4

Introduction to HTML

4.1 INTRODUCTION

HTML (Hypertext Markup Language) is used to create document on the World Wide Web. It is simply a collection of certain key words called 'Tags' that are helpful in writing the document to be displayed using a browser on Internet.

It is a platform independent language that can be used on any platform such as Windows, Linux, Macintosh, and so on. To display a document in web it is essential to mark-up the different elements (headings, paragraphs, tables, and so on) of the document with the HTML tags. To view a mark-up document, user has to open the document in a browser. A browser understands and interpret the HTML tags, identifies the structure of the document (which part are which) and makes decision about presentation (how the parts look) of the document.

HTML also provides tags to make the document look attractive using graphics, font size and colors. User can make a link to the other document or the different section of the same document by creating Hypertext Links also known as Hyperlinks.

4.2 OBJECTIVES

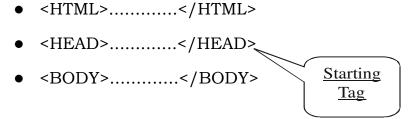
After going through this lesson, you would be able to:

- create, save and view a HTML document
- format a web page using section heading tags
- describe Ordered and Unordered lists
- explain graphics in HTML document
- describe hypertext links and making text/image links

4.3 CREATING, SAVING AND VIEWING A HTML DOCUMENT

4.3.1 Creating a HTML document

The essential tags that are required to create a HTML document are:



HTML Tag <HTML>

The <HTML> tag encloses all other HTML tags and associated text within your document. It is an optional tag. You can create an HTML document that omits these tags, and your browser can still read it and display it. But it is always a good form to include the start and stop tags.

The format is:

<HTML>

Your Title and Document (contains text with HTML tags) goes here

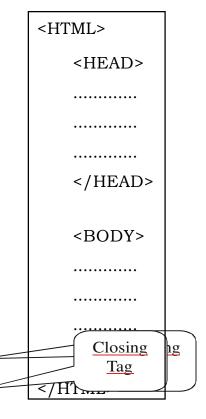
</HTML>

Most HTML tags have two parts, an opening tag and closing tag. The closing tag is the same as the opening tag, except for the slash

mark e.g </HTML>. The slash mark is always used in closing tags.

An HTML document has two distinct parts **HEAD** and **BODY**.

The Format is:



• HEAD Tag <HEAD>

HEAD tag comes after the HTML start tag. It contains TITLE tag to give the document a title that displays on the browsers title bar at the top.

The Format is:

```
<HEAD>

<TITLE>

Your title goes here

</TITLE>
</HEAD>
```

BODY Tag <BODY>

The BODY tag contains all the text and graphics of the document with all the HTML tags that are used for control and formatting of the page.

The Format is:

<BODY>

Your Document goes here

</BODY>

An HTML document, web page can be created using a text editor, Notepad or WordPad. All the HTML documents should have the extension .htm or .html. It require a web browser like Internet Explorer or Netscape Navigator/Communicator to view the document.

Example: It is my first web page

Follow the steps to **create and view** in browser:

```
Step-1: Open text editor Notepad (click on Start→ All Programs→ Accessories→Notepad)

Step-2: Enter the following lines of code:

<HTML>

<HEAD>

<TITLE>

My first Page

</TITLE>

</HEAD>

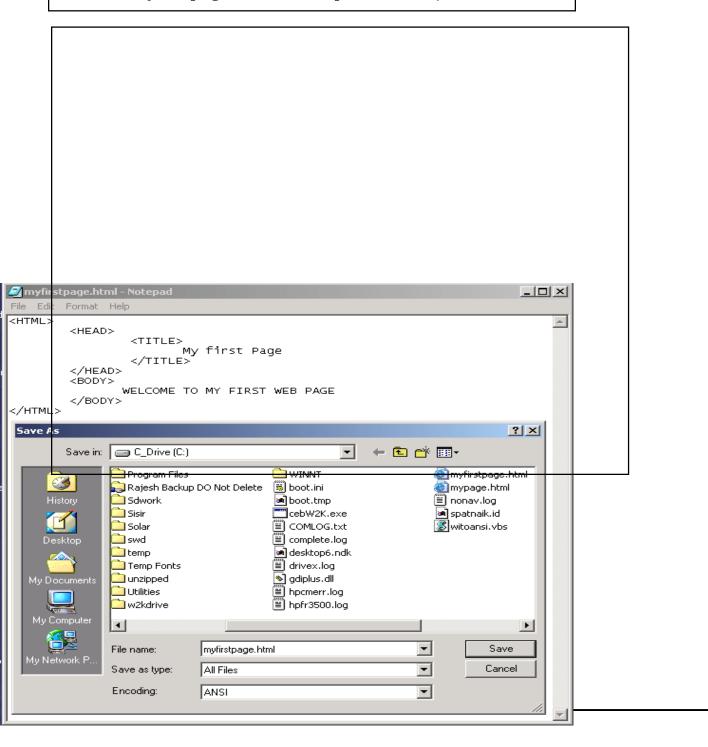
<BODY>

WELCOME TO MY FIRST WEB PAGE

</BODY>

</HTML>
```

