



University of Babylon

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DYNAMIC HTML

Lecturer

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HTML Attributes

Attributes are another important part of HTML markup. An attribute is used to define the characteristics of an element and is placed inside the element's opening tag. The attributes use to amplify the element. It means when a web browser interprets tags, it will also search for set attributes and then display the element (tags+attributes) completeness. At some point you may want to give your body element a background color or change the width of a table. All of these things and more can be achieved using Attributes.

Attribute Defaults

Many tags are assigned default attributes. This means that unless a tag attribute is specified by you, it will have some distinct attributes. For example, a paragraph tag will always align its text to the left unless it has an align attribute in it specifying otherwise. Also elements placed within a table are vertically centered and to the left unless otherwise specified. As you code and learn about each of the different HTML elements, you will become aware of many of these defaults.

Generic Attributes

Attributes exist to modify HTML tags allowing for complete customization of a website. Here's a table of some other attributes that are readily usable with many of HTML's tags.

Attribute	Options	Function
align	right, left, center	Horizontally aligns tags
valign	top, middle, bottom	Vertically aligns tags within an HTML element.
bgcolor	numeric, hexadecimal, RGB values	Places a background color behind an element
background	URL	Places an background image behind an element
Width	Numeric Value	Specifies the width of tables, images, or table cells.
Height	Numeric Value	Specifies the height of tables, images, or table cells.

Attribute Syntax

Make sure that you have to assign a value to the attribute. This value have to be between quotes as shown in the following syntax:

Attribute="value"

Text Alignment

Text alignment is the capability to arrange a block of text, such as a heading or a paragraph, so that it's aligned against the left margin (left justification, the default), aligned against the right margin (right justification), or centered.

Aligning Individual Elements

To align an individual heading or paragraph, include the align attribute in the opening tag. Align attribute has four values: left, right, center, or justify. The following example shows the simple alignment of several headings and paragraphs.

```
<h1 align="center">University of Babylon</h1>
<p align="center">it's located on the road between Hillah and Jajaf</p>
<p align="justify">the text in this paragraph should be justified. the text in this paragraph should be
justified. the text in this paragraph should be justified. the text in this paragraph should be justified.
the text in this paragraph should be justified. the text in this paragraph should be justified. the text in
this paragraph should be justified. the text in this paragraph should be justified. The text in this
paragraph should be justified. the text in this paragraph should be justified . The text in this paragraph
should be justified. the text in this paragraph should be justified. </p>

















<h2 align="left">College of Computer Technology</h2>
<p align="left">it has two departments</p>

<h3 align="right">Department of Information Networks</h3>
<h3 align="right">Department of Software</h3>
```

HTML Color Coding System - Color Names

There are 3 different methods to set color. The simplest being the Generic terms of colors, examples: black, white, red, green, and blue. Generic colors are preset HTML coded colors where the value is simply the name of each color. Here is a sample of the most widely supported colors and their respective name values.

The 16 Basic Colors:

	Black		Gray		Silver		White
	Yellow		Lime		Aqua		Fuchsia
	Red		Green		Blue		Purple
	Maroon		Olive		Navy		Teal

HTML Coloring System - RGB Values

We do not recommend that you use RGB for safe web design because non-IE browsers do not support HTML RGB.

RGB stands for Red, Green, Blue. Each can have a value from 0 (none of that color) to 255 (fully that color). The format for RGB is - rgb(RED, GREEN, BLUE), just like the name implies. Below is an example of RGB in use, but if you are not using a browser that supports it, do not worry, that is just one of the problems with HTML RGB.

Red, Green, and Blue Values:

bgcolor="rgb(255,255,255)"	White
bgcolor="rgb(255,0,0)"	Red
bgcolor="rgb(0,255,0)"	Green
bgcolor="rgb(0,0,255)"	Blue

HTML Coloring System - Hexadecimal

The hexadecimal system is complex and difficult to understand at first. Rest assured that the system becomes much with practice and as a blossoming web developer, it is critical to understand hexadecimals to be capable of using them in your own web

publications. They are far more reliable and widely compatible among web browsers and are the standard for colors on the internet.

