

HTML Fundamentals

INTRODUCTION

The Internet is a very large network of computers spread across the world. The Internet allows for each of these computers to send and receive information from each other. One of the major applications of the Internet is the World Wide Web (WWW). The World Wide Web or the web in short, can be thought of as an interconnected set of documents, images, audio, video files or software files. When you connect to the Internet and look around (we call it browsing), you are using a very interesting feature of the web, hyperlinks. Each time you click on a highlighted piece of text or image, you jump to another piece of text or image and this could be on the same page, another page on the same hard disk or on a page residing on another computer, half way across the world. How this works and how we could make it happen is what we will learn in this chapter. Web pages use a language called the Hyper Text Markup Language (HTML). The browser applications (Microsoft's Internet Explorer, Mozilla Firefox, etc.) are designed to interpret HTML.

About HTML

- **HTML Stands for Hyper Text Markup Language used for creating web pages.**
- **It Describes the structure of Webpages .**
- **It consists of Series of HTML Elements which tell the browser how to display the content.**

HTML is a Markup Language which means you use HTML to simply “mark-up” a text document with tags that tell a Web browser how to structure it to display. Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers. Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

Writing HTML document:

HTML document is made up of elements called Tags and Attributes.

Tag

- A tag is coded HTML command that indicates how parts of web pages should be displayed.
- All HTML tags are contained with angle brackets (<>).
- HTML tags are case insensitive.
- There are two types of HTML tags i.e : Container Tag and Empty tag

Attributes

An attribute is special word used inside tag to specify additional information to tag such as color, size, alignment etc.

Two Types of tags in HTML

1. Container Tag

HTML container tags require a starting as well as ending tag.

Some Examples of container Tags are :-

<HTML>.....</HTML>

<HEAD>.....</HEAD>

<TITLE>.....</TITLE>

.....

2. Empty Tags

HTML empty tags require just a starting tag and not an ending tag. Some example of empty tags are

<Hr>

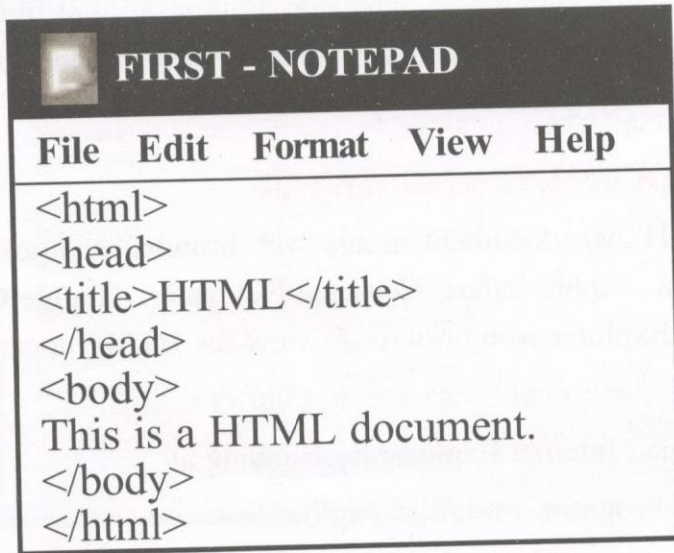
Creating and Saving a HTML Document

Since HTML Documents are just TEXT Files, they can be written in any text editor like Notepad, Front Page , Dreamweaver , Word Pad etc.

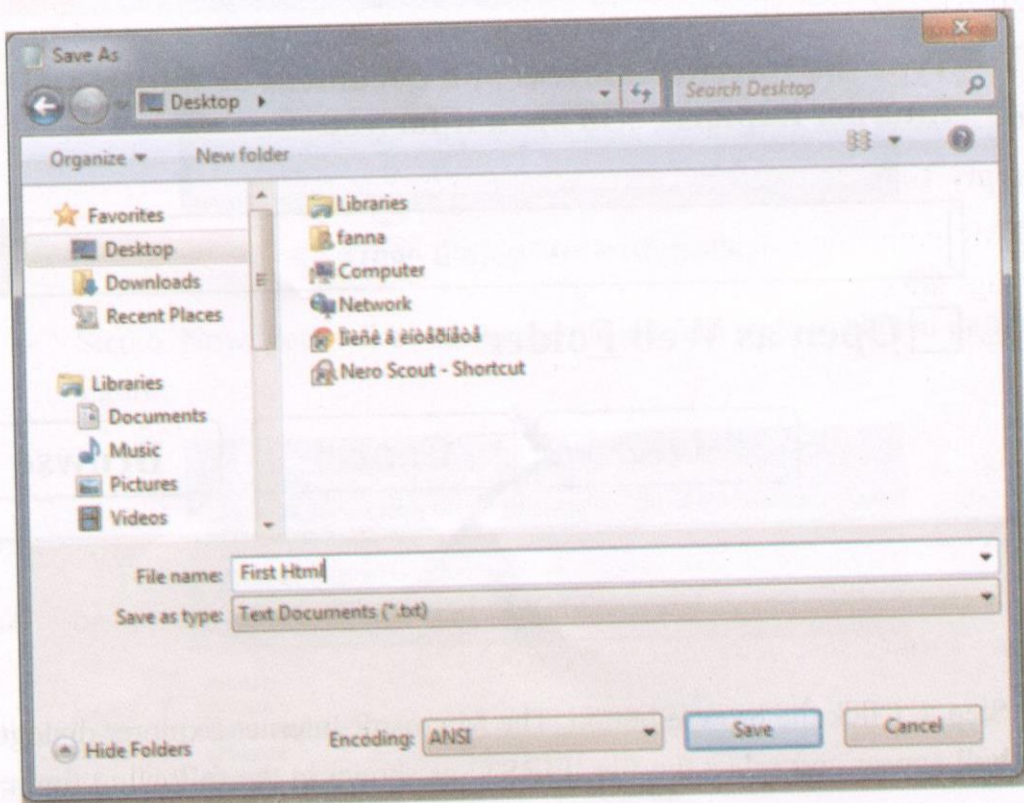
If You are using Notepad to create a HTML document, the steps are as follows:

- Step 1. Open Notepad by clicking at Start -> All Programs -> Accessories=>Notepad

- Step 2. Type the HTML document in Notepad as shown in following figure



- Step 3. To save the document click at File Menu -> Save as Command
- Step 4. The Save as Dialogue box will appear as shown in the following figure :



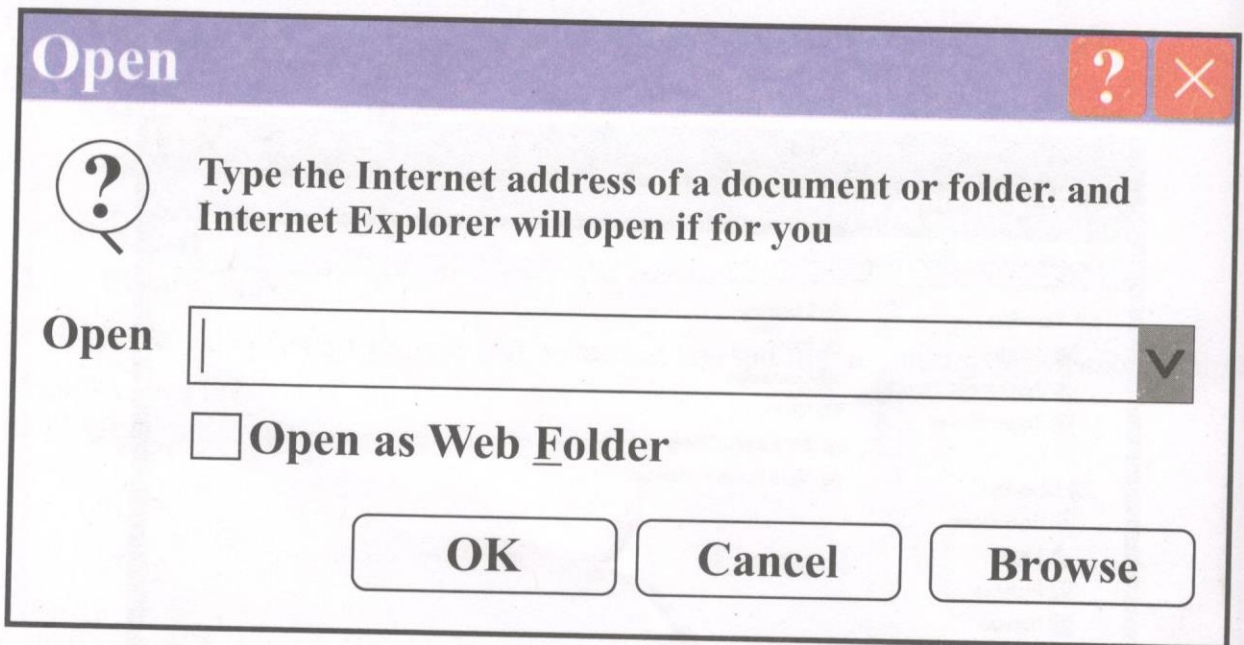
- Step 5. In save as dialogue box, after selecting the desired folder, give the desired file name along with extension .htm or .html in file name box and then click on save button. In above figure we have saved out HTML document under name First.html.

VIEWING HTML DOCUMENT IN BROWSER

You can view HTML document in any web browser such as Internet Explorer , Mozilla Firefox , opera , Apple Safari, Netscape Navigator Goggle Chrome etc. Here , We are Using Internet Explorer web browser to view the HTML document.

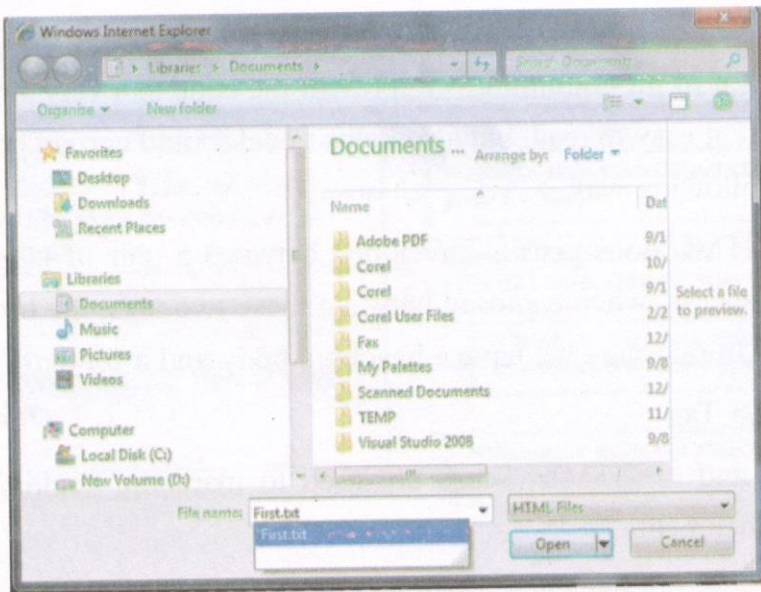
To view HTML document steps are as follows :

- Step 1. Open Internet Explorer by Clicking at Start -> All Program ->Internet Explorer.
- Step 2. To open the document First.html, select File Menu -> open
- Step 3. The Open dialogue box will appear as in the following figure:

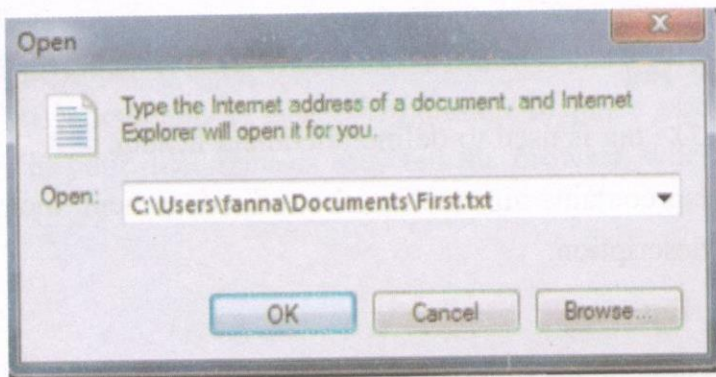


Open dialog box

- Step 4. Click the browse button. The Microsoft Internet Explorer dialogue box will appear and select the file 'FIRST' as shown in the following figure:

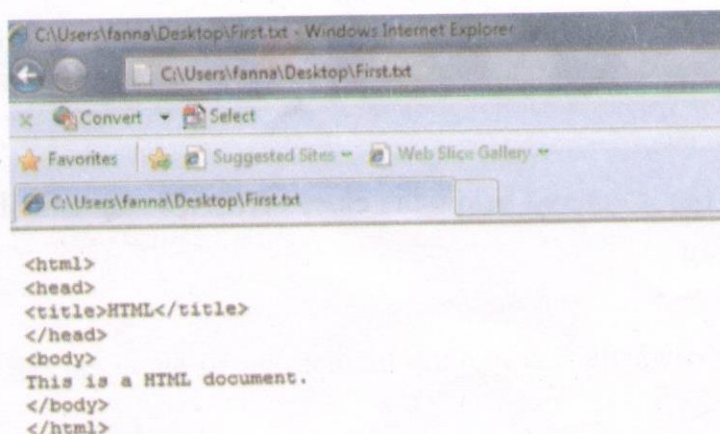


- Step 5. Click on open button and then Click on Ok button.



