

HTML 3.2 Tags

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Because HTML continues to evolve, many different variations exist in how some of these tags are used and different browsers may have a different effect when laying out a page using these tags. If a browser encounters a tag it does not recognize, the default action in this case is to ignore the tags. Also, in the document, the tags are listed as all-caps, but the tags themselves are case-insensitive.

Some of the tags have required and optional attributes. Attributes for tags are given after the tag, separate from the tag and other attributes by *white space*, which includes spaces, tabs or line breaks. For example, the IMG tag, which places an image on the page has a SRC attribute which specifies the location of the image, and is shown as follows:

```
<IMG SRC="http://www.eng.hawaii.edu/Icons/caution.gif">
```

Note the quotation marks surrounding the value of the option, SRC. Unless the value of an attribute is made entirely of numbers, the quotation marks should be used for attributes. This document is divided into pertinent sections, with related groups of tags placed in separate pages. Note that one part of this standard, *forms* have not been covered, due to its complexity.

Top-Level Tags

These are the top-level tags. The HTML tag is optional, and encloses the entire document. There are several attributes for the BODY tag, and they are described in subsequent paragraphs.

Name	Purpose	Attributes	Contents
HTML	Document marker	none	HEAD BODY
HEAD	Header information	none	TITLE
BODY	Contents of the HTML file	(see below)	(see below)

Document Body The BODY tag has some optional attributes, which are explained here. The first of these, the BACKGROUND attribute, allows you to specify the URL (see the anchor, or A tag below for more information about URLs) of an image to be used as a background for the body of the document.

Attribute	Purpose	Attribute	Purpose
BACKGROUND	Image used for background	LINK	The color for unvisited links
BGCOLOR	Background color of page	VLINK	The color for visited links
TEXT	Color of text on a page	ALINK	The color for active links

The remaining attributes all require a color value, specified in the form, #HHHHHH, where H stands for a hexadecimal digit. Each pair of hexadecimal digits represent red, green and blue, respectively. For example, to make a page with green background with blue text, you would use the following BODY tag (note that there should be a corresponding </BODY> tag at the end of the document):

```
<BODY BGCOLOR="#00ff00" TEXT="#0000ff">
```

An *active* link is the name given to a link which is the user's currently selected link. The HTML standard also defines (as shortcuts) a set of 16 colors which can be used in place of the #HHHHHH format. The colors are given as follows: AQUA, BLACK, BLUE, FUCHSIA, GRAY, GREEN, LIME, MAROON, NAVY, OLIVE, PURPLE, RED, SILVER, TEAL, WHITE, and YELLOW.

Header Information Tags

This tag can only be contained within the HEAD section of an HTML document. There are other HEAD tags, such as META and ISINDEX, but they will not be covered in this document. Exactly one TITLE should appear in an HTML document.

Name	Purpose	Attributes	Contents
TITLE	Specifies title of document	none	text (no tags)

Section Header Tags

These tags make headers that stand out in the text. They range from H1 to H6, H1 being the largest.

Name	Purpose	Attributes	Contents
H1 - H6	Headers	ALIGN	text (no tags)

Example

This is a Level 1 Header <H1>This is a Level 1 Header</H1>

Block Tags

These tags describe blocks of text. For the DIV and P tags, there is an ALIGN attribute which can be set to one of the following values to control the alignment of the text: LEFT, RIGHT or CENTER. The PRE allows you to embed styles and anchors into preformatted text, and the WIDTH attribute specifies its column width.

Name	Purpose	Attributes	Contents
ADDRESS	For address or signatures, displayed with italics	none	text, BR
BLOCKQUOTE	For indented quotes from other documents or books	none	text
DIV	Divides text into sections	ALIGN	text
P	Paragraphs	ALIGN	text
PRE	Preformatted text with a monospace font	WIDTH	text

Examples

This is a paragraph <P>This is a paragraph</P>
Someone Lastname <ADDRESS>Someone Lastname

 123 Some Street 123 Some Street

Somecity XX XXXXX Somecity XX XXXXX</ADDRESS>

List tags

These tags describe different kinds of lists. Most of these list tags use the LI tag to denote elements within the list. However, the DL (description list) tag uses the pairs of DT and DD to denote an entry's title and description, respectively. All list tags have an optional valueless COMPACT attribute to create *compact* lists.