A hexadecimal is a 6 digit representation of a color. The first two digits(RR) represent a red value, the next two are a green value(GG), and the last are the blue value(BB).

Here's a hexadecimal you might see in an HTML document.

My First Hexadecimal:

```
bgcolor="#RRGGBB"
```

HTML Color Code - Breaking the Code

The following table shows how letters are incorporated into the hexadecimal essentially extending the numbers system to 16 values. Hang in there it all makes sense shortly.

Hexadecimal Color Values:

Decimal	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Hexadecimal	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

So use letters as numbers? We will answer this question as we dive into the converting hexadecimal to regular numbers. Let's have a look at real Hexadecimal.

A Real Hexadecimal:

```
bgcolor="#FFFFFF"
```

The letter "F" is the maximum amount we can send each color and as you may deduce, this color (#FFFFFF) represents the color white. A formula exists to calculate the numeric equivalent of a hexadecimal.

Hexadecimal Formula:

```
(15 * 16) + (15) = 255
```

The formula is real simple. Take the first value (F) or 15 multiply it by 16 and add it to the second value, 15. The value 255 is the maximum allowed for any primary color.

Let's try another one:

Example:

```
bgcolor="#CC7005"
```

```
CC(RR - Red)
(12 * 16) + (12) = 204
70(GG - Green)
(7 * 16) + (0) = 112
05(BB - Blue)
(0 * 16) + (5) = 5
Then:
"#CC7005" = rgb(204,112,5)
```

Hexadecimals are the best choice for compatible web development because of their consistency between browsers. Even the most minor of change in color can throw your entire site out of whack, so be sure to check your site in a number of browsers. If you want to be absolutely sure your colors will not change, use paired hex values for color. Examples: "#0011EE", "#44HHFF", or "#117788". These are called True Colors, since they will stay true in hue from browser to browser.

The table below provides a list of the color names that are supported by all major browsers.

Different browsers may display different colors for the same color name. "Green" can be lighter in one browser than another. To achieve the same result in all browsers, always use the HEX notation.



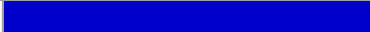













Hex	RGB	Name
F0F8FF	240,248,255	AliceBlue
FAEBD7	250,235,215	AntiqueWhite
00FFFF	0,255,255	Aqua
7FFFD4	127,255,212	Aquamarine
F0FFFF	240,255,255	Azure
F5F5DC	245,245,220	Beige
FFE4C4	255,228,196	Bisque
000000	0,0,0	Black
FFEBCD	255,235,205	BlanchedAlmond
0000FF	0,0,255	Blue
8A2BE2	138,43,226	BlueViolet
A52A2A	165,42,42	Brown
DEB887	222,184,135	BurlyWood
5F9EA0	95,158,160	CadetBlue
7FFF00	127,255,0	Chartreuse
D2691E	210,105,30	Chocolate
FF7F50	255,127,80	Coral
6495ED	100,149,237	CornflowerBlue
FFF8DC	255,248,220	Cornsilk
DC143C	237,164,61	Crimson
00FFFF	0,255,255	Cyan
00008B	0,0,139	DarkBlue
008B8B	0,139,139	DarkCyan
B8860B	184,134,11	DarkGoldenRod
A9A9A9	169,169,169	DarkGray
006400	0,100,0	DarkGreen
BDB76B	189,183,107	DarkKhaki
8B008B	139,0,139	DarkMagenta
556B2F	85,107,47	DarkOliveGreen
FF8C00	255,140,0	Darkorange
9932CC	153,50,204	DarkOrchid
8B0000	139,0,0	DarkRed
E9967A	233,150,122	DarkSalmon
8FBC8F	143,188,143	DarkSeaGreen
483D8B	72,61,139	DarkSlateBlue
2F4F4F	47,79,79	DarkSlateGray
00CED1	0,206,209	DarkTurquoise
9400D3	148,0,211	DarkViolet
FF1493	255,20,147	DeepPink
00BFFF	0,191,255	DeepSkyBlue
696969	105,105,105	DimGray
1E90FF	30,144,255	DodgerBlue
B22222	178,34,34	FireBrick
FFFAF0	255,250,240	FloralWhite
228B22	34,139,34	ForestGreen

