



HTML & CSS

made easy

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HTML & CSS Made Easy

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Chapter 1: Introduction to HTML

1.1 What is HTML

HTML stands for Hypertext Markup Language that is used to design web pages and build Websites. It has the ability to bring together text, pictures, sounds, video and links all in one place! HTML files are plain-text files, so they can be edited using standard editors such as Notepad and WordPad. They are stored with the extensions .html, .htm or .shtml. A webpage written in Hypertext Markup Language can be viewed using browsers such as Mozilla Firefox, Google's Chrome, Safari, Opera, IE and more. Hypertext Markup Language is the standard formatting tool for WWW because it is cross platforms, meaning that it can be viewed through different types of computers and mobile devices with different operating system such as the Mainframes, Apple computers, the UNIX system, the popular IBM compatible PCs, smart phones and tablets running on Android OS, Apple IOS, Microsoft's windows phone and more. It is sort of a common Internet language. The newest version is HTML5.

1.2 HTML Structure

An HTML document is divided into two parts, the head and the body. The head of the document contains the document's title and other information, and the body contains the contents and everything else. The body is the larger part of the document, as the body of a letter you would write to a friend would be. Elements are used to describe and format an HTML document, each element describes different document content. An example of an element is <head>, which comprises an open tag written as <head>, its content and an end tag written as </head>. An HTML document must always begin with a <!DOCTYPE html>. DOCTYPE is a declaration that defines the document type. We will discuss tags in more details in coming chapters.

Example 1.1

```
<!DOCTYPE html>
<html> <head><title>HyperText Markup Language Tutorial</title>
<meta http-equiv="Content-Language" content="en-us">
<meta name="description" content="Welcome to HyperText Markup Language
Tutorial">
<meta name="Author" content="Dr.Liew Voon Kiong">
<meta name="GENERATOR" content="Microsoft FrontPage 6.0">
<link rel="stylesheet" type="text/css" href="styles_vb6.css"/>
</head>
<body><h1>Introduction to HyperText Markup Language</h1>

HyperText Markup Language, is the language of the World Wide Web. Web sites
and web pages are written in .....

.....

</body> </html>
```

Chapter 2: HTML Elements

In order to create an HTML document, we can use GUI-based editor such as Microsoft FrontPage, Adobe Dreamweaver or other editors, but the best way to learn HTML is to use a plain text editor. Here we recommend Microsoft's Notepad.

2.1 Basic HTML Elements

HTML uses elements to specify a document's structure, to provide information and to format its contents. An HTML element consists of a start tag **<element name>**, its contents and an end tag **</element name>**. Element and tag can be used interchangeably. Some elements only consist of a start tag. The structure of an HTML element is

<element name>element content</element name>

For example: **<H1>Heading 1</H1>**, where **<H1>** is the open tag and **</H1>** is an end tag. However, some of the tags such as **** do not required a closing tag.

The basic elements are summarised in Table 2.1

Element	Description
<html></html>	Element that creates the HTML document
<head></head>	Element that denotes the first part of the HTML document. It provides descriptions and information pertaining to the webpage.
<title></title>	Element that defines the title of the web page.
<body></body>	Element that defines the main contents of the HTML document.

<code><h1></h1></code>	Element that indicates the headings. There are 6 headings, from h1 to h6.
<code></code>	Element that displays bold text.
<code><i></i></code>	Element that displays <i>italic</i> text.
<code><u></u></code>	Element that <u>underlines</u> the text.
<code>
</code>	Element that indicates a line break. No closing tag is required for this element.

Table 2.1: Summary of Basic HTML Elements

Example 2.1

Now, open the notepad in windows and type the following codes:

```
<html>
<head>
<title>My sample HTML document</title>
</head>
<body bgcolor="#ffff99">
<h1><u>My sample HTML document</u></h1>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
<b> Bold text</b>
<br>
<i>Italic text</i>
<br>
<u>Underlined text</u>
<b><i>Bold and italic text</i></b>
```

```
<b><i><u>Bold, italic and underlined text</u></i></b>  
<h1><i>Italic heading</i></h1>  
<h3><u>Underlined heading</u></h3>  
</body>  
</html>
```

To save the file, click on the file menu and select **Save As**, change file type to **All files**, save the file as **example1.html** in My document. (You can also use a different file name and folder; just make sure that the file type is .html)

To view the web page, start Firefox, Google Chrome, IE or any web browser and open the above file. Alternatively, you can open the web page by right-clicking on the file then click **Open with...** and select your desired web browser.