Open dialog box with path

- Step 6. Now, you will be viewing your desired page as shown in the following figure:



Basic Structure of HTML Page :

A basic concept of programming is to present the code in a very structured format. Not only does it make it easy to read, but also helps to detect and correct errors. In HTML, we do these in the following way.

The entire HTML document is enveloped between a pair of tags: `<HTML>` and `</HTML>`. In other words, when enclosed between these two tags, the browser treats the page as a web page. In our page we have a header, a body and a footer.

1. The `<HTML>` Tag

- `<HTML` and `</ HTML>` tags are used to mark the beginning and end of HTML document.
- This tag does not have any effect on appearance of document
- This tag is used to make browsers and other programs know that this is an HTML document .

2. The `<HEAD>` Tag

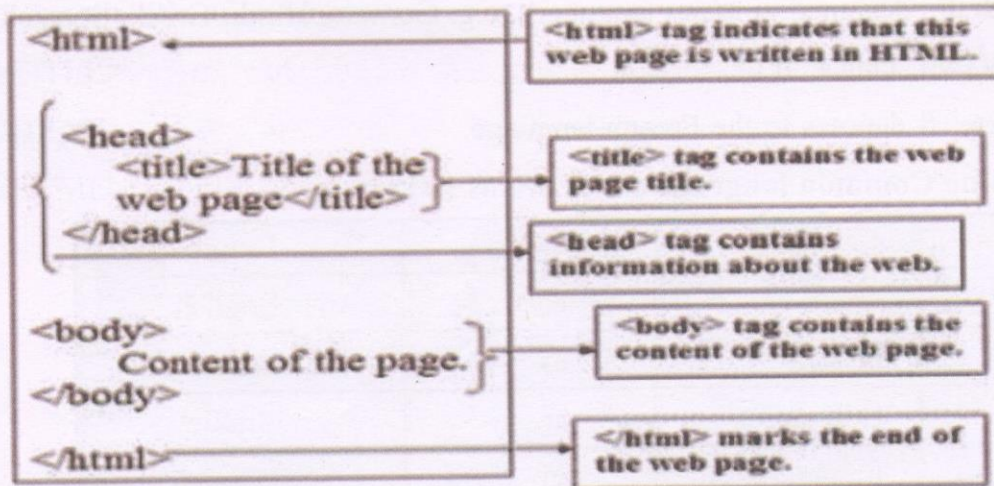
- The `< HEAD>` tag is used to define document header.
- `<HEAD>` tag contains information about the document. including its title and document description.

3. The `<TITLE>` Tag

- `<TITLE>` tag contains title of the document.
- Text written between `<TITLE >.....</TITLE>` tag shows up in title bar of browser window.

4. The `<BODY>` Tag

- The `<BODY>` tag defines the document's body.
- It contains all the contents of an HTML document, such as text, images, lists, table, etc.
- `<BODY>` tag is entered below the close `</HEAD>` tag and above the close `</HTML>` Tag.



BASIC HTML TAGS

HTML provides some basic tags which are required for HTML code

1. **<HTML> Tag** : It represents the root of an HTML document, so it acts as a container for all other HTML elements. It informs the browser that it is dealing with an HTML document. It is very Important to place both <HTML> and </HTML> tags in your document as they tell the browser, where your page begins and ends.

E.g:

```
<HTML>
```

```
</HTML>
```

Attributes of <HTML> Tag

This tag provides various attributes, which are as follows:

DIR

It tells the browser the direction in which the displayed text is to be read. This attribute can have values either ltr (left to right) or rtl (right to left). By default , the value of dir attribute is ltr .

Syntax

```
<HTML dir = "ltr"/ "rtl">
```

LANG

It specifies the language of an element content and attribute values, now a days,

web pages are designed in many languages, e.g. German, Hindi, Greek, Spanish etc.

`<HTML lang = "fr">`

Here, fr denotes to the French language.

Some Common language codes are as follows :

Code	Language	Code	Language
Hi	Hindi	en	English
Fr	French	es	Spanish
De	German	ar	Arabic
It	Italian	ru	Russian
Nl	Dutch	zh	Chinese
El	Greek	ja	Japanese

2. **<HEAD> Tag :** This element is a container for all the header elements. The **<HEAD>** Tag must include a title for the document that can include scripts, styles, meta information and any more. The second line of your document should be **<HEAD>**. The content contained in the head section of your document provides information to the browsers and search engines but, it is not displayed directly on the web page. The end of the head tag is indicated by **</HEAD>**.

E.g

`<HTML>`

`<HEAD>`

Header information comes here

`</HEAD>`

`</HTML>`

3. **<TITLE> Tag :** This tag defines the title of the document. Title must be a simple text and should not be same as the file name. IT is placed between **<HEAD>** and **</HEAD>** tags .

E.g.

`<HTML>`

`<HEAD>`

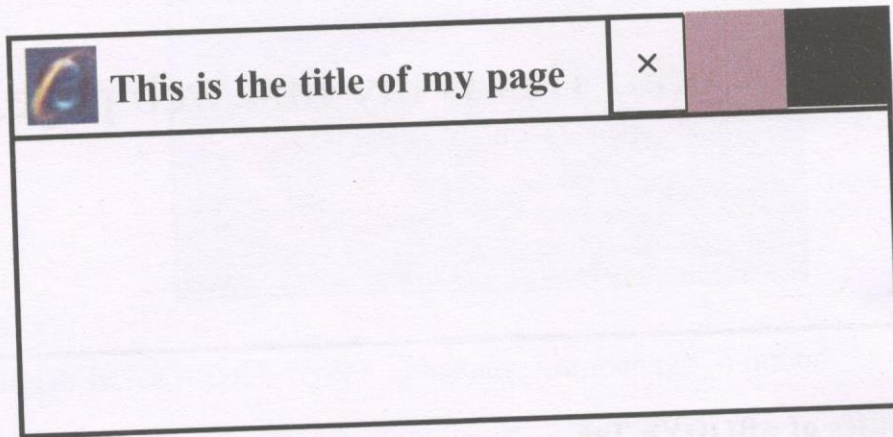
`<TITLE>`

This is the title of my page.

</TITLE>

</HEAD>

</HTML>



4. <BODY>Tag

This tag defines the document's body. It is used to set the basic page characteristics. It contains all the necessary contents of a HTML document, such as text, hyperlinks, images, tables, lists etc. The content of your Web page is placed in between the opening <BODY> and closing </BODY> tags.

The <BODY> tag is opened just after the head section is closed. It is closed just before closing the <HTML> tag.

E.g :

<HTML>

<HEAD>

<TITLE>

My First web page.

</TITLE>

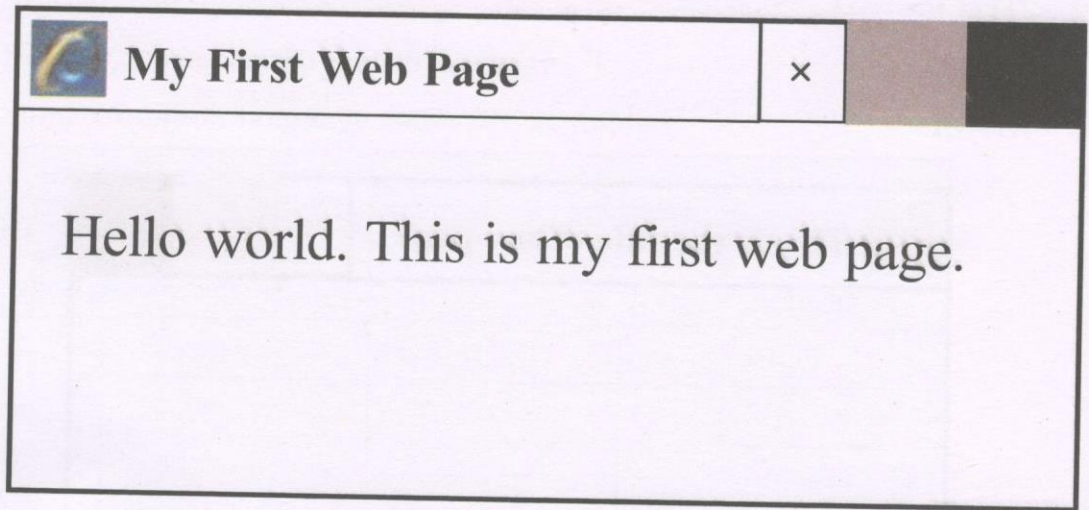
</HEAD>

<BODY>

Hello world. This is my first web page.

</BODY>

</HTML>



Attributes of <BODY> Tag

This tag provides various attributes, which are as follows:

background

This attribute specifies a background image for a document HTML supports various graphics format such as .gif, .jpg etc.

Syntax:

```
<BODY background= "URL">
```

Where, URL may be an image name or a path of an image.

E.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Background Image
```

```
</TITLE>
```

```
</HEAD>
```

```
<BODY background= "image.jpg">
```

```
</BODY>
```

```
<HTML>
```

Output:

BGCOLOR :- This attribute specifies the background color of a document.



Syntax:

`<BODY BGCOLOR = "color_name|hex_number|rgb_number">`

e.g.

`<HTML>`

`<BODY BGCOLOR = "red">`

`</BODY>`

`</HTML>`

text

This attribute specifies the color of the text in a document.

Syntax:

`<BODY text = "colorname|hex_number|rgb_number">`

Attribute values :

Value	Description
Color_Name	Specifies the text-color with a color name (like "red").
hex_number	Specifies the text-color with a hexadecimal code (like "#FF0000") where, # stands for the color number.
rgb_number	Specifies the text-color with a rgb(red, green, blue) code (like "rgb(255,0,0)").

E.g.

```
<HTML>
```

```
<BODY text = " red">
```

```
Arihant Publication </BODY>
```

```
</HTML>
```

link

This attribute specifies the color of an unvisited link in document. The default color of link attribute is blue (#0000FF)

Syntax :

```
<BODY link = "color_name|hex_number|rgb_number">
```

e.g.

```
<HTML>
```

```
<BODY link = " red">
```

```
</BODY>
```

```
</HTML>
```

alink

This attribute specifies the color of an active link in a document (a link get activated when it is clicked). The default color of an alink attribute is red (#FF0000).

Syntax :

```
<BODY alink = "color_name|hex_number|rgb_number">
```

E.g.

```
<HTML>
```

```
<BODY alink= " blue">
```

```
</BODY>
```

```
</HTML>
```

vlink

This specifies the color of a visited link in a document The default color of vlink attribute is purple (#800080)

Syntax:

```
<BODY vlink = "color_name|hex_number|rgb_number">
```

E.g.

```
<HTML>
```

```
<BODY vlink= " blue">
```

```
</BODY>
```

```
</HTML>
```

leftmargin

Sets a left hand margin (distance between the left side of the document and the left edge of the browser window) of your body element.

Syntax :

```
<BODY leftmargin = " value">
```

E.g

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>leftmargin</TITLE>
```

```
</HEAD>
```

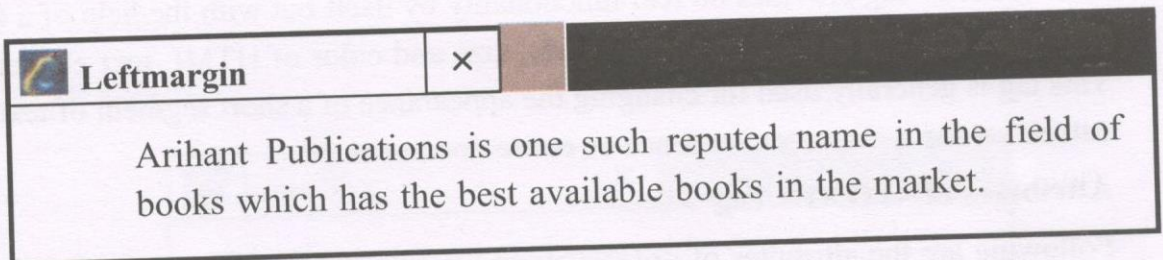
```
<BODY leftmargin = "65">
```

Arihant Publications is one such reputed name in the field of books which has the best available books in the market

```
</BODY>
```

```
</HTML>
```

Output



topmargin

Sets top margin (distance between top of the document and the top of the browser window) of your body element.