Hex	RGB	Name
FF00FF	255,0,255	Fuchsia
DCDCDC	220,220,220	Gainsboro
F8F8FF	248,248,255	GhostWhite
FFD700	255,215,0	Gold
DAA520	218,165,32	GoldenRod
808080	128,128,128	Gray
008000	0,128,0	Green
ADFF2F	173,255,47	GreenYellow
F0FFF0	240,255,240	HoneyDew
FF69B4	255,105,180	HotPink
CD5C5C	205,92,92	IndianRed
4B0082	75,0,130	Indigo
FFFFFF0	255,255,240	Ivory
F0E68C	240,230,140	Khaki
E6E6FA	230,230,250	Lavender
FFF0F5	255,240,245	LavenderBlush
7CFC00	124,252,0	LawnGreen
FFFACD	255,250,205	LemonChiffon
ADD8E6	173,216,230	LightBlue
F08080	240,128,128	LightCoral
E0FFFF	224,255,255	LightCyan
FAFAD2	250,250,210	LightGoldenRodYellow
D3D3D3	211,211,211	LightGrey
90EE90	144,238,144	LightGreen
FFB6C1	255,182,193	LightPink
FFA07A	255,160,122	LightSalmon
20B2AA	32,178,170	LightSeaGreen
87CEFA	135,206,250	LightSkyBlue
778899	119,136,153	LightSlateGray
B0C4DE	176,196,222	LightSteelBlue
FFFFE0	255,255,224	LightYellow
00FF00	0,255,0	Lime
32CD32	50,205,50	LimeGreen
FAF0E6	250,240,230	Linen
FF00FF	255,0,255	Magenta
800000	128,0,0	Maroon
66CDAA	102,205,170	MediumAquaMarine
0000CD	0,0,205	MediumBlue
BA55D3	186,85,211	MediumOrchid
9370D8	147,112,219	MediumPurple
3CB371	60,179,113	MediumSeaGreen
7B68EE	123,104,238	MediumSlateBlue
00FA9A	0,250,154	MediumSpringGreen
48D1CC	72,209,204	MediumTurquoise
C71585	199,21,133	MediumVioletRed
191970	25,25,112	MidnightBlue
F5FFFA	245,255,250	MintCream
FFE4E1	255,228,225	MistyRose
FFE4B5	255,228,181	Moccasin
FFDEAD	255,222,173	NavajoWhite
000080	0,0,128	Navy
FDF5E6	253,245,230	OldLace

Hex	RGB	Name
808000	128,128,0	Olive
6B8E23	107,142,35	OliveDrab
FFA500	255,165,0	Orange
FF4500	255,69,0	OrangeRed
DA70D6	218,112,214	Orchid
EEE8AA	238,232,170	PaleGoldenRod
98FB98	152,251,152	PaleGreen
AFEEEE	175,238,238	PaleTurquoise
D87093	219,112,147	PaleVioletRed
FFEDD5	255,239,213	PapayaWhip
FFDAB9	255,218,185	PeachPuff
CD853F	205,133,63	Peru
FFC0CB	255,192,203	Pink
DDA0DD	221,160,221	Plum
BOE0E6	176,224,230	PowderBlue
800080	128,0,128	Purple
FF0000	255,0,0	Red
BC8F8F	188,143,143	RosyBrown
4169E1	65,105,225	RoyalBlue
8B4513	139,69,19	SaddleBrown
FA8072	250,128,114	Salmon
F4A460	244,164,96	SandyBrown
2E8B57	46,139,87	SeaGreen
FFF5EE	255,245,238	SeaShell
A0522D	160,82,45	Sienna
C0C0C0	192,192,192	Silver
87CEEB	135,206,235	SkyBlue
6A5ACD	106,90,205	SlateBlue
708090	112,128,144	SlateGray
FFFAFA	255,250,250	Snow
00FF7F	0,255,127	SpringGreen
4682B4	70,130,180	SteelBlue
D2B48C	210,180,140	Tan
008080	0,128,128	Teal
D8BFD8	216,191,216	Thistle
FF6347	255,99,71	Tomato
40E0D0	64,224,208	Turquoise
EE82EE	238,130,238	Violet
F5DEB3	245,222,179	Wheat
FFFFFF	255,255,255	White
F5F5F5	245,245,245	WhiteSmoke
FFFF00	255,255,0	Yellow
9ACD32	154,205,50	YellowGreen

Note: The names above are not a part of the W3C web standard.