- **Step-3**: Save the file as **myfirstpage.html** (go to File-Save Asgive File name: myfirstpage.html-choose save as type: All Files-click save)
- **Step-4**: Viewing document in web browser (open Internet Explorer-click on File-Open-Browse-select the file myfirstpage.html-click open-click ok)



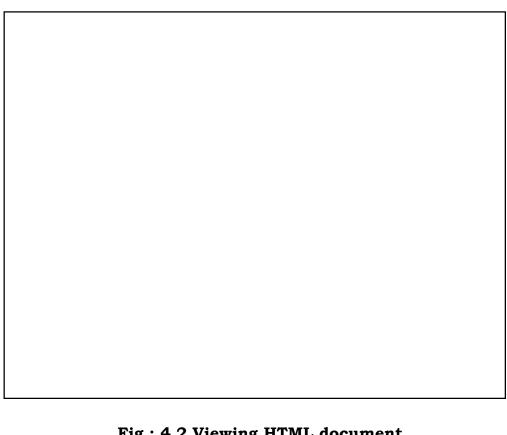


Fig: 4.2 Viewing HTML document myfirstpage.html in browser

Attributes used with <BODY>

> **BGCOLOR**: used to set the background color for the document

Example:

<BODY BGCOLOR="yellow">

Your document text goes here.

</BODY>

TEXT: used to set the color of the text of the document

Example:

<BODY TEXT="red">

Document text changed to red color

```
</BODY>
```

- ➤ MARGINS: set the left hand/right hand margin of the document
- > LEFTMARGIN: set the left hand margin of the document

Example:

```
<BODY LEFTMARGIN="60">
```

This document is indented 60 pixels from the left hand side of the page.

```
</BODY>
```

> **TOPMARGIN**: set the left hand margin of the document

Example:

```
<BODY TOPMARGIN="60">
```

This document is indented 60 pixels from the top of the page.

```
</BODY>
```

➤ **BACKGROUND**: It is used to point to an image file (the files with an extension .gif, .jpeg) that will be used as the background of the document. The image file will be tiled across the document.

Example:

```
<BODY BACKGROUND="filename.gif">
Your document text goes here
</BODY>
```

Example: An HTML document attribute.html that shows the use of attributes with the <BODY> tag

```
<HTML>
   <HEAD>
         <TITLE>
              Use of Attributes with the Body Tag
         </TITLE>
   </HEAD>
   <BODYBACKGROUND="computer.gif" text="blue"
   TOPMARGIN ="75"
   LEFTMARGIN="75">
      Your document text will be indented 75 pixels from the
      left hand and 75 pixels from the top of the page. The
      background image computer.gif will be tiled across the
      document. Your image and HMTL document should
      present at the same place.
   </BODY>
</HTML>
```