Syntax :

```
<BODY topmargin = " value">
```

E.g

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>topmargin</TITLE>
```

```
</HEAD>
```

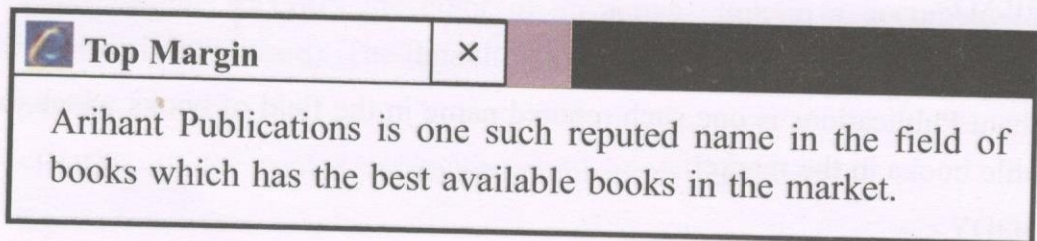
```
<BODY topmargin = "65">
```

Arihant Publications is one such reputed name in the field of books which has the best available books in the market

```
</BODY>
```

```
</HTML>
```

Output :



5. **Tag** : This tag specifies the font face, font size and font color of the text. The tag provides no real functionality by itself but with the help of a few attributes, this tag is used to change style, size and color of HTML text elements. This tag is generally used for changing the appearance of a short segment of text. It can be set for a character, sentence or entire document.

Attributes of Tag

Following are the attributes of tag :

size

This attribute specifies the size of the text inside a tag. The range of accepted values goes from 1 (the smallest) to 7 (the largest) We can also set the relative size to the current size using (+) ve or (-) ve sign.

e.g. size +2

Syntax :

Attribute Value

Value	Description
number	A number from 1 to 7, that defines the size of the text. Default number of value is 3.

E.g

<HTML>

<HEAD>

<TITLE> Font Size </TITLE>

</HEAD>

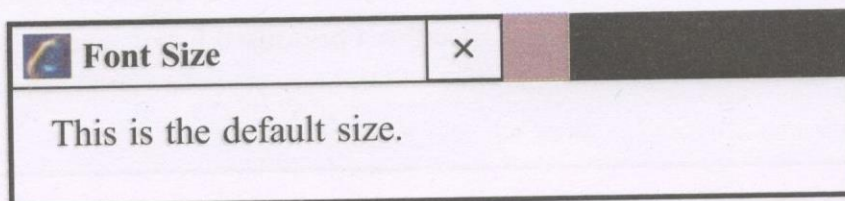
<BODY>

This is the default size

</BODY>

</HTML>

Output :



Color

This attribute specifies the color of the text inside a tag

Syntax

E.g.

<HTML>

<HEAD>

<TITLE> Font Color </TITLE>

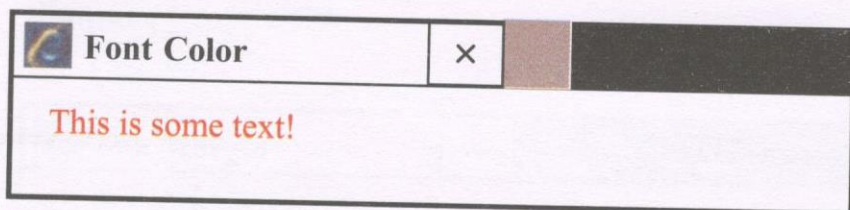
</HEAD>

<BODY>

This is some text!

</BODY>

</HTML>



face

This attribute specifies the font name or type face of the text inside a tag.

Syntax :

Attribute Value

Value	Description
font_family	The font name of the text specifies a prioritised list of several fonts, separate the names with a comma (like <FONTface="verdana,arial,sans-serif">.

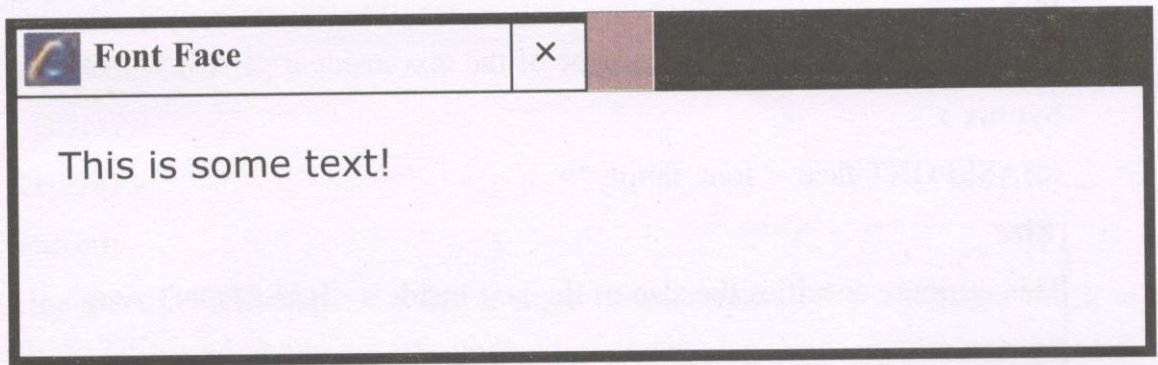
E.g

<HTML>

```
<HEAD>
<TITLE> Font Face </TITLE>
</HEAD>
<BODY>
<FONT face= "verdana">
This is some text!
</FONT>
</BODY>
</HTML>
```

Output:

Some examples of using tag are as follows :



-
This is an example !
-
This is an table !
- ABC

6. <BASEFONT> Tag

This tag specifies default font supported color, font size or font family for all the

text in document that follows it. which is only supported by Internet Explorer Web browser.

Ending tag `</BASEFONT>` of “basefont is optional. This tag can also have face, size and color attributes, which can be used exactly in the same way as face, size and color attributes of `<FONT>` tag.

Attributes of `<BASEFONT>` tag

Following are the attributes of `<BASEFONT>` tag:

color

This attribute specifies the color of the text inside a `<BASEFONT>` tag

Syntax :

`<BASEFONT color = “color_name|hex_number|rgb_number”>`

face

This attribute specifies the face type of the text inside a `<BASEFONT>` tag.

Syntax :

`<BASEFONT face =”font_family”>`

Size

This attribute specifies the size of the text inside a `<BASEFONT>` tag.

Syntax :

`<BASEFONT size =”number”>`

Differences between `<FONT>` tag and `<BASEFONT>` tag

7. **`<CENTER>` Tag :** This tag is used to centralize a segment of text to be displayed on browser’s window. With the `<CENTER>` tag, closing tag `</CENTER>` is

<code></code> tag	<code><BASEFONT></code> tag
The <code></code> tag has “ending” tag.	The <code><BASEFONT></code> tag has optional “ending” tag.
The <code></code> tag affects all text that lies between its starting and ending tags.	The <code><BASEFONT></code> tag effects all text in a document.

always used. Anything between these two tags will be centered including text, images or tables.

Syntax:

```
<CENTER>.....</CENTER>
```

E.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Center </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<CENTER>
```

This text will be center – aligned

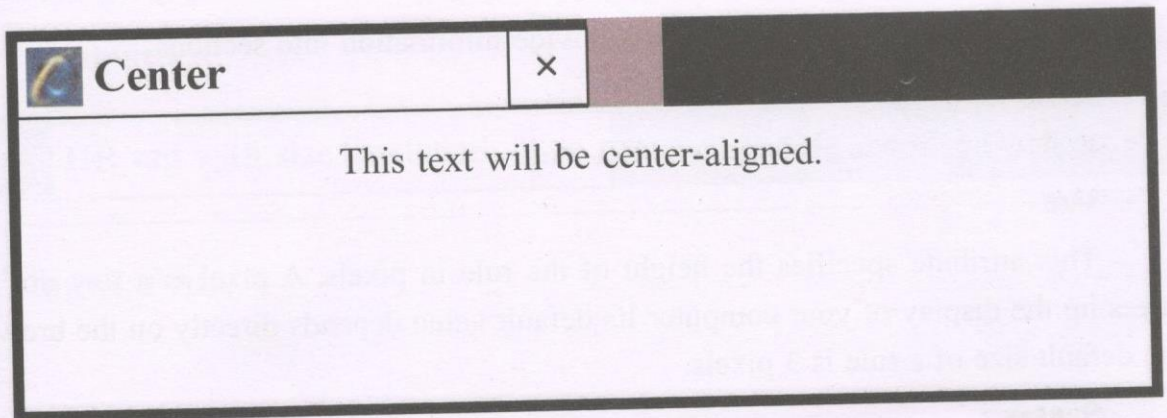
```
</CENTER>
```

```
</BODY>
```

```
</HTML>
```

Output:

8. **Line Break
Tag :** To add a single line of space, you can use a break tag
. This is an empty tag, i.e. no need of closing tag. You can also use the
 tag to insert one or more blank lines.



E.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Line Break </TITLE>
```

```
</HEAD>
```

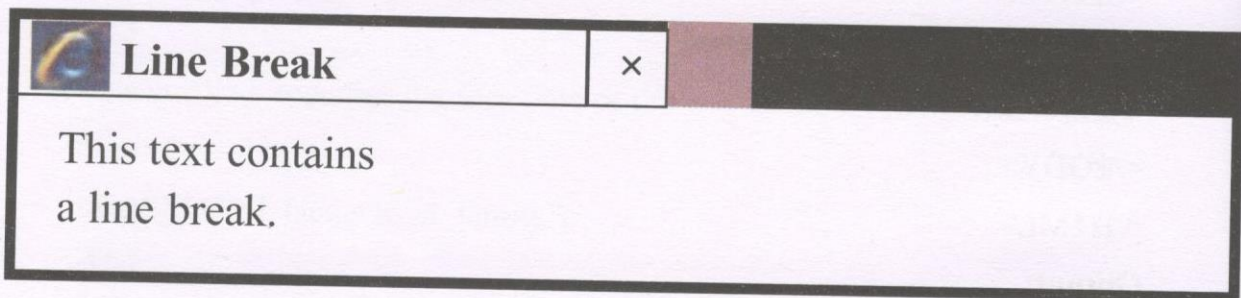
```
<BODY>
```

This text contains
 a line break.

```
</BODY>
```

```
</HTML>
```

Output :



9. Horizontal Rule <HR> Tag :

To create a horizontal line on your page, you have to use the empty tag <HR>.

This horizontal line can be used to divide information into sections.

Attributes of <HR>Tag

Following are the attributes of <HR> tag:

size

This attribute specifies the height of the rule in pixels. A pixel is a tiny dot that makes up the display of your computer. Its default value depends directly on the browser. The default size of a rule is 3 pixels.

Syntax :

```
<HR size = "pixels">
```

Attribute value :

Value	Description
Pixels	The height of the <HR> tag in pixels.

e.g.

<HTML>

<HEAD>

<TITLE>

HR tag with size attribute

</TITLE>

</HEAD>

<BODY>

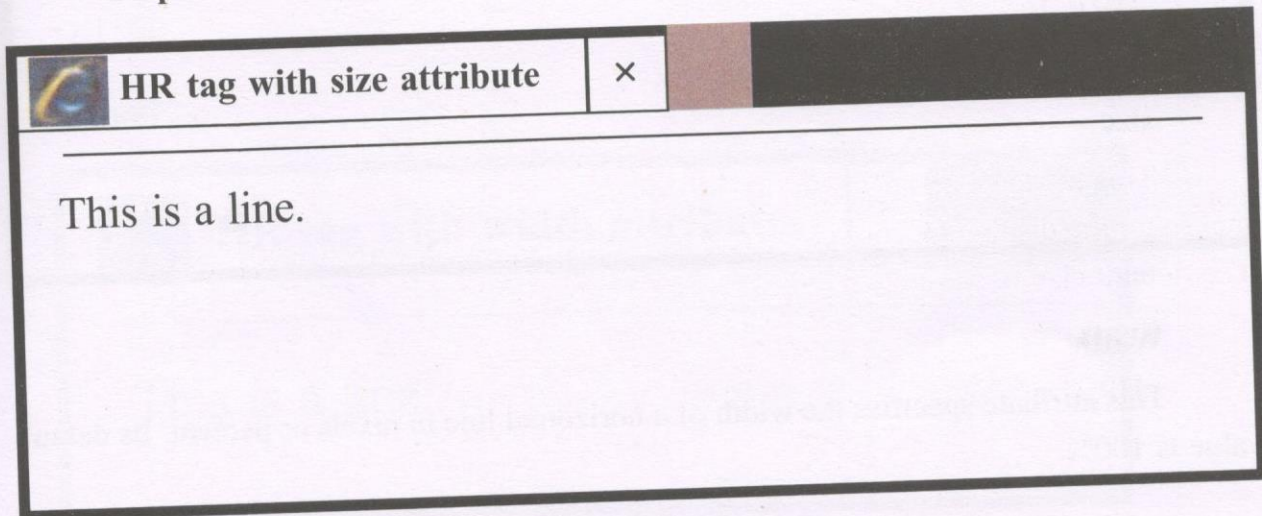
<HR size="3" >

This is a line.

</BODY>

</HTML>

Output :



align

This attribute specifies the alignment of a horizontal line.