W3C have listed only 16 valid color names:

Hex	RGB	Name	color
00FFFF	0,255,255	aqua	
000000	0,0,0	black	
0000FF	0,0,255	blue	
FF00FF	255,0,255	fuchsia	
808080	128,128,128	gray	
008000	0,128,0	green	
00FF00	0,255,0	lime	
800000	128,0,0	maroon	
000080	0,0,128	navy	
808000	128,128,0	olive	
800080	128,0,128	purple	
FF0000	255,0,0	red	
C0C0C0	192,192,192	silver	
008080	0,128,128	teal	
FFFFFF	255,255,255	white	
FFFF00	255,255,0	yellow	

HTML <div> Element

The <div> tag defines a division or a section in an HTML document.

The <div> tag is often used to group block-elements to format them with styles.

Try this example:

```
<html>
<body>

<p align="center">This is a paragraph.</p>
<p>This is another paragraph.</p>

<div align="center">
<p>This is a paragraph inside div element.</p>
<p>This is another paragraph.</p>
<p>This is another paragraph too.</p>
<p>This is also a paragraph.</p>
</div>

</body>
</html>
```

HTML - Font and Basefont Elements

The tag is used to add style, size, and color to the text on your site. Use the size, color, and face attributes to customize your fonts. Use a <basefont> tag to set all of your text to the same size, face, and color.

Attributes:

Attribute=	"Value"	Description
size=	"Num. Value 1-7"	Size of your text, 7 is biggest
color=	"rgb,name,or hexadecimal"	Change font color
face=	"name of font"	Change the font type

Place your font element, complete with a specified size, color, and face attributes, in the <body> section of your webpage. Also Place the text you want between the tags of font element.

Font Size:

Set the size of your font with size. The range of accepted values is from 1(smallest) to 7(largest).The default size of a font is 3.

HTML Code:

```
<p>  
<font size="5">Here is a size 5 font</font>  
</p>
```

Font Color

Set the color of your font with color.

HTML Code:

```
<font color="#990000">This text is hexcolor #990000</font>  
<br />  
<font color="red">This text is red</font>
```

Font Face

Choose a different font face using any font you have installed. Be aware that if the user viewing the page doesn't have the font installed, they will not be able to see it. Instead they will default to Times New Roman. An option is to choose a few that are similar in appearance.

HTML Code:

```
<p>  
<font face="Bookman Old Style, Book Antiqua, Garamond">This paragraph  
has had its font...</font>  
</p>
```

Basefont - Set a Solid Base

With the basefont tag you will be able to set the default font for your web page. We highly recommend specifying a basefont if you plan on using any font with HTML. Below is the correct way to set your basefont.

HTML Code:

```
<html>  
<body>  
<basefont size="2" color="green">  
<p>This paragraph has had its font...</p>  
<p>This paragraph has had its font...</p>  
<p>This paragraph has had its font...</p>  
</basefont>  
</body>  
</html>
```

However, the use of basefont is deprecated, which means it may not be supported sometime in the future. The perfectly correct way to change your sites basefont is to set it with CSS.

Beautiful First Letter Style

Customize your fonts to achieve any of your desired looks.

HTML Code:

```
<p>  
<font size="7" face="Georgia, Arial" color="maroon">C</font>ustomize your font to achieve a desired look.  
</p>
```

Result:

Customize your font to achieve a desired look.

Important note:

The font and basefont elements are deprecated and should not be used. Instead, we will use style element directly or CSS to manipulate font. We are studying them for finding how these tags work.

Deprecated:

A deprecated element or attribute is one that has been outdated.

Deprecated elements may become obsolete in the future, but browsers should continue to support deprecated elements for backward compatibility.