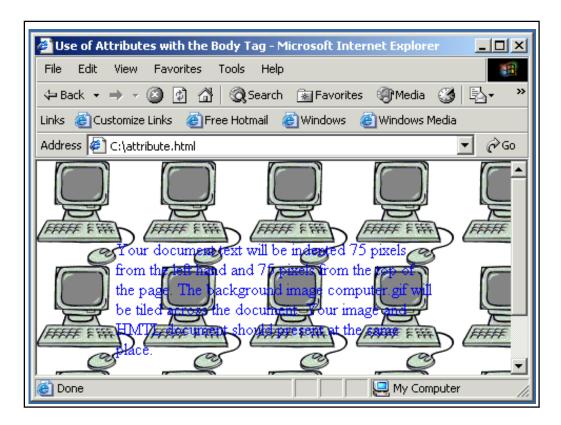


Fig. 4.3: Viewing HTML document attribute.html in browser

Container and Empty Tags

All HTML tags are enclosed in angle brackets '<' and '>' i.e. Opening Tag: <HTML> and closing tag: </HTML> same as opening tag except a / (slash) mark. Tags are not case-sensitive i.e. there is no difference in small and capital letters in tags.

There are two types of tags:

1. **Container Tags**: Tags which have both the opening and closing i.e. <TAG> and </TAG> are called container tags. They hold the text and other HTML tags in between the tags. The <HTML>, <HEAD>, <TITLE> and <BODY> tags are all container tags.

Example:

<TAG> this is a container tag. It holds both the text and HTML tag </TAG>

2. Empty Tags: Tags, which have only opening and no ending, are called empty tags. The <HR>, which is used to draw Horizontal, rule across the width of the document, and line break
 tags are empty tags.

INTEXT QUESTION

- 1. Write True or False for the following:
 - (a) The HTML language is used to create document on the World Wide Web.
 - (b) Head part of a web page should the <TITLE> tag.
 - (c) HTML is a platform dependent language.
 - (d) HEAD is a container tag.

4.4 FORMATTING WEB PAGE

HTML tags used for formatting a web page are:

SECTION HEADING: <H1>.....<H6>

HTML has six header tags <H1>, <H2>......<H6> used to specify section headings. Text with header tags is displayed in larger and bolder fonts than the normal body text by a web browser. Every header leaves a blank line above and below it when displayed in browser.

Example: An HTML document, headings.html shows the different section headings

```
<HTML>
<HEAD>
Section Heading
</TITLE>
</HEAD>
</HEAD>
<BODY>
<H1> This is Section Heading 1 </H1>
<H2> This is Section Heading 2 </H2>
<H3> This is Section Heading 3 </H3>
<H4> This is Section Heading 4 </H4>
<H5> This is Section Heading 5 </H5>
<H6> This is Section Heading 6 </H6>
</BODY>
</HTML>
```

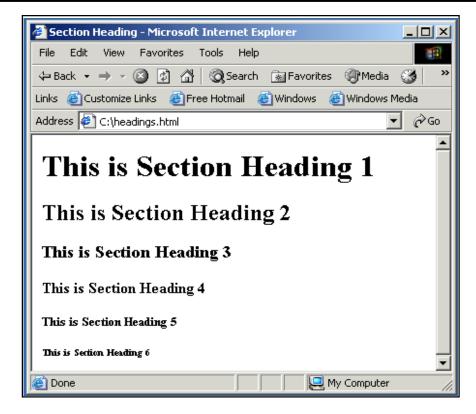


Fig. 4.4: Viewing HTML document headings.html in browser

Some peculiarities about the web browser on viewing HTML document text:-

> Browsers ignore extra space within HTML document

Browsers ignore any additional space you type, and compress the text as if the space did not exist. For Example: You can have text "My First Page" in HTML document but in browser it display, "My First Page".

> Browsers ignore your extra line and paragraph breaks

Generally you press enter when you want to create line and paragraph breaks, but they won't show up when you view the document in browser.

In order to control your paragraph and line breaks, <P> and
 tags are used.

Using paragraph tag: <P>

This tag <P> indicates a paragraph, used to separate two paragraphs with a blank line.

Example:

<P> Welcome to the world of HTML </P>

<P> First paragraph.

Text of First paragraph goes here </P>

Output:

Welcome to the world of HTML

First paragraph. Text of First paragraph goes here

Here, two paragraphs are separated with a line. But web browser ignores the line breaks in the second paragraph that can be controlled by putting
 tag.

Using Line Break Tag:

The **empty tag**
 is used, where the text needs to start from a new line and not continue on the same line. To get every sentence on a new line, it is necessary to use a line break.