Name	Purpose	Attributes	Contents
DL	A list of definitions COMPACT	DD	DT
DD	Description of corresponding DT tag	none	text
DT	Title for definition described by DD tag	none	text
DIR	Directory list, with entries listed in columns	COMPACT	LI
MENU	"Menu"-type list, typically for a list of choices	COMPACT	LI
OL	Ordered list, items preceded by ascending numbers	COMPACT START TYPE	LI
UL	Unordered list, items preceded by bullets (●)	COMPACT TYPE	LI
LI	Items used for lists above	none	text

The ordered and unordered lists (OL and UL, respectively) also have additional attributes to change their appearances. The OL tag has a START attribute to set a starting point for counting, the TYPE attribute allows you to set the styles, by choosing the values given:

Value	Style	Sequence	Value	Style	Sequence
1	Arabic numerals	1 2 3 ...	i	lowercase Roman	i ii iii ...
a	lowercase letters	a b c ...	I	uppercase Roman	I II III ...
A	uppercase letters	A B C ...			

The UL tag also has the TYPE attribute, where its values can be one of the following: CIRCLE (○), DISC (●) or SQUARE (◻).

Examples

tree	<DL COMPACT>
A usually tall woody plant	<DT>tree <DD>A usually tall woody plant.
trek	<DT>trek <DD>To make a slow and arduous journey.
To make a slow and arduous journey.	</DL>
1. This	
2. is	This is a test.
3. a test.	
• This	
• is	This is a test.
• a test.	

Physical Styles

These tags modify the appearance of text using physical styles. (Another way of describing styles, called *logical* is also available but is not discussed in this document.)

Name	Purpose	Attributes	Contents
B	Boldface text	none	text
BIG	Big text	none	text
I	Italic text	none	text
SMALL	Small text	none	text
STRIKE	Strike-thru text	none	text
SUB	Subscript	none	text
SUP	Superscript	none	text
TT	Monospaced text	none	text
U	Underlined text	none	text

Examples

This is a bold-faced word.	This is a bold-faced word.
This is big type.	This is <BIG>big</BIG>
This is an <i>italic</i> word.	This is an <I>italic</I> word.
This is a strike-thru word.	This is a <STRIKE>strike-thru</STRIKE> word.
This is a monospaced word.	This is a <TT>monospaced</TT> word.
This is an <u>underlined</u> word.	This is an <U>underlined</U> word.
Super and sub scripts.	^{Super} and _{sub} scripts.

Entities

Some characters, such as the less than (<), cannot be inserted into an HTML document simply by typing them in. These special characters, or *entities* are entered using the following (and other) sequences. They begin with an ampersand (&) and end with a semicolon (;). If you know the ASCII value of a character, you may also use the following notation: &#ddd;, where *ddd* is the decimal ASCII value.

Symbol	Sequence	Symbol	Sequence
" (double quote)	";	non-breaking space	 ;
& (ampersand)	&;	©(copyright sign)	© ©;
< (less than)	<;	registered sign	® ®;
> (greater than)	>;		

Miscellaneous Tags

These tags can not be easily classified with the above. They are described in detail in subsequent paragraphs.

Name	Purpose	Attributes	Contents
A	Used to create links (anchors) to points within the current document and other documents	NAME HREF	text
APPLET	Used to embed Java™ applets into a page	(see below)	PARAM text
BR	Line break, inserts a carriage return	CLEAR	none
FONT	Font/color change	COLOR SIZE	text
HR	Horizontal rule (used to draw a line across the page)	(see below)	none
IMG	An inlined (embedded) image	(see below)	none
PARAM	A parameter for the APPLET tag above	NAME VALUE	

Anchors The A tag is used as the main way an HTML document is linked to another one, which can be any type of document, including sounds or images. Of the two attributed listed above, HREF is used to specify a location to which the anchor points. This could be a document anywhere within the entire World-Wide Web, or simply a document located on the same server, as well as another section within the same document. For example, the following is a link pointing to our home page:

```
Visit <A HREF="http://www.eng.hawaii.edu/UHCOEhome.html">our home page</A>.
```

The HREF attribute given above has what is called an absolute URL. In addition to absolute references, you may also refer to a document located on the same server by specifying a document either by an absolute reference (starting from the server root, or the slash following the host name) or relative to the current document.

The NAME attribute allows you to set a symbolic name for a particular location within the document. This location can then be referred to by appending a pound symbol (#) to the document's URL, or simply jumping referring to the location in an HREF located in the same document. The following two tags demonstrate jumping from one location to another:

```
<A NAME="top">top of the document</A>
...
Go to the <A HREF="#top">top of the document</A>
```

When the user selects the second anchor, the browser will go to the location at which the first anchor is located.