The output

My sample HTML document

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Bold text

Italic text

Underlined text***Bold and italic text******Bold, italic and underlined text****Italic heading*Underlined heading

2.2 Properties

HTML elements have properties or attributes. For example, the **header** element contains attributes such as **id** and **align** that specify the header location and position. Take a look at the following examples:

Example 3.1

The **align=center** attribute will align the heading to the centre position. The HTML code is:

```
<h1 align=center>Welcome to HTML Tutorial</h1>
```

Example 2.2

The **img** element comprises height and width attributes that define an image's size and the **src** attribute that links to the location of the image file. The attribute **alt** is to display the description of an image if the browser cannot render the image.

```

```

Table 2.2 shows some common elements and some of their attributes:

Element	Description
<code><h1 align=position></h1></code>	Element that aligns the heading to the left, right and the centre
<code></code>	Element that strongly emphasizes the bold format.
<code></code>	Element that gives more emphasis to the italic text.
<code><pre></pre></code>	Element that preserves the original text.
<code><sub></sub></code>	Element that formats text as subscript.
<code><sup></sup></code>	Element that formats text as superscript.
<code><hr></code>	Element that inserts a horizontal ruler. Closing tag is not required here.
<code><hr width=n%></code>	Element that sets the width of a horizontal ruler.
<code><hr size=m></code>	Element that sets the height of a horizontal ruler.
<code><hr nonshade></code>	Element that creates a ruler without the shadow.
<code><p></p></code>	Element that defines a paragraph.
<code><p align=position></p></code>	Element that aligns the paragraph to the left, right or centre.

Table 2.2: Attributes of HTML Elements

Example 2.3

Now, copy the following paragraph and paste it into your Notepad or any suitable text editor. Save the file as bean.html.

```
<html>
<head>
<title>Mr Bean</title>
</head>
<body>
<h1 align=center><u>All about Mr. Bean</u></h1>
<hr>
<h2 align=right>Date: Nov 30,2000</h2>
<hr width=50% size=10>
<p> <strong>Mr. Bean</strong>is a 50 years old boy, currently studying
at <em>Cambridge</em>. His lecturer is <b>Mr. Mike Tyson</b>. There are 33
students in his class.</p>
<p align=center> Here are some facts about Bean</p>
<pre>
Date of Birth :01011900
Height       : 100 cm
Weight       : 100 kg
Marital Status : Single
Address      : 1, Wall street, London,UK.
</pre>
<hr nonshade>
<P align=center> If you wish to match make for Mr. Bean, please contact him
through the following phone number:<b>911<b></p>
<hr>
</body>
</html>
```

The output

All about Mr. Bean

Date: Nov 30,2000

Mr. Bean is a 50 years old boy, currently studying at *Cambridge*. His lecturer is **Mr. Mike Tyson**. There are 33 students in his class.

Here are some facts about Bean

Date of Birth :01011900

Height : 100 cm

Weight : 100 kg

Marital Status : Single

Address : 1, Wall street, London,UK.

If you wish to match make for Mr. Bean, please contact him through the following
phone number:**911**

Chapter 3: Types of Lists

In HTML, if you wish to list out a number of items, you can use the unordered list and the ordered list. The element for the unordered list is **ul** and the element for the ordered list is **ol**. The element for each item in the list is **li**. Besides, if you wish to display a list of definitions, you can use the **dl** element together with the **dt** and **dd** elements.

3.1 Unordered List

The unordered list is also called unnumbered list or bulleted list. The HTML structure for the unordered list is shown as follows

```
<ul>
  <li>item 1</li>
  <li>item 2 </li>
  <li>item 3</li>
</ul>
```

Example 3.1

```
<html>
<head><title>Unordered List</title></head>
<body>
<h2> Fruits</h2>
<hr>
<ul>
<li> Apple</li>
<li> Grape</li>
<li> Orange</li>
<li> Pear</li>
<li> Pineapple</li>
<li> Water Melon</li>
</ul>
</body>
</html>
```

Copy and paste the html codes in Example 3.1 to your notepad and save the file as uorlist.html.

The output is as shown below:

Fruits

- Apple
- Grape
- Orange
- Pear
- Pineapple
- Water Melon

3.2 Ordered List

Also known as the Numbered List. It is very similar in structure to the unordered list, except each list item has a number in front of it, instead of a bullet. Also, the opening tag for the list is `` instead of ``, and the closing tag is `` instead of ``. Modify the code in section 4.1 by changing the tags `` to `` and `` to `` and change the title to ordered list. Save the file as orlist.html.