```
<HR align = " left|center|right">
```

e.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>
```

```
HR tag with align attribute </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

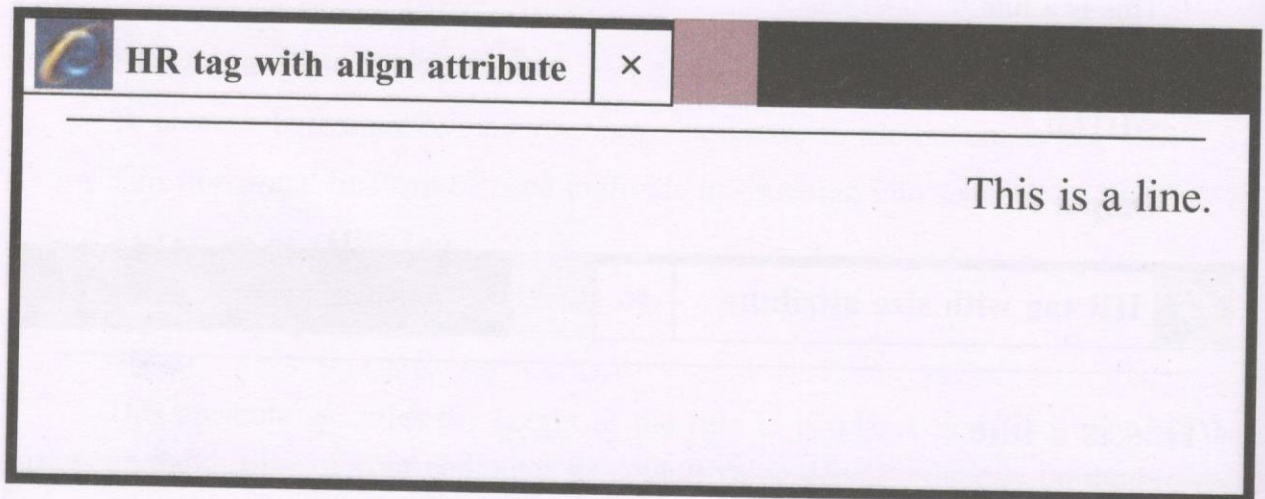
```
<HR align="right" >
```

```
This is a line.
```

```
</BODY>
```

```
</HTML>
```

Output :



Width

This attribute specifies the width of a horizontal line in pixels or percent. Its default value is 100%.

Syntax:

<HR width = "pixel or %">

Attribute Value :

Value	Description
pixels	The width in pixels (like '100 px' or just '100')
%	The width in percent of the available space (like '50%')

e.g.

<HTML>

<HEAD>

<TITLE>

HR tag with width attribute </TITLE>

</HEAD>

<BODY>

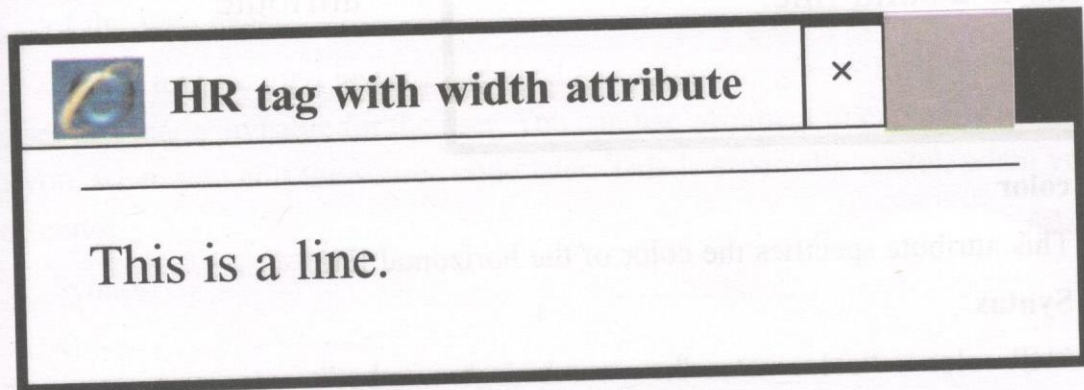
<HR width="50%" >

This is a line.

</BODY>

</HTML>

Output :



noshade

When this Boolean attribute is present, the rule is drawn with a solid black line as a 2D effect instead of default 3D effect, i.e without shading.

Syntax :

<HR noshade>

E.g

<HTML>

<HEAD>

<TITLE>

HR tag with nonshade attribute </TITLE>

</HEAD>

<BODY>

<HR width="5" noshade>

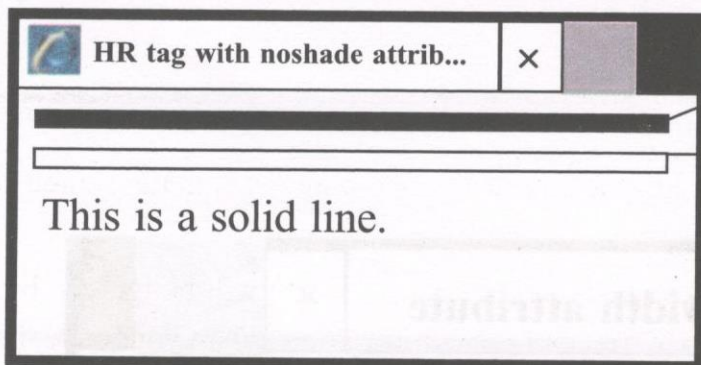
<HR size="5">

This is a Solid line.

</BODY>

</HTML>

Output :



<HR> with noshade attribute

<HR> without noshade attribute

color

This attribute specifies the color of the horizontal line.

Syntax

<HR color = "color_name|hex_number|rgb_number">

e.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>
```

HR tag with color attribute

```
</TITLE>
```

```
</HEAD>
```

```
<BODY>
```

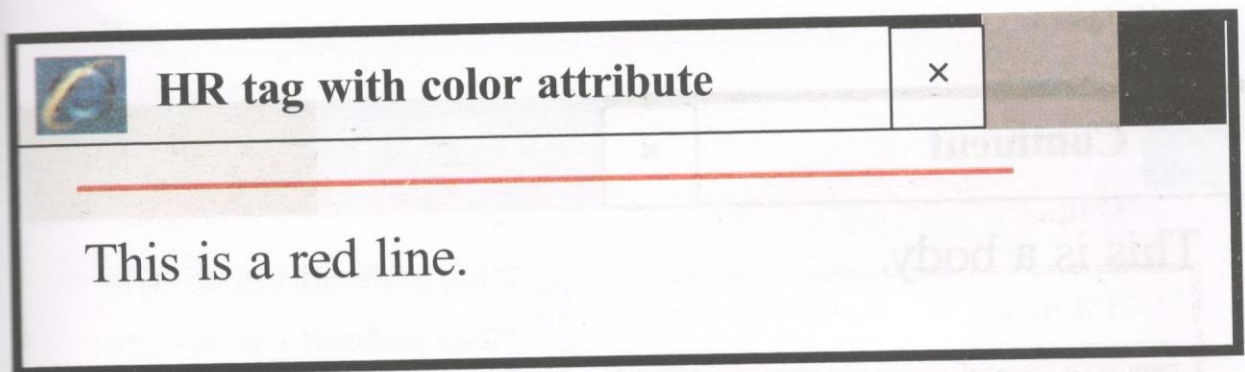
```
<HR color="red" >.
```

This is a red line.

```
</BODY>
```

```
</HTML>
```

Output:



10. **Comment** `<!-->` **Tag** : This tag is used to insert comments in the source code of the Web page.

All the text inserted inside this tag `<!--.....-->` will be ignored by the browser that made invisible for the user. You can use comment to explain your code, it can help you, when you edit the source code later. This is especially useful, when you have a lot of codes.

Syntax

```
<!--.....-->
```

E.g.

<HTML>

<HEAD>

<TITLE>

Comment

</TITLE>

</HEAD>

<BODY>

<!--

This is a comment

--> This is a body.

</BODY>

</HTML>

Output :



Comment

×

This is a body.

11. **Heading Tags :** In HTML, heading tags are used to display the text as a heading. It can also be used to give section headings. There are six levels of headings, ranging from `<H1>.....</H1>` to `<H6>....</H6>`.

`<H1>` defines the most important largest heading level. `<H6>` defines the smallest heading level.

Syntax :

`<Hn>.....</Hn>`

Where, n may be any number from 1 to 6.

Eg.

`<HTML>`

`<HEAD>`

`<TITLE>`

Heading Level

`</TITLE>`

`</HEAD>`

`<BODY>`

`<H1>` level 1 Headline `</H1>`

`<H2>` level 2 Headline `</H2>`

`<H3>` level 3 Headline `</H3>`

`<H4>` level 4 Headline `</H4>`

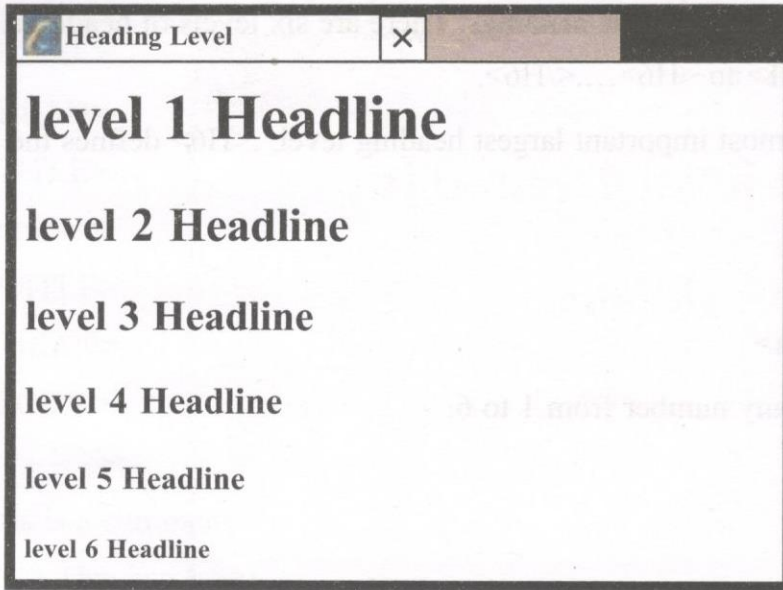
`<H5>` level 5 Headline `</H5>`

`<H6>` level 6 Headline `</H6>`

`</BODY>`

`</HTML>`

Output :



Attributes of <HEADING> tag

Following is the attribute of <HEADING >tag :

Align

Syntax :

<Hn align = “left | center | right | justify”>

Where, n may be any number from 1 to 6.

E.g.

<HTML>

<HEAD>

<TITLE> Heading in HTML </TITLE>

</HEAD>

<BODY>

<H1 align = “centre”>level 1 Headline</H1> <H2> level 2 Headline </H2>

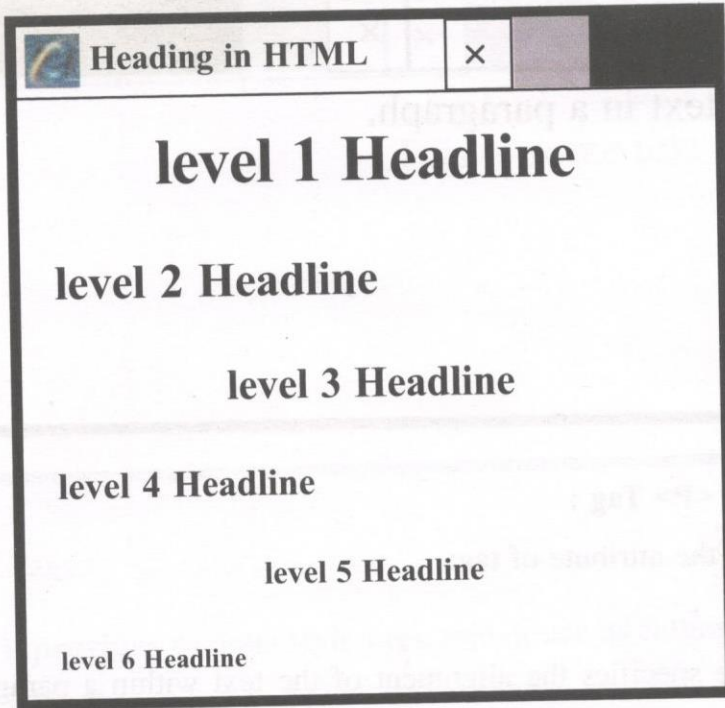
<H3 align = “centre”>level 3 Headline</H3> <H4> level 4 Headline </H4>

<H5 align = “centre”>level 5 Headline</H5> <H6> level 6 Headline </H6>

</BODY>

</HTML>

Output :



12. **Paragraph <P> Tag** : This tag is used to mark a block of text as a paragraph. It is used to insert a line break with extra space in the beginning. This is a container tag.