Applets Some browser programs support the embedding of “applets”, the Java™ language programs within a page. Due to the complexity of the topic of applets, this document only describes this tag and its related tag, PARAM briefly.

Attribute	Purpose	Attribute	Purpose
ALIGN	Applet Alignment	HSPACE	Horizontal border
ALT	Alternative text	NAME	Name of applet
CODEBASE	URL of code's base directory	VSPACE	Vertical border
CODE	A Java™ class file	WIDTH	Applet width in pixels
HEIGHT	Applet height in pixels		

The PARAM provides the applet with its parameters. The PARAM tag has two attributes, the NAME attribute to specify the name of the parameter and the VALUE attribute for the value of the corresponding parameter. An applet can have any number of such parameters.

Line Breaks The BR tag has one optional attribute which controls how the line break is displayed. The CLEAR attribute can have one of the following values: LEFT, ALL, RIGHT or NONE. The attribute's value specifies to which margin the line break will be cleared.

Fonts The FONT tag has two attributes, SIZE and COLOR. The SIZE attribute is a relative one, where a value of -1 reduces the font size by one step, and +1 increases the font size by one step. The value for the COLOR attribute uses the same format as described for the color attributes of the BODY tag above.

Horizontal Rules The HR tag is used to draw lines across the page. The following attributes control the appearance of the horizontal lines:

Attribute	Purpose	Attribute	Purpose
ALIGN	Alignment of line	SIZE	Size of line
NOSHADE	Controls shading of line	WIDTH	Width of line

The ALIGN attribute can have one of three values, LEFT, RIGHT or CENTER. The SIZE and WIDTH both specify the size of the horizontal rule. The important distinction to make here is that the SIZE attribute only uses the size in pixels, whereas the WIDTH attribute allows you to specify a size as a percentage of the width of the page. NOSHADE lets you turn off the “3-D” look in the horizontal rule.

Images Many browsers support the embedding of images within an HTML document. The attributes of the IMG tag are given in the table below, with paragraphs describing them following the table:

Attribute	Purpose	Attribute	Purpose
ALIGN	Image alignment	ISMAP	Use server-side imagemap
ALT	Alternative text	SRC	URL of image source
BORDER	Border around image	USEMAP	Use client-side imagemap
HEIGHT	Image height in pixels	VSPACE	Horizontal gutter
HSPACE	Vertical gutter	WIDTH	Image width in pixels

The ALIGN attribute determines how the image is aligned relative to the text. It can have one the values as follows: TOP, MIDDLE, BOTTOM, LEFT or RIGHT. The default setting would be to align the image with the bottom of the text. Left or right aligning an image will cause text to flow around the image, with the image located at the left or right margin, respectively. The ALT attribute’s value is displayed in lieu of the image in situations where the browser is not capable of displaying images. The BORDER attribute specifies (in pixels) the width of a border to display around the image typically when images are used within anchors. The HEIGHT and WIDTH attributes allow you to specify the “suggested” size of the image. If the browser is capable of scaling images, these attributes can be used. The HSPACE and VSPACE control the amount of spacing placed around the image. The ISMAP and USEMAP attributes are used to create interactive maps, where an image is included in an anchor, and each pixel on the image corresponds to a different URL. Because image maps are a complicated topic in itself, they are described in a separate section below. The SRC attribute gives the location of the image file. This location can be specified in the same manner as the HREF attribute explained above.

Tables

The current HTML standard allows you to create tables. Most of the tags used to create tables have several attributes, and their attributes are listed with the description of the tags themselves.

Name	Purpose	Attributes	Contents
CAPTION	Create table’s caption	ALIGN	text
TABLE	Create a table	(see below)	CAPTION TR
TD	Table Data	(see below)	text
TH	Table Header	(see below)	text
TR	Table Row	ALIGN VALIGN	TD TH

Captions Within the TABLE tag, you can place a CAPTION tag to add a caption to the table. This tag only has one attribute, ALIGN, which can be either TOP or BOTTOM.

The Table Tag The TABLE tag creates the table. The ALIGN attribute can be either LEFT, CENTER or RIGHT, which determines the alignment for the table. The value of the BORDER attribute controls the number of pixel width of table cell borders. CELLPADDING and CELLSPACING control the spacing in pixels within and between cells, respectively. Finally, the WIDTH attribute allows you to determine the width of the table similarly to the corresponding attribute in the HR tag.