Example 3.2

```
<html>
<head><title>Ordered List</title></head>
<body>
<h2> Fruits</h2>
<hr>
<ol>
<li> Apple</li>
<li> Grape</li>
<li> Orange</li>
```

```

<li> Pear</li>
<li> Pineapple</li>
<li> Water Melon</li>
</ol>
</body>
</html>

```

The output is as shown below:

Fruits

1. Apple
2. Grape
3. Orange
4. Pear
5. Pineapple
6. Water Melon

3.3 Nested List

This nested list contains lists within lists. The structure of a nested list is as follows:

```

<ol>
  <li>
    <ul>
      <li></li>
      <li></li>
      <li></li>
    </ul>
  </li>
  <li>
    <ul>
      <li></li>
      <li></li>
      <li></li>
    </ul>
  </li>
</ol>

```

Example 3.3

```
<html>

<head><title>Nested List</title></head>
<body>
<h1 align=center><u> Internet Club</u></h1>
<ol>
  <li>Advisers
    <ul>
      <li> Mr. Liew</li>
      <li> Mrs James</li>
      <li>Miss Irene</li>
    </ul>
  </li>
  <li>Committee Members
    <ul>
      <li>Nick</li>
      <li>George</li>
      <li>Francis</li>
    </ul>
  </li>
</ol>
</body>

</html>
```

Copy the code above and paste them to your notepad. Save the file as nested.html

The output is as shown below:

Internet Club

1. Advisers
 - Mr. Liew
 - Mrs James
 - Miss Irene
2. Committee Members
 - Nick
 - George
 - Francis

3.4 Definition List

Definition list comprises a list of definitions or terms and their descriptions. The elements are:

dl- The element for creating a definition list

dt- The element for creating a definition or term

dd- The element for displaying the description of a term

The structure can be illustrated in the Example 3.4.

Example 3.4

```
<dl>
<dt><b>Internet</b>
<dd>A network of millions of computers connected together to share information.
<dt><b>HTML</b>
<dd>Hypertext Markup Language
<dt><b>JavaScript</b>
<dd>A scripting language that works with HTML to enhance web pages
</dl>
```

* The dt and dd elements do not require the closing tags

The output:

Internet

A network of millions of computers connected together to share information.

HTML

Hypertext Markup Language

JavaScript

A scripting language that works with HTML to enhance web pages

Chapter 4: Adding Colours

Adding colours to your web pages could achieve certain visual effect and make them more appealing. However, you should select colours carefully and do not overuse them. You can add colour to your web page background and the text as well.

4.1 Adding Colour to the Background

You can specify the colour of the page's background using the bgcolor attribute of the body element, as shown below:

<body bgcolor=color>

The colour attribute can be specified using normal words like red, yellow, blue etc. or by using hexadecimal codes. Hexadecimal is a base 16 number system. Hexadecimal uses A for decimal 10, B for decimal 11, C for decimal 12, D for decimal 13, E for decimal 14 and F for decimal 15. Every colour code in HTML is made up of 6 hexadecimal digits, from 000000 to ffffff. The hexadecimal codes might seem very complex, however, they actually make up of combination of three primary colours, i.e. red, green and blue (rgb). The last two digits specify the amount of red colour, the middle two digits specify the amount of green colour and the first two digits specify the amount of blue colour.

For example:

0000ff=maximum red 00ff00=maximum green ff0000=maximum blue.

The Colour Codes are shown in Table 4.1

Color	Code	Color	Code	Color	Code	Color	Code	Color	Code
.	eeeeee	.	ffffcc	.	ffccff	.	ff99ff	.	ff66ff
.	dddddd	.	ffff99	.	ffcccc	.	ff99cc	.	ff66cc
.	cccccc	.	ffff66	.	ffcc99	.	ff9999	.	ff6666
.	bbbbbb	.	ffff33	.	ffcc66	.	ff9966	.	ff6633
.	aaaaaa	.	ffff00	.	ffcc33	.	ff9933	.	ff6633
.	999999	.	ccffff	.	ffcc00	.	ff9900	.	ff6600
.	888888	.	ccffcc	.	ccccff	.	cc99ff	.	cc66ff
.	777777	.	ccff99	.	cccccc	.	cc99cc	.	cc66cc
.	666666	.	ccff66	.	cccc99	.	cc9999	.	cc6699
.	555555	.	ccff33	.	cccc66	.	cc9966	.	cc6666
.	444444	.	ccff00	.	cccc33	.	cc9933	.	cc6633
.	333333	.	99ffff	.	cccc00	.	cc9900	.	cc6600
.	222222	.	99ffcc	.	99ccff	.	9999ff	.	9966ff
.	111111	.	99ff99	.	99cccc	.	9999cc	.	9966cc
.	ff0000	.	99ff66	.	99cc99	.	999966	.	996699
.	ee0000	.	99ff33	.	99cc33	.	999933	.	996633
.	cc0000	.	66ffff	.	66ccff	.	6699ff	.	6666ff
.	33ffff	.	00ffff	.	00ccff	.	3399ff	.	3366ff
.	ff00ff	.	cc00ff	.	00ee00	.	0000ff	.	6600ff