Obsolete:

Obsolete elements and attributes have no guarantee of browser-support and they are no longer defined in the W3C specification.

Avoid using deprecated tags and attributes!

These tags and attributes should be avoided:

Tags	Description
<center>	Defines centered content
 and <basefont>	Defines HTML fonts
<s> and <strike>	Defines strikethrough text
<u>	Defines underlined text
Attributes	Description
align	Defines the alignment of text
bgcolor	Defines the background color
color	Defines the text color

For all of the above: Use styles instead! (Will study it soon)

Understand Tables

Have you ever used a spreadsheet program? If so, you have a rough idea of what tables are and how they normally look. Tables were developed and added to the HTML standard in the early 1990s to provide a way to display structured information, such as in a spreadsheet. Before that time there was no good way to display columns of data in an HTML document; because HTML originally was devised for scientific and academic material, this presented a problem. The introduction of tables not only solved this problem, but provided a solution to an as yet undiscovered problem.

When the Internet was in its infancy, presentation and design weren't very problematic; graphical browsers changed all that. However, basic HTML did not provide the tools for control that designers were used to. In fact, a Web designer was completely at the mercy of browser, system, and HTML limitations when it came to doing Web page layouts. Placement and appearance of text and graphics were not absolute, but static. A layout that looked good on a designer's machine might be totally transformed on someone else's system.

Then Web authors discovered tables. By putting text, graphics, and other content inside table cells, designers could take advantage of a table's structure to "force" a browser to stay within a particular layout. Tables certainly did not solve all the difficulties Web developers faced, but they represented a great step forward. Even though the overall trend in the Web is toward Cascading Style Sheets (CSS) but tables still are frequently used in Web design.

Elements of Table

Element	Description
<code><table> </table></code>	The <i>table</i> element creates the table. Use this element for each table you wish to create on a page.
<code><tr> </tr></code>	The <i>table row</i> element establishes, as you would expect, a row. If your table is to have ten rows, you will use this element ten times.
<code><td> </td></code>	TD stands for <i>table data</i> . This element creates individual cells in a row (and, by default, the table's columns). Whatever content you want to place in the table goes between the <code><td></code> tags.

Create a Simple Table

Tables are not difficult to understand or build. They can become quite complex, but the basic concept is easy. If you just keep in mind the idea of a spreadsheet, most of the structure of a table will be demystified. Tables are merely structures in which information (or parts of a Web page) is presented in rows and columns. Each individual segment of a table is called a cell; for example, row one, column one represents one cell; row two, column one is another; and so on. Thinking in terms of rows and columns might be confusing, though. The best way to understand how tables work is to create one as showing in the following code.

```
<html>
<head><title>Table Exercise</title></head>
<body>
<table>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
```

```
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
</table>
</body>
</html>
```

As you look at the code, the element `<tr>` is used to create three rows. The `<td>` element occurs three times in each row; so in that particular table, you end up with three rows and three columns. These are the only elements you need to create a table. As you will see, by adding attributes and some extra elements, you can do just about anything with this little table.

X	X	X
X	X	X
X	X	X

Display a Border

You probably are thinking about the borders of table, it would be easier to work with if it had borders and lines defining the separate cells. To tell the browser to display a border simply add the **`border=""`** attribute to the opening **`<table>`** tag. To add a border that is three pixels wide, go back to your code and modify the table tag to read like this: **`<table border="3">`**. Now look at how your table has changed.

X	X	X
X	X	X
X	X	X

Add Headings and Captions

In keeping with a table's original purpose for displaying structured information, HTML provides some elements that allow you to add headings, captions, and footers to your table.