Syntax:

`<P>.....</P>`

E.g.

`<HTML>`

`<HEAD>`

`<TITLE>`

Paragraph

`</TITLE>`

`</HEAD>`

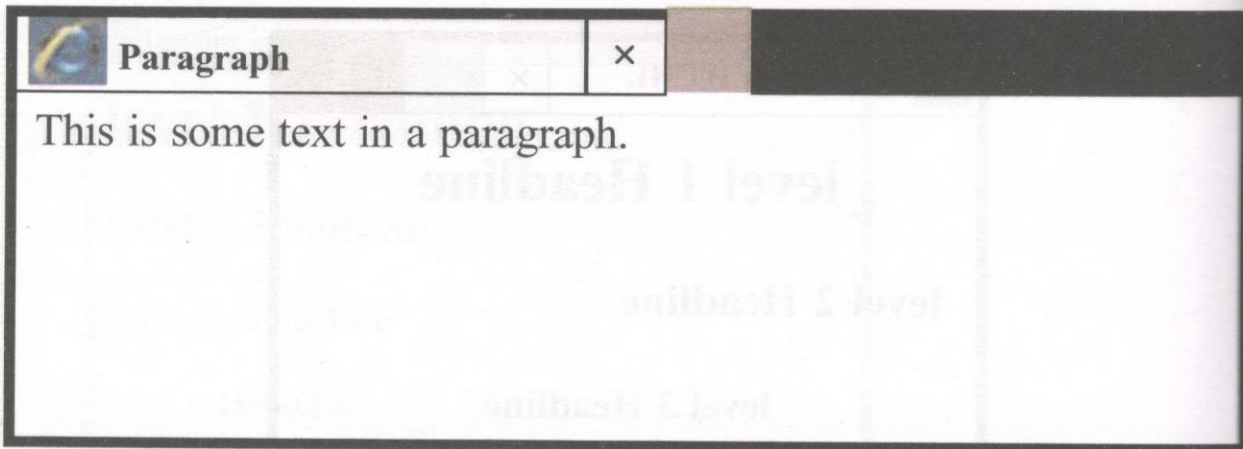
`<BODY>`

`<P>This is some text in a paragraph.</P>`

`</BODY>`

`</HTML>`

Output :



Attribute of <P> Tag :

Following is the attribute of tag:

align

This attribute specifies the alignment of the text within a paragraph. By default, alignment is left.

Syntax:

<P align = "left | center | right | justify">.....

</P>

E.g.

<HTML>

<HEAD>

<TITLE>

P tag with align attribute </TITLE>

</HEAD>

<BODY>

<P align="right">

This is some text in a paragraph. </P>

</BODY>

</HTML>

Output :

P tag with align attribute

×

This is some text in a paragraph.

13. Style Tags :

HTML provides various style tags, which are as follows:

Bold Tag:

This tag specifies the text into bold text. It is a container element.

Syntax:

E.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Bold
```

```
<TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<P>
```

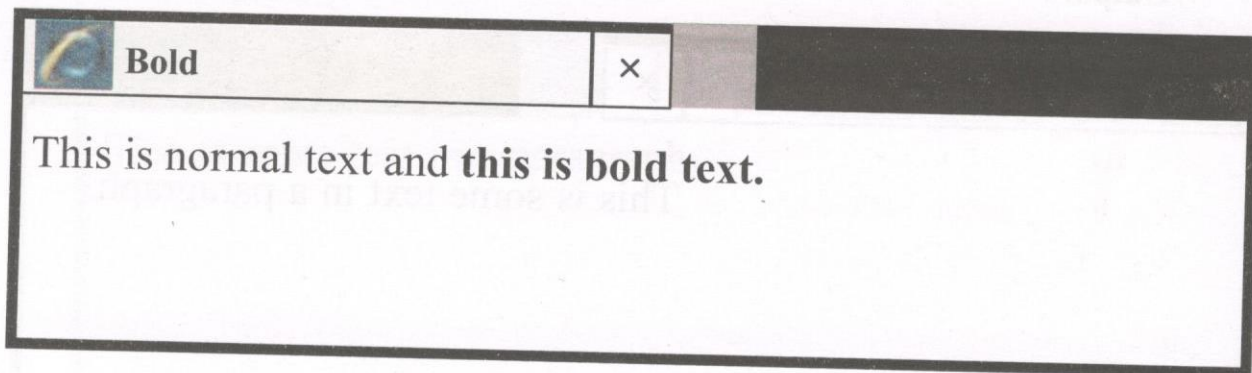
This is normal text and this is bold text.

```
</P>
```

```
</BODY>
```

```
</HTML>
```

Output :



Italic <I> Tag

This tag is used to make the text in italic form. It is also a container element.

Syntax:

<I> _____ </I>

E.g.

<HTML>

<HEAD>

<TITLE> Italic </TITLE>

</HEAD>

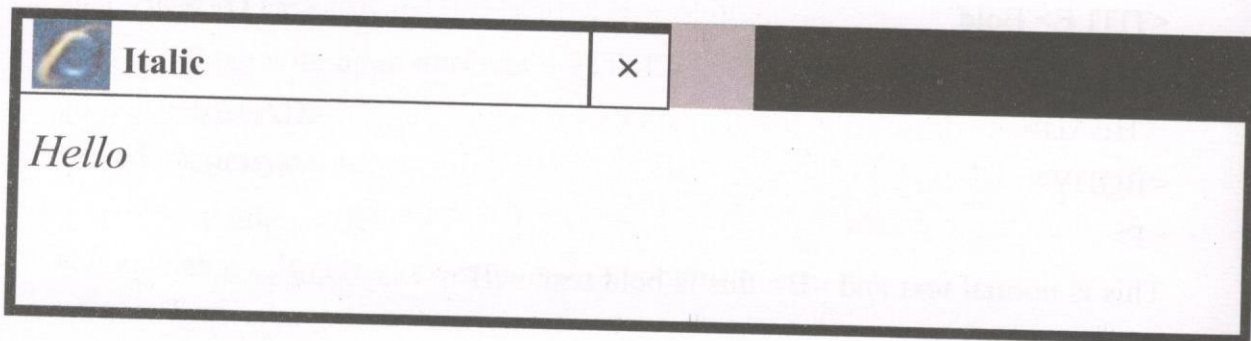
<BODY>

<I> Hello </I>

</BODY>

</HTML>

Output :



Underline <U> Tag:

This tag is used to underline the text. It is also a container element.

Syntax :

</U>—————</U>

E.g.

<HEAD>

<TITLE> Underline </TITLE>

</HEAD>

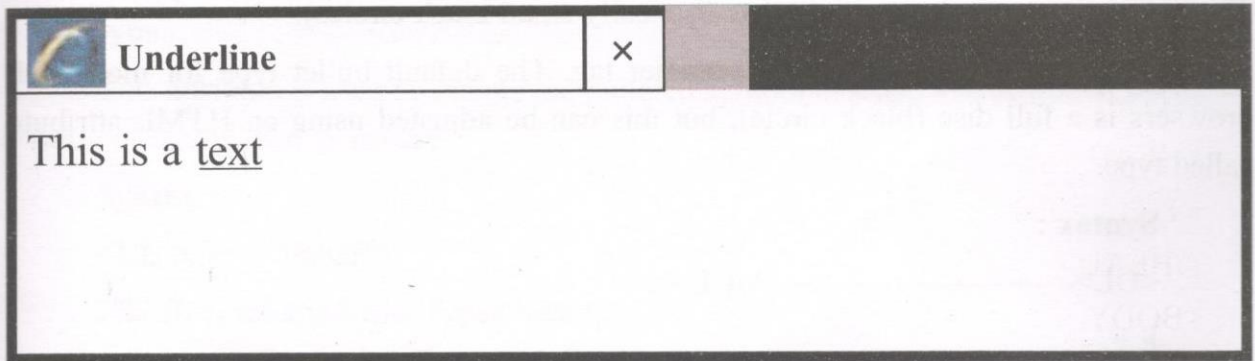
<BODY>

<P> This is a <U> text </U> </P>

</BODY>

</HTML>

Output:



HTML LISTS

Sometimes, we are in hurry and do not like to read a lot of text. So, putting important information in the form of a list seems to be helpful. HTML supports several elements for making lists. They can be divided into two types of lists, i.e. Glossary lists and Regular lists.

Glossary lists are denoted by the element <DL>, while Regular lists are denoted by the elements , , <MENU> and <DIR>. Lists can be nested, i.e. you can have a list within a regular list, a regular list within a glossary list and so on.

List tags, like paragraph and preformatted text are generally HTML containers that are capable of accepting other container and empty tags within their boundaries. These list tags are responsible for affecting the spacing and layout of text, not the emphasis, so they are applied to groups of text and allow individual formatting tags within them.

Most HTML lists are created in the following form :

`<LIST type>`

`<ITEM>` First item in list

`<ITEM>` Second item in list

`<ITEM>` Third item in list

`</LIST type>`

Types of Lists

Unordered List

This list (also known as an unnumbered list) is an indented list with a bullet symbol in front of each list item.

An unordered list starts with the `<UL>` tag. Each list item starts with the `<LI>` tag. The list items are marked with bullets (typically small black circles).

The unordered list tag is a container tag. The default bullet type for most Web browsers is a full disc (black circle), but this can be adjusted using an HTML attribute called `type`.

Syntax :

`<UL> _____ </UL>`

E.g.

`<HTML>`

`<HEAD>`

`<TITLE>`

Unordered list

`</TITLE>`

`</HEAD>`

`<BODY>`

`<UL>`

`<LI>`My first item on the list.`</LI>`

`<LI>`My second item on the list.`</LI>`

`<LI>`My third item on the list.`</LI>`

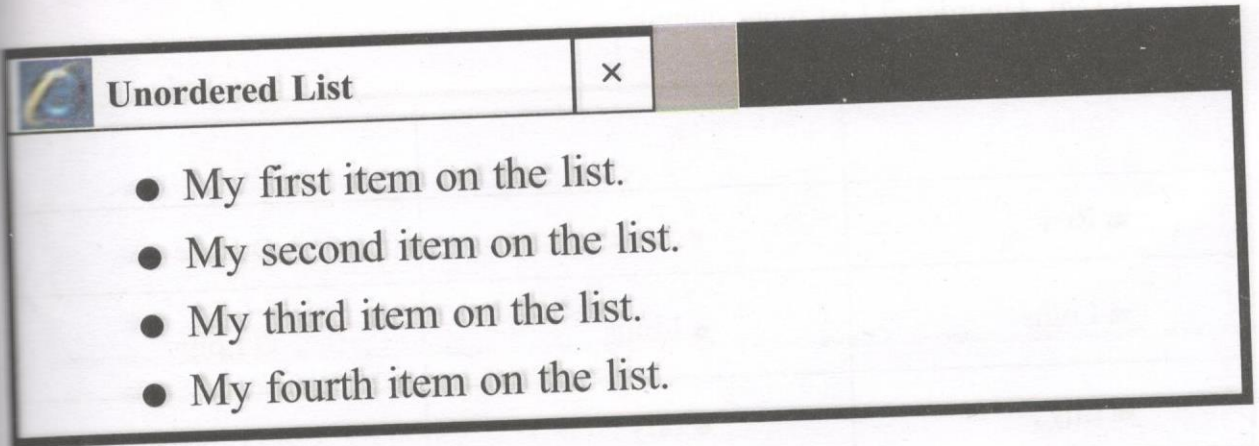
`<LI>`My fourth item on the list.`</LI>`

`</UL>`

`</BODY>`

`</HTML>`

Output :



Attribute of Unordered List Tag

Following is the attribute of tag:

type

This attribute is used to change the bulleted symbol in a list. The attribute may have a value of circle, disc or square.

Syntax :

<UL type = "value">

HTML Unordered List Types Value:

Value	Description
Square	Use black square bullet (■)
Disc	Use solid circle bullet (●)
Circle	Use a hollow bullet (○)

Here, we are using HTML code in the below example and we get various output as follows:

<UL type = " square">

<UL type = " disc">

<UL type = “ circle”>

HTML Unordered List types output:

Square	Disc	Circle
■ Rose	● Rose	○ Rose
■ Lotus	● Lotus	○ Lotus
■ Lily	● Lily	○ Lily

Ordered List

This list starts with the tag. Each list Item starts with the tag. The list items are marked with numbers. The ordered list tag is a container tag which is used for numbered lists. By default, the numbering will be 1, 2, 3..... . You can also adjust the numbering using type attribute.

Syntax :

—————

E.g.

<HTML>

<HEAD>

<TITLE> Ordered List </TITLE>

</HEAD>

<BODY>

 Rose

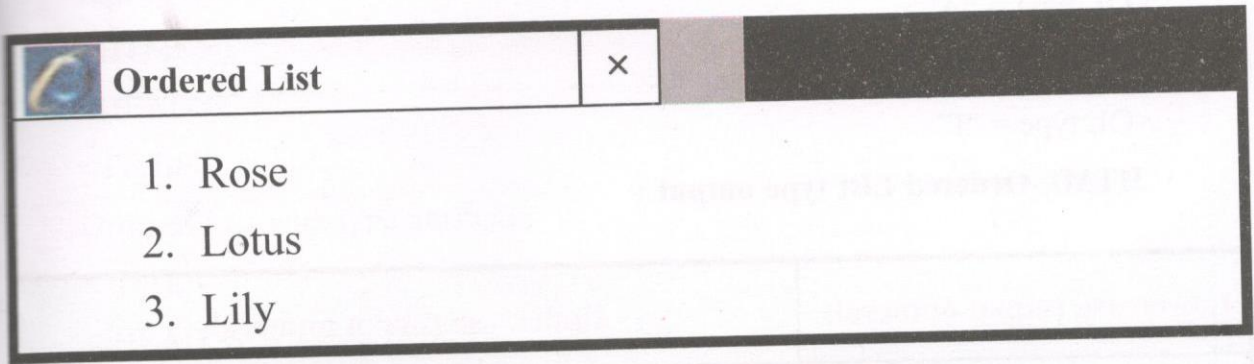
 Lotus

 Lily

</BODY>

</HTML>

Output :



Attributes of Ordered List Tag

Following are the attributes of Ordered list:

type

The numbering of an HTML list can be changed to letters or roman numerals by the type attribute.

Syntax:

<OL type = "value">

HTML Ordered List type value :

Value	Description
1	The default, uses arabic numerals
I	Uses uppercase roman numerals
i	Uses lowercase roman numerals
A	Uses uppercase letters
a	Uses lowercase letters

Here, we are using HTML code in the below example and we get various output as follows :

<OL type = "a">

<OL type = "A">

<OL type = "i">

<OL type = "I">

HTML Ordered List type output :

Lowercase roman numerals	Uppercase roman numerals
i. Rose	I. Rose
ii. Lotus	II. Lotus
iii. Lily	III. Lily

Lowercase roman numerals	Uppercase roman numerals
a. Rose	A. Rose
b. Lotus	B. Lotus
c. Lily	C. Lily

start

This attribute is used to change the beginning value of an ordered list. Normally, the ordered list begins with 1. It lets you further customize an HTML ordered list by setting a new starting digit for the ordered list element.

Syntax :

<OL start ="value type = "value">

E.g.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>
```