Attribute	Purpose	Attribute	Purpose
ALIGN	Table alignment	CELLSPACING	Spacing between cells
BORDER	Border around table	WIDTH	Table width relative to page
CELLPADDING	Spacing within cells		

Table Cells Both the TD and TH tags allow you to create the table cells. They must be contained within a TR tag, described below. TD tags are mainly used for data contained within a table, while TH tags are used to create a different (typically bold) style of text for table headers. Both TD and TH have the same attributes and are explained in the table and paragraph below.

Attribute	Purpose	Attribute	Purpose
ALIGN	Cell's horizontal alignment	ROWSPAN	Number of rows for cell
COLSPAN	Number of columns for cell	VALIGN	Cell's vertical alignment
HEIGHT	Cell's height in pixels	WIDTH	Cell's width in pixels
NOWRAP	Suppress word wrapping		

The ALIGN attribute for the TD and TH tags control the table cell's horizontal alignment, which can be LEFT, CENTER or RIGHT. COLSPAN and ROWSPAN control the number of columns or rows a cell occupies, respectively. The HEIGHT and WIDTH attributes allow you to control the height and width of the cell, respectively. The VALIGN attribute allows you to control the vertical alignment of the cell, with valid values being TOP, MIDDLE, BOTTOM or BASELINE.

Table Rows The TR tag has only the ALIGN and VALIGN attributes, which have the same values as the corresponding values for table cell tags.

Image Maps

Image maps provide visitors of your page with an interactive picture. Clicking on specific areas within the image will allow them to jump to other pages. There are two different kinds of image maps, and both require a small deal of setup. These two kinds of image maps are **server-side** and **client-side**. This document only describes the client-side image maps. For more information pertaining to server-side image maps, please consult the URL given below:

<http://www.eng.hawaii.edu/Html/Neat/imagemap.html>

Client-side image maps require no special software to be installed on your server, but they do require that the person visiting your page use a browser that supports them. The tags used to define an imagemap are described in the table and paragraphs below:

Name	Purpose	Attributes	Contents
AREA	Specify area for a client-side image map	(see below)	none
MAP	Client-side image map definition	NAME	AREA

In order to create an image map, you first need to define a map, and give it a name using the NAME attribute of the MAP tag. This attribute is used in exactly the same way as the corresponding attribute for the A tag. For example, an image map defined with the tag, `<MAP NAME="test1">` would be referenced in an IMG tag with the corresponding USEMAP attribute, which would be coded in HTML as follows: ``

Each MAP tag contains one or more AREA tags, which define the area(s) which have an associated linked document. The AREA tag has several attributes, which are described in the following sentences.

Attribute	Purpose	Attribute	Purpose
ALT	Alternative text	NOHREF	No action for area
COORDS	Coordinates of area	SHAPE	Type of shape for area
HREF	URL corresponding to area		

The ALT attribute works similarly to the corresponding attribute in a IMG tag. The COORDS attribute contains a comma-separated set of area coordinates, which are described below with the SHAPE attribute. The coordinates are measured in pixels, where (0,0) corresponds to the upper left-hand of the image. The HREF attribute behaves in the same manner as the corresponding attribute in the A tag. By specifying the NOHREF tag (which requires no value) you indicate that no action is associated with the area. The SHAPE attribute can be one of the following: CIRCLE DEFAULT

POLY RECT. If no such attribute is specified, RECT is assumed. The value of the COORDS attribute depends on the shape of the element. For a CIRCLE shape, COORDS has the (x,y) position of the centerpoint of the circle, followed by the radius of the circle. For a RECT shape, COORDS has the coordinates of the upper-left and lower-right corners of the rectangle, in (x,y) order. A POLY shape works accordingly, where COORDS contains a set of coordinates for each of the vertices of a polygon. Finally, the DEFAULT shape requires no coordinates, but is used to specify the default action if no corresponding area is found. Note that in the case of overlap, usually the area which appears first in an image map is used.