Use the `<th>` `</th>` Element to Add Headings to Your Table

To add a heading, you use `<th>` `</th>` instead of the `<td>` element. It will create cells the same way `<td>` does, but also will display the text inside the cells as centered and boldface. Try adding a heading to the table by adding this line of code above the first row:

```
<tr> <th>Col 1</th> <th>Col 2</th> <th>Col 3</th> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
```

Col 1	Col 2	Col 3
X	X	X
X	X	X
X	X	X

Add Captions with the <caption> </caption> Element

A caption can be used to display a title for your table. Use the <caption> </caption> element just above the first row of cells. To add a caption to the sample table, add this line: <caption>How to Use Tables</caption>. The following code shows where that line should be placed in your table:

```
<caption>How to Use Tables</caption>
<tr> <th>Col 1</th> <th>Col 2</th> <th>Col 3</th> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
<tr> <td>X</td> <td>X</td> <td>X</td> </tr>
```

How to Use Tables		
Col 1	Col 2	Col 3
X	X	X
X	X	X
X	X	X

Position Content Horizontally with the align=" " Attribute

To position text (or other cell content), you must include the align attribute in each cell where you want to specify the position. For example, to center text you would modify a <td> tag to read <td align="center">. There are several options for alignment:

- **Left** Aligns cell contents to the left. This is the default alignment.
- **Right** Aligns cell contents to the right.
- **Center** Aligns cell contents to the center.
- **Justify** Also aligns the cell's contents to the left.

Control Vertical Alignment with the valign=" " Attribute

You can determine whether your content aligns at the top, middle, or bottom of a cell by using the valign attribute. valign (vertical align) enables you to specify the vertical positioning for individual cells (<td valign="top">), entire rows (<tr valign="middle">), or a complete table (<tbody valign="bottom">). The values you can supply with the valign attribute are as follows:

- **Top** Aligns cell contents with the top of the cell.
- **Middle** Aligns cell contents with the middle of the cell; middle is the default value.
- **Bottom** Aligns cell contents with the bottom of the cell.

- **Baseline** Aligns with a baseline shared by all the cells in a given row.

The following code and illustration demonstrate how the align and valign attributes affect cell contents:

```
<table border="3" height="200" width="200">
<caption>How to Use Tables</caption>
<tr> <th>Col 1</th> <th>Col 2</th> <th>Col 3</th> </tr>
<tr> <td align="left">Left</td> <td align="center">Cent.</td>
<td align="right">Right</td>
</tr>
<tr> <td valign="top">Top</td> <td valign="middle">Mid.</td>
<td valign="bottom">Bottom</td>
</tr>
<tr> <td valign="baseline">Baseline</td>
<td align="justify">Justify</td>
<td>Default</td>
</tr>
</table>
```

How to Use Tables		
Col 1	Col 2	Col 3
Left	Center	Right
Top	Middle	Bottom
Baseline	Justify	Default

```
<html>
<body>

<table border="3" height="200" width="200">

<caption>How to Use Tables</caption>

<tr>
<th>Col 1</th> <th colspan="2">span 2 cells in columns</th>
</tr>

<tr> <td>Left</td> <td>Cent.</td> <td>Right</td>
</tr>

<tr>
<td rowspan="2">span 2 cells in 2 rows</td> <td>Mid.</td> <td>Bottom</td>
</tr>

<tr>
<td>Justify</td> <td>Default</td>
</tr>

</table>

</body>
</html>
```

How to Use Tables		
Col 1	span 2 cells in columns	
Left	Cent.	Right
span 2 cells in 2 rows	Mid.	Bottom
	Justify	Default

Adjust Space In and Between Cells

For controlling the position, size, and spacing of cells, HTML provides attributes to control these aspects of a table's appearance. With cellpadding and cellspacing, you can manipulate the overall size of your tables and cells.

Use cellspacing to Adjust the Space Between Cells

The cellspacing attribute allows you to add space between the cells in your table as measured in pixels. This attribute must go inside the <table> tag. To add a 10-pixel-wide space between the cells in your table, modify the opening <table> tag to read:

```
<table border="3" bgcolor="magenta" cellspacing="10">
```

Use cellpadding to Add Space Inside Cells

Just as cellspacing adds space around the outside of your cells, cellpadding adds space inside them. It also adds a layer of padding (defined in pixels) around the contents of the cell. Add a 10-pixel "pad" around the content of your table cells by modifying the <table> tag to read as follows:

```
<table border="3" bgcolor="magenta" cellpadding="10" cellspacing="10">
```

Q: Write an HTML document for displaying the following table:

Caption	
Header 1	Header 2
This is a paragraph	This cell contains a table:
This is another paragraph	
Green Color	HELLO