Ordered List with type attribute

```
</TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<OL> start="1" type="1" >
```

```
<LI> Rose </LI>
```

```
<LI> Lotus </LI>
```

```
<LI> Lily </LI>
```

```
</OL>
```

```
</BODY>
```

```
</HTML>
```

Output :



Ordered List with type attri...

×

1. Rose

2. Lotus

3. Lily

Definition List

This is a list of Items, with a description of each item. HTML definition lists <DL> are indented list without any bullet symbol or any number In front of each item. This list element have a unique array of tags and elements, the resulting lists are similar to those you would see in a dictionary.

Tags used in definition lists are as follows :

- <DL> Opening tag that defines the start of the list.
- <DT> List item that defines the definition term.
- <DD> Definition of the list item.
- </DL> Closing tag that defines the end of the list.

The terms DL, DT and DD stand for definition list, definition term and definition description.

E.g.

<HTML>

<HEAD>

<TITLE>

Definition List

</TITLE>

</HEAD>

<BODY>

<DT> Fromage

<DD> French word for cheese

<DT> Voiture

<DD> French word for car

</DL>

</BODY>

</HTML>

**Fromage**

French word for cheese

Voiture

French word for car

Nested List

List can be nested that means one list can be placed inside another. In the nested list, one or more items can contain sub-items.

E.g.

<HTML>

<HEAD>

<TITLE>

Nested List

</TITLE>

</HEAD>

<BODY>

 Fruits

<OL type="1">

 Mango

 Apple

 Vegetables

<OL type="1">

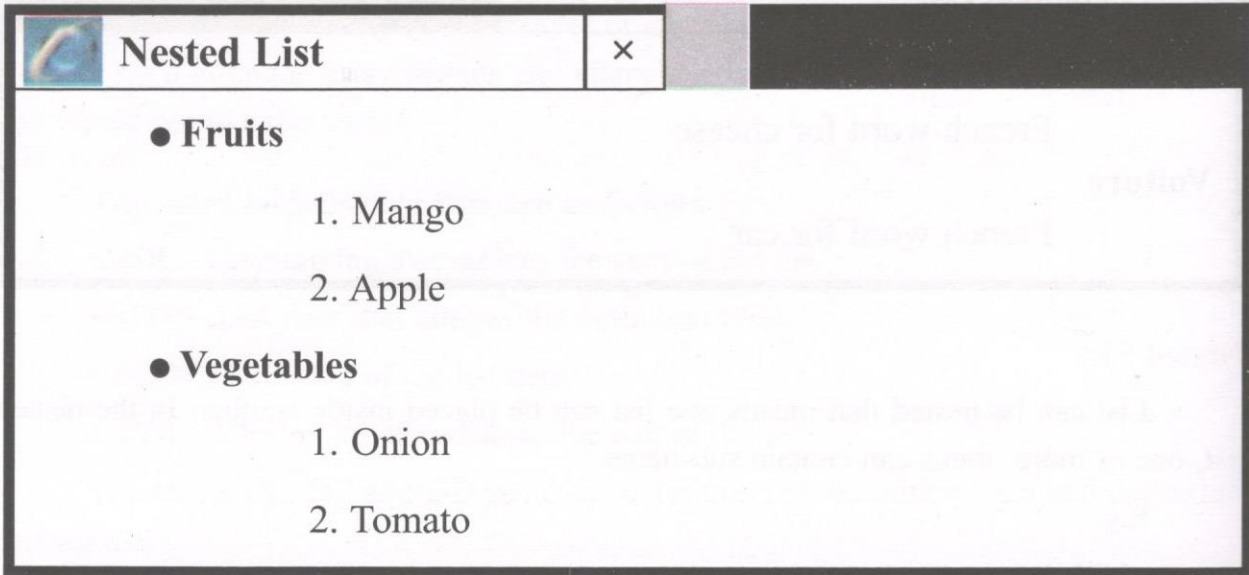
 Onion

 Tomato

</BODY>

</HTML>

Output :



INSERTING AN IMAGE IN A WEB PAGE

HTML can be used to insert images in the following formats :

- (i) GIF (Graphics Interchange Format)
- (ii) XBM (X Bitmap)
- (iii) JPG or JPEG (Join Photographic Experts Group)
- (iv) PNG (Portable Network Graphics)

The **** tag is used to insert an image in a Web page. It is very important to know that images are not technical part of the Web page file, they are separate files which are Inserted into the Web page, when it is viewed by a browser.

So, a simple Web Page with one image is actually two files. When an HTML file is displayed in a browser, it requests the image file and places it on the page where the tag appears.

Syntax :

“image_url”

Here, src attribute is used because it provides the information about the path of an image file to the Web browser.

Attributes of Tag

An attribute is an extra piece of information associated with a tag that provides further details about the tag.

Following are the various attributes of tag:

The src Attribute

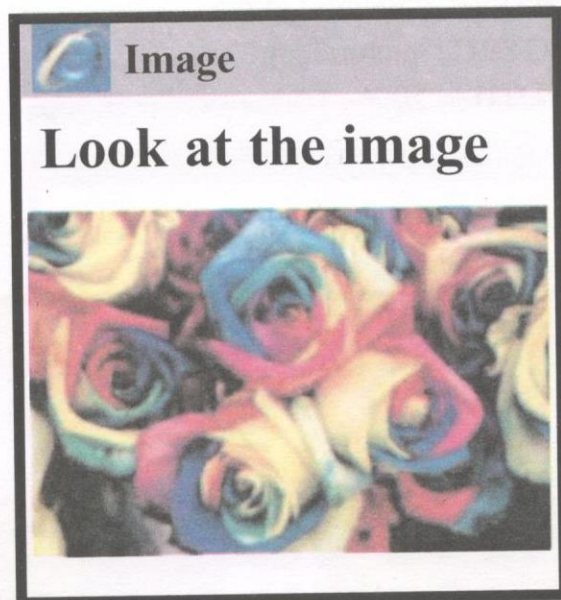
The src (source) attribute takes URL (Universal Resource Locator) of an image file as value, which points to the direct location of an image to be displayed.

The image that you specify in your tag should be in your computer otherwise the image will not be displayed and in place of image a cross mark in a box will appear.

Example . To display an image.

```
<HTML>
<HEAD> <TITLE> Image </TITLE></HEAD>
<BODY>
<H1> Look at the image </H1><BR>
<IMG SRC = "D:\image.jpg">
</BODY>
</HTML>
```

Output :



The width and height Attributes

When an image is added to a Web page, it is not mandatory to specify width and height of the image.

At the time of loading an image, a box will appear on the place where the image will be loaded. This box may be of any size and often of the wrong size. Then, when the image finally begins to load, it is suddenly found to be too big for the given space.

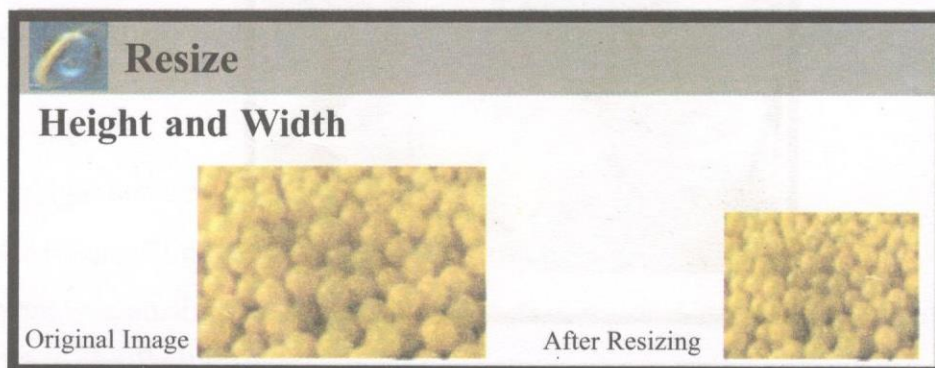
So, everything shifts around to make place for the image and this cause obstruction. To prevent this situation, height and width attributes are used. The width and height attributes tell the dimension of an image to the browser.

If height and width are set, the space required for image is reserved before loading the page. Both (height and width) attributes require integer values (dimension of image in terms of either pixels or percentage of its actual size). It is also noticeable that the order in which these attributes appear, is not important.

Example. To Illustrate the use of width and height attributes attribute.

```
<HTML>
<HEAD>
<TITLE> Resize </TITLE>
<HEAD>
<BODY>
<H1> Height and Width </H1>
Original Image <IMG SRC="picture1.jpg">
After Resizing <IMG SRC="picture1.jpg"
HEIGHT="50" WIDTH="50">
</BODY>
</HTML>
```

Output :



The alt Attribute

This attribute of tag is used to provide alternate text when an image on a Web page cannot be displayed.

The alternative text is the text associated with an image that serves the same purpose and conveys the same essential message. As per HTML standard, alt attribute is optional but is highly recommended.

Sometimes, the Web browser you are using does not display an image that is inserted in the Web page because of slow connection, error in src attribute or if the user uses a screen reader. In such cases, this attribute is specified to provide alternative information for an image.

Generally, it is a short description of an image. The value for alt attribute is a text string of up to 1024 characters including spaces and punctuation. The string must be enclosed in quotation marks.

Example. To display an image with some alternate text.

```
<HTML>
<HEAD> <TITLE> Image </TITLE> </HEAD>
<BODY>
<H1> Look at the image </H1><BR>
<IMG SRC = "D:\image.jpg" alt = "It is a beautiful flower">
</BODY>
</HTML>
```

Output :



When mouse pointer is moved on the image, the text specified in alt attribute displayed as a tooltip in Internet Explorer only. If you want to provide a tooltip for other browsers such as Mozilla Firefox, Google Chrome etc., use title attribute in place of alt attribute, since it is supported in most of the browsers.