Example:

<BODY>

National Institute of Open Schooling

B-31B, Kailash Colony

New Delhi-110048

</BODY>

Output:

National Institute of Open Schooling B-31B, Kailash Colony New Delhi-110048

Using Preformatted Text Tag: <PRE>

<PRE> tag can be used, where it requires total control over spacing and line breaks such as typing a poem. Browser preserves your space and line break in the text written inside the tag.

Example:

```
<PRE>
National Institute of Open Schooling
B-31B, Kailash Colony
New Delhi-110048
</PRE>
```

Output:

```
National Institute of Open Schooling
B-31B, Kailash Colony
New Delhi-110048
```

Example: An HTML document control.html shows the use of <P>,
 and <PRE>

```
HTML stands for Hypertext Markup Language.<BR>
It is used for creating web page. It is very simple<BR>
and easy to learn.<BR>
</P>
<PRE>
HTML stands for Hypertext Markup Language
It is used for creating web page. It is very simple
and easy to learn.
</PRE>
</BODY>
</HTML>
```

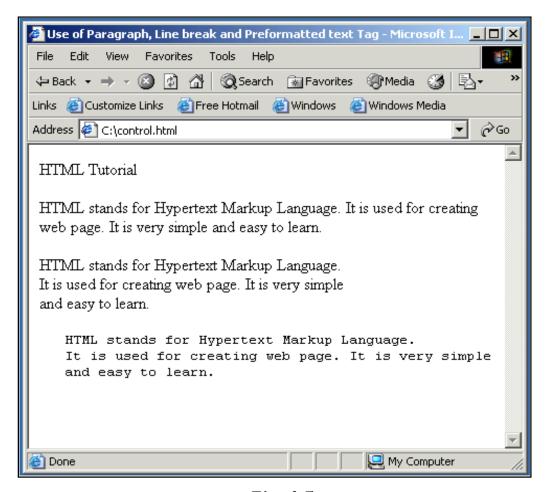


Fig. 4.5

Using Horizontal Rule Tag: <HR>

An empty tag <HR> basically used to draw lines and horizontal rules. It can be used to separate two sections of text.

Example:

<BODY>

Your horizontal rule goes here. <HR>

The rest of the text goes here.

</BODY>

Output:

Your horizontal rule goes here.

The rest of the text goes here.

<HR> accepts following attributes:

> **SIZE**: Determines the thickness of the horizontal rule. The value is given as a pixel value.

Example: <HR SIZE="3">

➤ **WIDTH**: Specifies an exact width of HR in pixels, or a relative width as percentage of the document width.

Example: <HR WIDTH="50%">, horizontal rule a width a 50 percent of the page width.

- ➤ **ALIGN**: Set the alignment of the rule to LEFT, RIGHT and CENTER. It is applicable if it is not equal to width of the page.
- ➤ **NOSHADE**: If a solid bar is required, this attribute is used; it specifies that the horizontal rule should not be shaded at all.
- **COLOR**: Set the color of the Horizontal rule.

Example: <HR COLOR="BLUE">

Example of <HR> with its attribute:

<HR ALIGN="CENTER" WIDTH="50%" SIZE="3" NOSHADE
COLOR="BLUE">

Character Formatting Tags

The character formatting tags are used to specify how a particular text should be displayed on the screen to distinguish certain characters within the document.

The most common character formatting tags are:

- Boldface : displays text in BOLD
 - Example: Welcome to the Internet World
 - Output: Welcome to the **Internet World**
- Italics <I>: displays text in Italic
 - Example: Welcome to the <I> Internet World </I>
 - Output: Welcome to the Internet World
- Subscript <SUB>: displays text in _{Subscript}
- Superscript <SUP>: displays text in Superscript
- Small <SMALL>: displays text in smaller font as compared to normal font
- Big <BIG>: displays text in larger font as compared to normal font
- Font Colors and Size:

By using Tag one can specify the colors, size of the text.

Example: Your text goes here

Attributes of are:

➤ COLOR: Sets the color of the text that will appear on the screen. It can be set by giving the value as #rr0000 for red

(in RGB hexadecimal format), or by name.