Examples

Here is an example of a simple client-side image map with three clickable areas.

```
<MAP NAME="menu">
<AREA HREF="http://www.eng.hawaii.edu/UHCOEhome.html" COORDS="0,0,20,20">
<AREA HREF="http://www.eng.hawaii.edu/ME/" COORDS="30,30,45,45">
<AREA HREF="http://www.eng.hawaii.edu/Info/" SHAPE="CIRCLE" COORDS="50,50,5">
</MAP>
```

...

```
Click on this image map<BR>
<IMG SRC="Img/picture.gif" USEMAP="#menu">
```

Forms

By far the most complicated thing you can make with HTML is what is called a “form”. Forms written in HTML serve only as the front end of a program which takes the input from the form and process the data submitted by the form. This program which uses the information from the form is called a *script*. Without a script, a form is incomplete and will merely be a nice set of buttons and controls. Because the creation of a script is a highly complicated topic, this document will only concentrate on the form itself. For more information about scripts and the College of Engineering servers, please see the document located at the following URL:

<http://www.eng.hawaii.edu/Html/Neat/forms.html>

Although the tags themselves may be discussed on a document such as this one, the appearance of forms is best illustrated by creating an HTML document which contains a form, and viewing it with an HTML browsing program. Each of the tags below are described with additional description of those tags with many attributes.

Name	Purpose	Attributes	Contents
FORM	Creates a form	(see below)	(see below)
INPUT	Input	(see below)	none
OPTION	An option	SELECTED VALUE	text
SELECT	A list of options	NAME SIZE MULTIPLE	OPTION
TEXTAREA	An area of text	COLS NAME ROWS	

The Form Tag The FORM tag signifies the beginning of an on-line form. It has three attributes, ACTION, METHOD and ENCTYPE. Forms can contain any of the form elements (INPUT, SELECT or TEXTAREA) listed below, as well as text (and anchors).

Attribute	Purpose	Attribute	Purpose
ACTION	The script's URL	METHOD	Transmission method
ENCTYPE	Encryption type		

The ACTION attribute allows you to specify the script or program (on a server) which will process the data produced by the form. The METHOD attribute can have one of two values, either GET or POST. The method for the transmission to a form is implementation-dependent, but typically for a form which has many input fields or expects a large amount of data, the POST method is used. Finally, the ENCTYPE holds the encryption method for the form. Usually, this attribute is unused.

Inputs The INPUT tag has many attributes, as it can be used for a variety of different types of inputs. The TYPE attribute is required for every such tag, and depending on this attribute, the use of the attributes can vary. The TYPE attribute can have one of the following values: CHECKBOX, FILE, HIDDEN, IMAGE, PASSWORD, RADIO, RESET, SUBMIT or TEXT.

Attribute	Purpose	Attribute	Purpose
ALIGN	Alignment for image inputs	SIZE	Size of input
CHECKED	Set a radio buttons on	SRC	URL for background image
MAXLENGTH	Size of field input	TYPE	Type of input field
NAME	Symbolic name of button	VALUE	Default value

In addition to the TYPE attribute, the NAME attribute is required for every type of button except for the SUBMIT and RESET types. The NAME attribute supplies the symbolic name which the script will use to reference the value or status of the input. For applicable input fields you can use the SIZE attribute to specify the size of the field. The following table describes each type and its usage.

Type	Purpose
CHECKBOX	Creates a check box (can be on or off), requires VALUE. The CHECKED attribute lets you specify if the box is initially set.
FILE	A field to specify a file name. (Appearance depends on browser.)
HIDDEN	Places a hidden field on the form (use the VALUE to set the input's value.)
IMAGE	Works similarly to the IMG tag, and requires the SRC attribute to have the URL of the image. Note that clicking on this input immediately submits the form.
PASSWORD	Text typed in this field is invisible.
RADIO	Creates a "radio button". By using several radio buttons each using the same NAME attribute, you can set a "one-of-many" behavior. Note that the VALUE attribute must be set to a unique name for each such radio button.
RESET	Reset the form to the untouched state.
SUBMIT	Submits the data on the form. Depending on the browser, you may have multiple submit buttons, each with a different name or value.
TEXT	Allows the input of one line of text. The use of the TEXTAREA tag is preferred over this method.

Selections The SELECT tag, along with the OPTION tag, allow you to create lists of selections. Similar to the INPUT tag, the SELECT tag has a NAME attribute, which is referenced by the script. By specifying a SIZE attribute you can control how many of the OPTION tags contained within the SELECT tag can be visible at once. By specifying the MULTIPLE attribute (which needs no value), more than one of the options can be selected.

The text contained within an OPTION tag is used as the value sent for the value of the SELECT tag's field. You can specify an optional VALUE attribute in the option to use that value as the option's value. The SELECTED attribute has no value, but is used to choose whether the value is selected.

The most recent version of this document is available at the following URL: <http://www.eng.hawaii.edu/Html/Ps/>

Note that this document was compiled from the Html 3.2 specification by the W3 Consortium, which is available at the following URL: <http://www.w3.org/pub/WWW/MarkUp/Wilbur/>