use the COLOR attribute of the tag. The word inside the tags will be blue

Backgrounds

There are two different ways to modify the background of a page. You can specify a BGCOLOR attribute, to give a solid color background. This is also done in the body tag.

```
<BODY BGCOLOR=#FFFFFF> makes a solid white background.
```

The other method is to use a tiled image as the background. If you set the BACKGROUND attribute of the body tag with the name of an image file, the browser will load and tile it to create the background.

```
<BODY BACKGROUND="bg49.gif"> will tile bg49.gif and make it the background of the page.
```

You may need to retouch the background image. A nice background that makes your text unreadable is useless. The usual method is to lighten or darken the image to contrast with your text color.

If you are using the BACKGROUND tag, it is a good idea to choose a BGCOLOR that looks similar. For instance, if I have white text on a dark background image, I should choose a dark BGCOLOR; ideally, the same color as the background of the image.

Otherwise, when the text loads, it will be displayed on the default light gray background until the background image fully loads up. If I had a BGCOLOR for that page, it will load up at the same time, making the light colored text on the dark background easy to read. Most graphics programs are able to tell you the red, green, and blue colors for a particular area on an image.

TABLES

Another important formatting feature is the use of tables. Tables are a good way of organizing a web page so that the information appears in a manner similar to what you would expect from an application like Excel or Microsoft Word, i.e. for information that is delimited by tabs or a set amount of spaces.

Setup

The generic idea of a table is a collection of rows, with each row containing a list of cells, and with each cells containing useful information. A table cell can contain text, HTML code, an image, a list, another table, etc.

A table begins with `<TABLE>`, and ends with `</TABLE>`. A table row begins with `<TR>` and ends with `</TR>`. A table cell begins with `<TD>` and ends with `</TD>`.

```

1. <TABLE>
2. <TR>
3.   <TD>x</TD>
4.   <TD>o</TD>
5.   <TD>x</TD>
6. </TR>
7. <TR>
8.   <TD>x</TD>
9.   <TD>x</TD>
10.  <TD>o</TD>
11. </TR>
12. <TR>
13.  <TD>o</TD>
14.  <TD>o</TD>
15.  <TD>x</TD>
16. </TD>
17. </TABLE>

```

| | | |
|---|---|---|
| X | O | X |
| X | X | O |
| O | O | X |

The indentation here is provided only as a visual guide and is not required. The line numbers are also a reference, but should not be included in the HTML file.

The most difficult part with table tags to is to keep them all straight. It is very easy to forget to notice a missing `</TR>` in the mix of tags. Usually, it is best to keep tables simple, so you don't get in the shuffle of `<` and `>`.

NOTE: Tables will **not appear at all** if you forget the `</TABLE>` at the end.

The size of a cell in the table is usually chosen by the browser. The browser will choose a width large enough, and a height tall enough, so that none of the cells will need to be shrunk.

The `BORDER` attribute of the table changes the size of the borders of the table. `<TABLE BORDER=5>` is a good sized table. `<TABLE BORDER=0>` makes the borders vanish. This approach is frequently used on many web pages. Berkeley's web page at <http://www.berkeley.edu> uses a table to create the news bar on the right side.

TABLES (continued)

A cell can span more than one row or column. For instance, if we changed line 3 to read: `<TD ROWSPAN=2>` and line 14 to read `<TD COLSPAN=3>` the new table would resemble the following:

| | | | | |
|---|---|---|---|---|
| x | o | x | | |
| | x | x | o | |
| o | x | | | o |

Notice that the top-left 'x' spans 2 rows, and the 'x' in the bottom row spans 3 columns. Lastly, if you need to align your cells differently, you can use the `ALIGN` attribute. For instance, you can center a cell with `<TD ALIGN=CENTER>` `</TD>`. The alignment attribute also works on entire rows, and even the entire table. Simply put the attribute in the appropriate `<TR>` or `<TABLE>` tag. You can use `<TD VALIGN=MIDDLE/TOP/BOTTOM>` `</TD>` to specify the vertical alignment as middle, top, or bottom.

```
<TABLE><TR>
<TD VALIGN=BOTTOM>
This is a short line</TD>
<TD>
This<BR>
Is<BR>
A<BR>
Tall<BR>
Line<BR></TD></TR></TABLE>
```

| | |
|----------------------|---------------------------------|
| This is a short line | This Is A Tall Line |
|----------------------|---------------------------------|

More than just rows and columns...

Although it may seem that tables are not very useful, they are if you consider using tables for layout. Tables create divisions among objects that cannot be crossed. Position and spacing of objects (pictures or bodies of text) can be set to your choosing. You have a lot of control over objects if you place them in a table. Examine the two different ways of placing three pictures side-by-side:

Option 1: Typing three image tags in a row.

```
<IMG SRC="pic1.jpg">
<IMG SRC="pic2.jpg">
<IMG SRC="pic3.jpg">
```

This doesn't work all of the time, especially when the window length is smaller than the length of the three pictures combined.

Option 2: Placing the images in cells.

```
<TABLE>
<TR>
  <TD><IMG SRC="pic1.jpg"></TD>
  <TD><IMG SRC="pic2.jpg"></TD>
  <TD><IMG SRC="pic3.jpg"></TD>
</TR>
</TABLE>
```

The images are now set to be side-by-side. If the window length was too small, then a side scroll bar would appear.

TABLES (continued)

Here are some attributes that you can add to the table tags to give yourself more flexibility with the layout of your webpage.

| TAG: | DESCRIPTION: |
|-------------------|--|
| 1. WIDTH / HEIGHT | The attributes function the same way as they do in images. You can change the width and height of a cell, row, or the entire table by adding the attribute into the appropriate tag. You can specify in terms of pixel length (represented by a number) or percentage. By adding WIDTH=100% to <TABLE>, you make sure that the table fits on the screen. |
| 2. BORDER | You can specify how thick you want the border to be by typing BORDER=(a number) in the <TABLE> tag. The thickness is determined by pixel. For general layout purposes, it's best to have the border set to zero. |
| 3. BGCOLOR | You can change the color of a cell, row, or the entire table by adding this attribute to the appropriate tag. It basically functions the same as when you place it in the <BODY> tag. Background color of cells take precedent over the row and the entire table, and the color of the rows take precedent over the entire table. |

HELPFUL HTML RESOURCES ON THE WEB

“Resources for Web Page Design” (tons of resources for HTML, sound, graphics, etc.)

<http://maclab.me.berkeley.edu/art160/art160-21/web.html>

“HTML Goodies” (includes tricks to make your links not underlined, to make accents, etc.)

<http://www.htmlgoodies.com>

“HTML: An Interactive Tutorial” (includes counters, transparent gifs, etc.)

<http://www.davesite.com/webstation/html/>

“The Barebones Guide to HTML” (a fairly comprehensive list of tags)

<http://werbach.com/barebones/barebone.html>

“Web pages that suck” (learn good design by look at bad design)

<http://www.webpagesthatsuck.com>

“Web site garage” (tune up your web site)

<http://www.websitegarage.com>