Example: Your text goes here

➤ SIZE: Sets the size of the text, takes value between 1 and 7, default is 3. Size can also be set relative to default size for example; SIZE=+X, where X is any integer value and it will add with the default size.

Example: Font Size changes to 5 Font Size changes to 5 i.e. default size (3) ±2

> FACE: Sets the normal font type, provided it is installed on the user's machine.

Example: the text will be displayed in Arial

Example: An HTML document formatText.html shows the use of Character Formatting Tags.

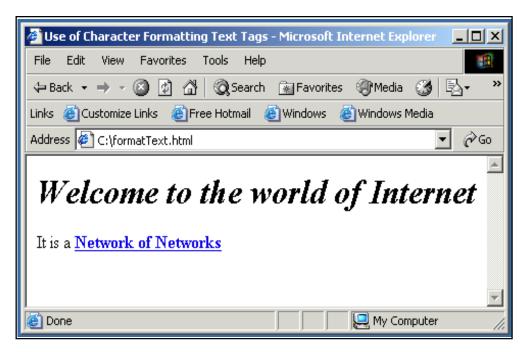


Fig. 4.6: Viewing HTML document formatText.html in browser

Using Some Special Characters

There are certain special characters that can be used while creating document.

Following are some special character:

Symbols	Entity
C, ®	©, ®
1/4, 1/2, 3/4	¼, ½, ¾
÷, <, >, ≤,≥	÷, <, >, ≤, ≥
&	&
* * *	♠, ♣, ♥

All these special character must be ended with a semicolon;

Example: <PRE>

The copyright symbol is: © The registered rank is: ®

</PRE>

Output: The copyright symbol is:©

The registered rank is:®

4.5 USING LIST IN WEB PAGE

HTML Supports several ways of arranging items in lists. The most commonly used are:

- Ordered List (Numbered List)
- Unordered List (Bulleted List)

Ordered List

Ordered list also called as Numbered list, is used to present a numbered list of item in the order of importance or the item (paragraph) is marked with a number.

An ordered list must begin with the followed by an list item tag.

Example: An HTML document orderedList.html shows the use of Ordered List

```
<HTML>
   <HEAD>
      <TITLE>
             An Ordered List
      </TITLE>
   </HEAD>
   <BODY>
      <H1><U> Various Terms Used In Internet</U></H1>
      <\Omega L>
      <LI> WWW-World Wide Web
      <LI> URL-Uniform Resource Locator
      <LI> HTTP-Hypertext Transfer Protocol
      <LI> FTP-File Transfer Protocol
      <LI> HTML-Hypertext Markup Language
      </OL>
   </BODY>
</HTML>
```



Fig. 4.7: Viewing HTML document orderedList.html in browser

Attributes of tag:

- ➤ COMPACT: render a list in compact form.
- ➤ TYPE: allows marking list items with different types. By default the list Item markers are set to numbers 1,2,3... so on.

Other values of TYPE attribute are:

Attribute	Description
Type = A	Capital letter eg. A, B, C
Type = a	Small letter eg. a, b, c,
Type = I	Uppercase Roman Numbers eg. I, II, III
Type = i	Lowercase Roman Numbers eg. i, ii, iii
Type = 1	eg. 1, 2, 3

➤ START: used for lists that need to start at values other than 1. START always specified in default numbers, and is completed based on TYPE before display, For example, If START =5 it would display either an 'E', 'e', 'V', 'v', or '5' based an TYPE attribute.

Nested Order List

One ordered list might contain one or more ordered list that is called as Nested Order lists.

Example: An HTML document nested.html shows the use of Nested Order Lists with attributes.

```
<HTML>
     <HEAD>
          <TITLE> Use of Nested Ordered Lists</TITLE>
     </HEAD>
     <BODY>
          <OL TYPE = A START =3>
             <LI> Fruits
                <OL TYPE = I>
                    <LI> Apple
                      <LI> MANGO
                      <LI> Orange
                    </OL>
                <LI> VEGETABLES
                     <OL TYPE = I>
                           <LI> Brinjal
                           <LI> Cabbage
                           <LI> Tomato
                     </OL>
          </OL>
     </BODY>
</HTML>
```