Table 4.1 List of HTML RGB Colour Codes

Example 4.1

```

<html>
<head>
<title>Background Color</title>
</head>
<body bgcolor=cyan>
The background colour of this web page is cyan. You can change the background
colour anytime by changing the colour attribute specified by the bgcolor code. Try
using the hexadecimal codes like bgcolor="#ff00cc".
</body>
</html>

```

Copy and paste the above codes to your notepad and save as bgcolor.html.

The Output is as shown overleaf.

The background colour of this web page is cyan. You can change the background colour anytime by changing the colour attribute specified by the bgcolor code. Try using the hexadecimal codes like bgcolor="ff00cc".

4.2 Adding colour to the text.

4.2.1 Specifying the colour of the normal text

You can specify the colour of the normal text (the default text is black) using the text attribute of the body element, as shown below:

```
<body bgcolor="blue" text="white">
```

You may use normal words for the colour attribute or use hexadecimal notation.

Now, try the following example

Example 4.2

```
<html> <head>
<title>Text colour</title>
</head>
<body bgcolor="blue" text="#ffffcc">
```

The text colour can be formatted using the text="#color code". It is important that the colour of the text is not the same as the background colour; otherwise you won't be able to see the words.

```
</body>
</html>
```

Copy and paste the above codes to your notepad and save the file as txtcolor.html

The output is as shown below:

The text colour can be formatted using the text="#color code". It is important that the colour of the text is not the same as the background colour; otherwise you won't be able to see the words.

4.2.2 Formatting Individual Font Colour with the Font Tag

If you wish to add colour to an individual character, word, sentence or paragraph, you may use the font tag. Font tag can also control font size and typeface of fonts.

The codes are as follows:

Red colour text

Blue text with font size 1

Text in Time News Roman

Now, copy the following codes and paste them into your notepad and save the file as font.html.

Example 4.3

```
<html>
<head>
<title>Manipulation of Fonts</title>
</head>
<body bgcolor="#ccffff" text="blue">
<font color="red" size="4">Manipulation of </font><font color="brown"
size=4>Fonts</font>
<hr>
<p>
<font color="green" face="Arial" size=2>You can manipulate font colour , size and
font type using
the font tags</font>.<font color="#aaaa00" size="2" face="Times New Roman">It can
be done fairly
easily by anybody. Most important you must try it out yourself and dare to
experiment with
anything.</font>
</p>
<hr>
This part of the text will appear blue.
</body>
</html>
```

The output is show below:

Manipulation of Fonts

You can manipulate font colour, size and font type using the font tags. It can be done fairly easily by anybody. Most important you must try it out yourself and dare to experiment with anything.

This part of the text will appear blue.

Chapter 5: Inserting Images into a Web Page

The element for inserting an image in a web page is **img** and the tag is written as follows:

* src is the attribute that points to the source of the image file.

The web browsers support several types of image files, but the usual ones are the graphic interchange format file(with extension **gif**) and **jpeg** file(with extension **jpg**). Besides, they also support **png** file. You can also create your own images using scanner and graphics tools like PC Paint Brush, Corel Draw, Adobe Photoshop and more. Besides, there are countless image files that you might copy from the World Wide Web but it is better to get consent from the images creators.

You can specify the alignment and size of the image using the align, width and height attributes of the img element respectively as follows:

* The alt attribute is to show the label of the image.

Images can also be used as background for your web pages using the body element as follows:

<body background="image.jpg"></body>

Now type the text in Example 5.1 below and save the file as images.htm. You also need to create four images using any graphic tool and save them as image1.jpg, image2.jpg and image3.jpg. The image files must be in the same folder as the images.htm file.

Example 5.1

```
<html>
<head>
<title>Inserting Images</title>
</head>
<body background="back.jpg ">
<h1 align="center"><font color="red">Inserting Images in Web Page</font></h1>
<hr>

<br>

<br>

</body>
</html>
```

Inserting Images in Web Page