The align Attribute

This attribute is used to set the position of an image in a Web page according to the user's requirements. In HTML images appear in line with a single line of the text. But, HTML standard does not define a default alignment for the images with respect to other text and images in the same line. Hence, the absolute output regarding the placement of image cannot be predicted in advance. So, to control the image alignment, align attribute is used. The alignment of the image depends upon the Web browser that you are using to view the Web page. This implies that the Web page can be different according to the Web browser such as Internet Explorer and Mozilla Firefox. There are some values of image alignment attribute as follows.

1. **Top Alignment :** This alignment aligns the top of an image with the top edge of the tallest item in the text line. If there are no other images in the current line, then the image is aligned to top of the text. Both Internet Explorer and Mozilla Firefox treat this alignment in same manner.

Example. To show top alignment of an image.

```
<HTML>
```

```
<HEAD> <TITLE> Alignment </TITLE> </HEAD>
```

```
<BODY>
```

```
<H1> Top Alignment </H1>
```

```
<IMG SRC="flower2.jpg" ALIGN="TOP">
```

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

```
</BODY>
```

```
</HTML>
```



Alignment

Top Alignment



A flower, sometimes known as a bloom or blossom.

is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

2. **Middle Alignment** : This alignment is different in both Internet Explorer and Mozilla Firefox. In Internet Explorer, this alignment aligns the image to the middle of the tallest item in the current line. While in Mozilla Firefox, this alignment aligns the image to the baseline of the current line in which it is placed.

Example. To show middle alignment of an image.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Alignment </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<H1> Middle Alignment </H1>
```

```
<IMG SRC="flower2.jpg" ALIGN="MIDDLE">
```

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

```
</BODY>
```

```
</HTML>
```



Alignment

Middle Alignment



A flower, sometimes known as a bloom or blossom.

is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

Alignment

This alignment aligns the bottom edge of the image, to the same horizontal plane as the baseline of the text. Both Internet Explorer and Mozilla Firefox treat this alignment in the same manner.

Example. To show bottom alignment of an image.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Alignment </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<H1> Bottom Alignment </H1>
```

```
<IMG SRC="flower2.jpg" ALIGN="BOTTOM">
```

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

```
</BODY>
```

```
</HTML>
```

Alignment

Bottom Alignment



A flower, sometimes known as a bloom or blossom.

is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

4. **Left Alignment :** This alignment aligns the image to the left on the Web page respectively of the browser window.

Example. To show left alignment of an image.

```
<HTML>
```

```
<HEAD> <TITLE> Alignment </TITLE> </HEAD>
```

```
<BODY>
```

```
<H1> LeftAlignment </H1>
```

```
<IMG SRC="flower2.jpg" ALIGN="LEFT">
```

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

```
</BODY>
```

```
</HTML>
```



Alignment

Left Alignment



A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

5. **Right Alignment :** This alignment aligns the image to the right on the Web page respectively of the browser window.

Example. To show right alignment of an image.

```
<HTML>
```

```
<HEAD> <TITLE> Alignment </TITLE> </HEAD> <BODY>
```

```
<H1> Right Alignment </H1>
```

```
<IMG SRC="flower2.jpg" ALIGN="RIGHT">
```

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.

```
</BODY>
```

```
</HTML>
```

Output :



Alignment

Right Alignment

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants. The biological function of a flower is to effect reproduction, usually by providing a mechanism for the union of sperm with eggs.



The border Attribute

You can set the border of an image that you want to use in your Web page. The border attribute of the tag specifies the width of the border around an image. By default, an image has no border in HTML.

Example, To set border around an image using border attribute.

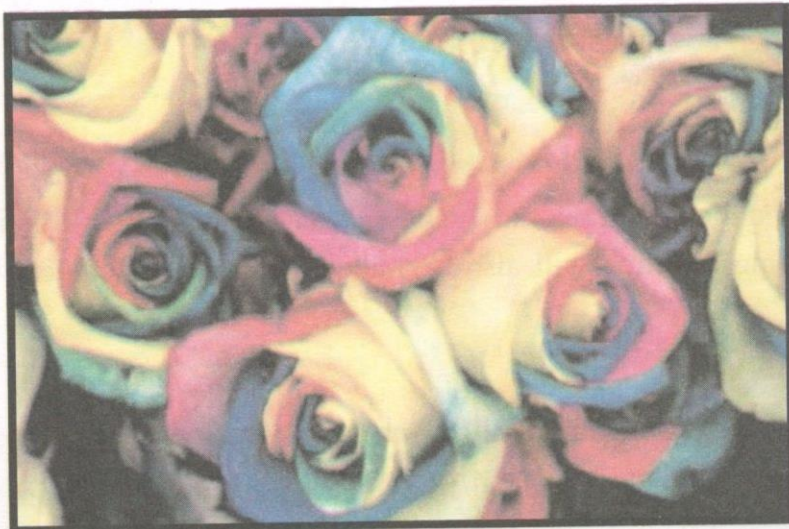
```
<HTML>
<HEAD> <TITLE> Setting Image Border </TITLE> </HEAD>
<BODY>
<H1> Setting Image Border </H1>
<CENTER>
<IMG SRC="flower1.jpg" HEIGHT="120" WIDTH="200" BORDER="5">
</CENTER>
</BODY>
</HTML>
```

Output :



Setting Image Border

Setting Image Border



LINKING

A key feature of the HTML is its ability to link text and/or an image to another document or within a document. If you are on a Web page and see the colored and/or an underlined text, it is a hyperlink. It is also known as hypertext link or just link. The main objectives of linking are as follows:

- To add more pages to the Website and link them together.
- Using internal links (anchors) to save scrolling for visitors.
- To direct the user to Web page of different Website.

In other words, hyperlinks are the links that carry user from one Web page to another Web page (within or on another Website).

It is activated by clicking on an underlined text or image. And, when the mouse pointer is brought over a hyperlink, the pointer changes to a hand.

In HTML links can be created by using `<a>` anchor tag. `<a>` tag is a container tag that means it requires a starting as well as ending tags.

To Include an anchor in your document, you should do the following :

- Start the anchor tag with `<a>`
- Specify the document you are linking to, by entering the parameter href "file name"
- Place closing right angle bracket (`>`).
- Enter the text that will serve as the hypertext link after the opening `<a>` tag.
- Enter the closing anchor tag `</a>`.

More precisely, it can be seen as :

`<a href="mypage.html">` My another page `</a>`.

Here, it is noticeable that the final `</a>` tag is required. If it is not included, everything following that link will also be linked to another document, until the tag is closed.

Types of Linking

There are two types of linking in a Web page, which are as follows:

1. **External Linking :** This leads to a link that go to another Website. In other words, it refers to a different page on a different Website. When a user clicks on a

hyperlink on a Web page, user is directed on the location, which is specified in that hyperlink. To create an external link with `<a>` tag and Its “href” attribute (to define URL of target document), a title attribute also needed.

The href Attribute

The href stands for Hypertext Reference. The href attribute is used to specify the URL of the target document. It is used to specify the destination of Web page, which is linked. Notice, the pages on Internet should give a complete — URL i.e along with `http://`.

Example . To show External Linking.

```
<HTML>
```

```
<HEAD> <TITLE> Creating a Hyperlink </TITLE> </HEAD>
```

```
<BODY>
```

```
<H1> Look at the image </H1>
```

```
<BR> <IMG SRC=“D:\images.jpg”
```

```
ALT=“It is a beautiful picture”)
```

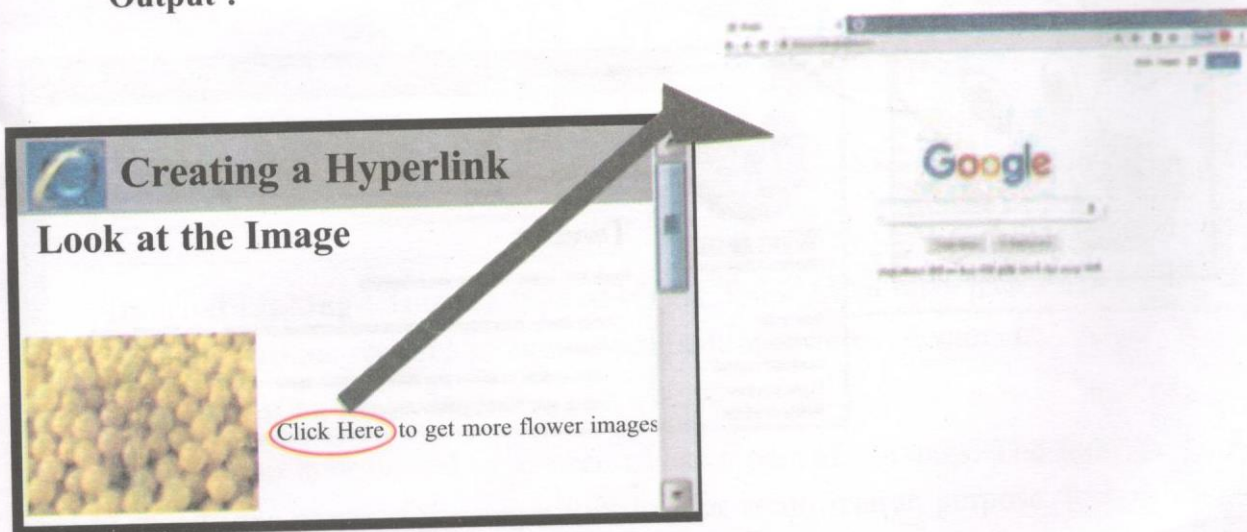
```
<A HREF=“http://www.google.com”>
```

```
Click Here </A> to get more flower images.
```

```
</BODY>
```

```
</HTML>
```

Output :



Images as Links

Images can also be used as hyperlinks. To create image as a link, Following syntax is used.

```
<a href= "URL"><img src ="image1.jpg"></a>
```

“

Example. To show image as link.

```
<HTML>
```

```
<HEAD>
```

```
<TITLE> Image as Link </TITLE>
```

```
</HEAD>
```

```
<BODY>
```

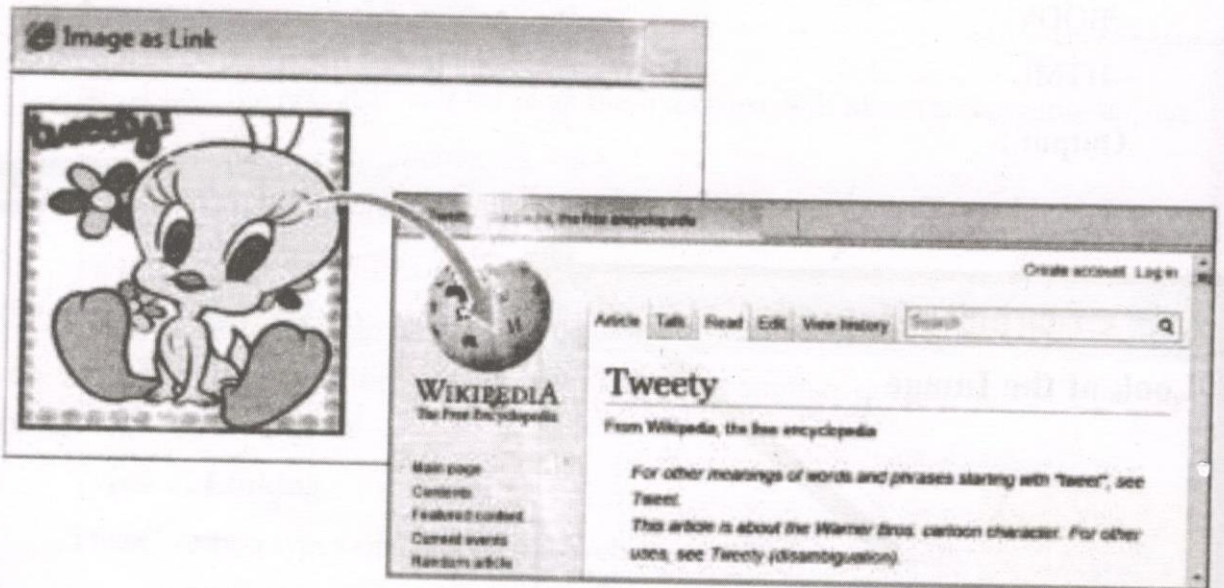
```
<AHREF= "Lp://en.wikipedia.org/wiki/Tweety">
```

```
<IMG SRC="D:\Class11\Computer\tweety1.jpg"></A>
```

```
</BODY>
```

```
</HTML>
```

Output :



The title Attribute

The title attribute of anchor tag is used to specify the title of the document to which, we are linking. The value of the title attribute can be any string enclosed within double (or single) quotes.

It is used for referencing an unlabeled resource (like an image or a non-HTML document). The value specified for this attribute appears as a tooltip when the mouse pointer is placed over the hyperlink.

The title attribute can also be used by the browser, when adding the link to the user's hotlist_

Example. To illustrate the use of title attribute.

```
<HTML>
```

```
<HEAD> <TITLE> Creating Hyperlink </TITLE></HEAD>
```

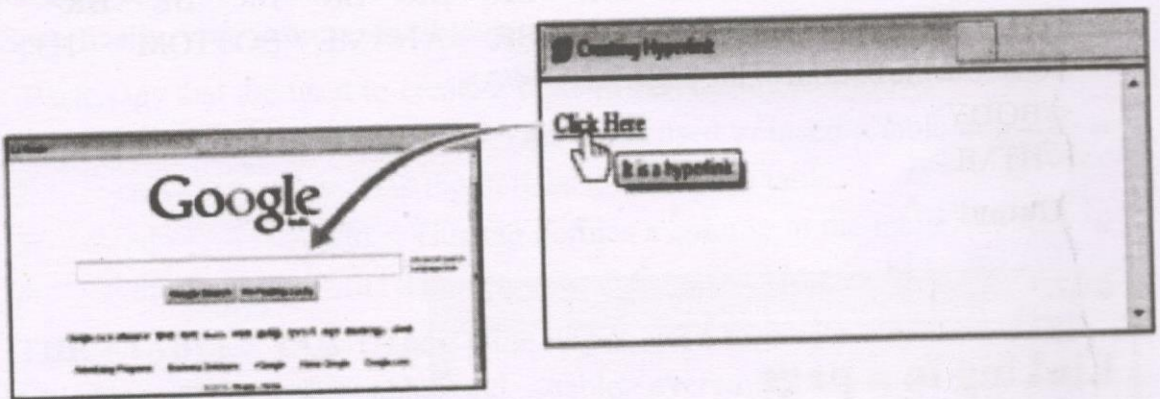
```
<BODY>
```

```
<A HREF = "http://www.google.com" TITLE = "It is a hyperlink"> ClickHere </A>
```

```
</BODY>
```

```
</HTML>
```

Output :



2. **Internal Linking :** This is a type of HTML linking that links pages within a single Website, various sections of same document or different document.

Linking on the Same Web Page :

To create an internal link, you need to use a pair of `<a>` tags. The first `<a>` tag is used to specify the name of the target location for identification purpose. It is known as

target fragment. You can use the <a>tag with its name or id attribute to identify a fragment. This type of anchor is commonly called as named anchor.

The first step is to make the target fragment. The simple syntax to do so is written below:

```
<A NAME ="aa"> Part A </A>
```

Where, "aa" is the name of fragment/segment you want to refer (like top, bottom etc.)

The second <a>tag is used to create a link to the target fragment. The simple syntax to link to the target segment is written below :

```
<a href = " #aa"> Click Here </a>
```

In the second <a> tag, value of href attribute with # symbol is to be specified.

Example. To show the internal linking in HTML document.

```
<HTML>
```

```
<HEAD> <TITLE> Internal Linking </TITLE></HEAD>
```

```
<BODY>
```

```
<H1>Linking in a page </H1>
```

```
<H3>Click here to go to the
```

```
<A HREF="bottom">bottom</A> of the page.</H3>
```

```
<BR><BR><BR><BR><BR><BR><BR><BR><BR><BR><BR>
```

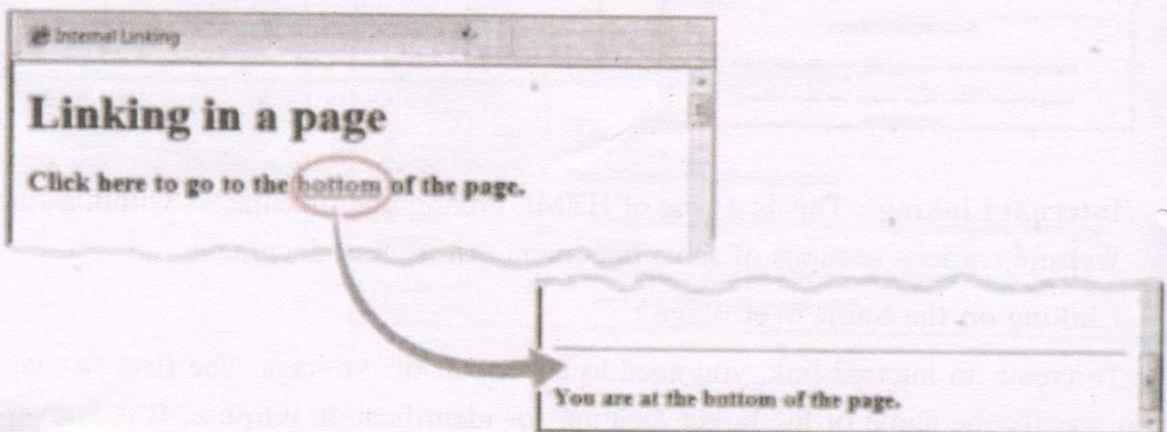
```
<BR><BR><BR><BR><BR><BR><BR><BR><BR><BR><A NAME="BOTTOM"><H3>
```

```
You are at the bottom of the page.</H3></A>
```

```
</BODY>
```

```
</HTML>
```

Output :



Significance of Linking

Links on a Web page allow user to jump to another document. It is a very useful feature of HTML as when you click on a hypertext, it carries you to other document.

It enables the Web page writer to refer to other documents and thus prevent the need of creating large document.

e.g. if you are reading an E-Book, where many chapters are explained. Now, if you want to read the last chapter of the book, then by using hyperlink, you can go to that chapter directly without scrolling down to whole book.

Inserting Table in HTML

In HTML, tables are created by `<table>` tag. Data of tables can be in form of text or graphics. These tables are made up of rows and columns. An intersection of a row and a column is known as cell. The data in tables is contained in cells.

Tables consist of the `<table>` element as well as other table-related elements. These other elements are nested inside the `<table>` tags to determine how the table is constructed.

The `<table>` tag is written as `<table></table>` with the various table elements nested between the start and end tags. Each `<tr>` element represents a row in the table. A row can have one or more `<td>` or `<th>` elements, which determine the columns in the table. Specifically, `<td>` represents table data and `<th>` represents a table header.

Basic tags that are used to create a table in HTML are as follows

1. `<table>` — `</table>` - This tag is used to insert a table in a Web page.
2. `<tr>` — `</tr>` This tag defines a row in the table.
3. `<td>` — `</td>` This tag defines a column in the table.
4. `<th>` — `</th>` This tag is used for specifying a table's header.

1. **THE `<TABLE>` TAG :** The `<table>` tag is used to create tables in HTML. The table tags in HTML are `<table>` and `</table>` everything to be put in a table, should be enclosed between these two tags. Since, `<table>` is a container tag thus both the tags are required.

Syntax :

```
<table>
</table>
```

2. **THE <TD>TAG :** The <td> tag is used to specify a cell or table data within a table. It denotes Table Data. It is a container tag and that is why it must contain matching closing </td> tag.
3. **THE <TR>AND <TH>TAGS :** The <tr> tag stands for Table Row. This tag is used to create a new row of data in a table..

The <th> tag stands for table Header. This tag is used for specifying a table's header. It displays the content of a table in heading style and this content appears in bold. This is the only difference between <th> and <td> tags.

Example .HTML code for creating table.

```
<HTML>
<HEAD>
<TITLE> inserting table </TABLE>
</HEAD>
<BODY>
<TABLE>
<TR>
<TH>Table Header 1</TH>
<TH>Table Header 2</TH>
</TR>
<TR>
<TD>Cell 1</TD>
<TD>Cell 2</TD>
</TR>
<TR>
<TD>Cell 3</TD>
<TD>Cell 4</TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

Table Header 1	Table Header 2
Cell 1	Cell 2
Cell 3	Cell 4

In the above code, we used a tag which specifies a table that is to be Inserted. After `<table>` tag, is used which specifies a new table row There should be `</tr>` tag in the end of each row.

Here, `<tr>` tag is mentioned three times. This means that three rows are added. The next tag is `<th>` tag to define table header.

Next is `<td>`, which denotes the data cells. It has been put in front of every piece of information that you want to add in a cell. At the end, the `</table>` tag closes a table.

SUMMARY

- **HTML** Stands for Hyper Text Markup Language used for creating web pages.
- HTML document is made up of elements called **Tags** and **Attributes**.
- All HTML tags are contained with angle brackets (`<>`).
- Values in HTML are provided within Quotation marks.
- A **tag** is coded HTML command that indicates how parts of web pages should be displayed.
- An **attribute** is special word used inside tag to specify additional information to tag such as color. size. alignment etc.
- `<HTML>` and `</ HTML>` tags are used to mark the beginning and end of HTML document.
- The `< HEAD>` tag is used to define document header.
- `<TITLE >` tag contains title of the document.

- The **<BODY>** tag defines the document's body. It contains all the contents of an HTML document, such as text, images, lists, table, etc.
- **** tag specifies the font face, font size and font color of the text.
- **<BASEFONT>** tag specifies default font color, font size or font family for all the text in document that follows it.
- **<CENTER>** tag is used to centralize a segment of text to be displayed on browser's window.
- **
** tag is used to insert a line break which means the text/image following the tag will be moved to the next line.
- **<HR>** tag draws lines and horizontal rules.
- Comments are inserted by using **<!-------and----->** tags.
- Comments are not displayed in the browser's window.
- **Heading Tags** are used to display the text as a heading. There are six levels of headings, ranging from **<H1>.....</H1>** to **<H6>....</H6>** in HTML.
- **<P> Paragraph** tag is used to mark a block of text as a paragraph.
- Bold **** tag specifies the text into bold text.
- Italic **<I>** tag is used to make the text in italic form.
- Underline **<U>** tag is used to underline the text.
- Lists are used to group together related pieces of information so they are clearly associated with each other and easy to read.
- In HTML lists are of three types : Unordered list , Ordered list, Definition List.
- **Unordered List** list (also known as* unnumbered list) is an indented list with a bullet symbol in front of each list Item.
- **Type** attribute in Unordered list specifies the type of bullet.
- **Ordered List ** list starts with the **** tag. Each list Item starts with the **** tag. The list items are marked with numbers.
- The numbering of an HTML ordered list can be changed to letters or roman numerals by the type attribute.
- Start attribute is used to change the beginning value of an ordered list. Normally, the ordered list begins with 1.

- **Definition List** is a list of Items, with a description of each item.
- Definition list starts with `<DL>` and ends with `</DL>`
- HTML definition lists `<DL>` are indented list without any bullet symbol or any number in front of each item.
- The `<IMG>` tag is used to insert an image in a Web page.
- **Hyperlinks** are the links that carry user from one Web page to another Web page (within or on another Website).
- In HTML links can be created by using `<A>_____</A>` anchor tag. Anything written between the `<A>_____</A>` tags becomes a hyperlink.
- There are two types of linking in a Web page: **External linking and Internal Linking.**
- Table Tag `<TABLE>_____</TABLE>`. It is used to insert a table in a Web page.
- The `<TR>` tag defines a row in the table.
- The `<TD>` tag defines a column in the table
- The `<TH>` tag is used to define heading of the table.

TRUE / FALSE

1. HTML is language of internet.
2. `<Br>` tag has no companion tag.
3. Tags used in HTML are case sensitive.
4. You can make a text bold by using `<B>` tag.
5. HTML provides six Types of headings.
6. `<H6>` defines the largest heading.
7. `<P>` tag is container Tag.
8. `Scr` is an attribute of `<IMG>` tag.
9. Values in HTML are provided within Quotation marks.
10. In HTML links can be created by using `<a>` tag.

Sol. 1. True 2. True 3. False 4. True. 5. True 6. False
7. True 8. True 9. True 10. True.

EXERCISE

1. Define HTML.
2. What do you mean by Tag ? Explain container and empty tags ?
3. Explain the structure of HTML document.
4. How can you insert an image in webpage ?
5. How would you insert background picture in web page ?
6. What is the purpose of <P>tag.
7. What are attributes of tag ?
8. How can you insert paragraph breaks ?
9. What is the purpose of <BASEFONT> tag ?
10. How can you add comments to HTML Document ?
11. What is the purpose of <HR> tag in HTML? Explain
12. Show the use of Heading tags in HTML with Example.
13. What are different style tags in HTML ?
14. What do you mean by list? What are various type of list in HTML ?
15. What is hyperlink? What are various links in HTML ? Explain
16. How can you create hyperlinks in a web page ?
17. How can you create table in HTML ?
18. What is the difference between <TD> and <TH>tags ?

—End—