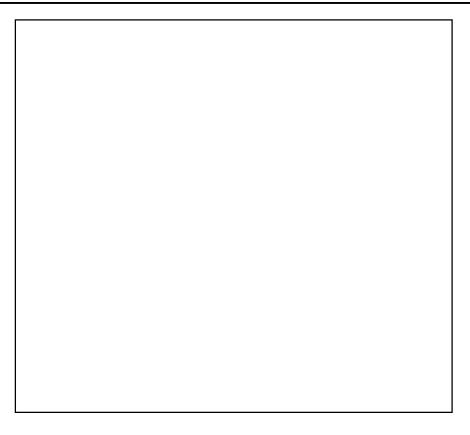


Fig. 4.8: Displaying Nested Ordered Lists with attributes in browser

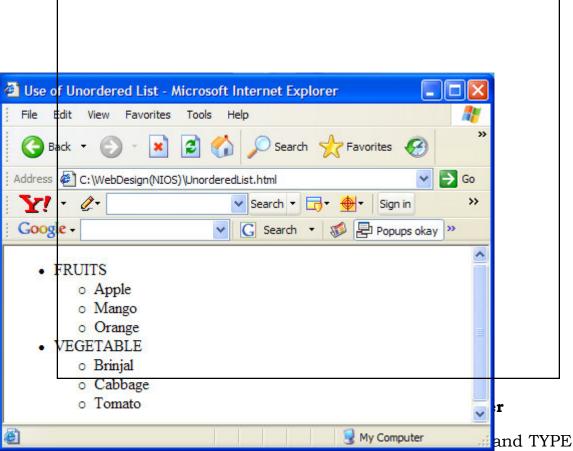
Unordered List

Unordered List also called as bulleted list, used to present list of items marked with bullets. An unordered list starts with in followed by (List Item) tag. Use of is very similar to (ordered list).

Example: Use of Unordered List and Various Attributes

```
<HTML>
<HEAD>
<TITLE> Use of Unordered List </TITLE>
</HEAD>
<BODY>
<UL>
<LI>FRUITS
<UL>
```

```
<LI> Apple
<LI> Mango
<LI> Orange
</UL>
<LI> VEGETABLE
<UL>
<LI> Brinjal
<LI> Cabbage
<LI> Tomato
</UL>
</UL>
</HTML>
```



= CIRCLE or DISC (filled Circle used as a bullet)

INTEXT QUESTION

- 2. Write True or False for the following:
 - (a)

 is a line break tag.
 - (b) HTML has seven header tags <H1>.....<H7>
 - (c) The <ULS> tag is used for bulleted, unordered list.
 - (d) Special characters are not supported by HTML.
 - (e) Ordered list can be nested.

4.6 USING GRAPHICS IN WEB PAGE

Images can be placed in a web page by using tag. There are many image formats available today, but the most widely used among them are **gif** and **jpeg**. The gif format is considered superior to the jpeg format for its clarity and ability to maintain the originality of an image without lowering its quality. Using tools such as GIF constructor or Adobe Photoshop images can be created.

It is an empty tag (only start tag, no end tag) and is written as:

SRC - Source of the image file

image_URL - represents the image file with its location.

Example:

Here, image_URL =file:///C:/NOSlogo.GIF, it means image is available in the Hard Drive C: on the local hard disk.

Example:

Here image _URL is = http://planningcommission.nic.in/images/planing.jpg. The image planing.jpg, is taken from the images directory of Planning Commission Web Server 'Planningcommission.nic.in'.

If the location of the image and web page are in the same place in the same directory/path then it is simply written

This SRC attribute is mandatory for the tag.

Other attributes used with are: -

- ALIGN
- HEIGHT AND WIDTH
- VSPACE and HSPACE
- ALT
- BORDER

ALIGN: used to set the alignment of the text adjacent to the image. It takes the following values:

- ALIGN = LEFT Displays image on left side and the subsequent text flows around the right hand side of that image
- ALIGN = RIGHT Displays the image on the right side and the subsequent text flows around the left hand side of that image
- ALIGN = TOP Aligns the text with the top of the image
- ALIGN = MIDDLE Aligns the text with the middle of the image
- ALIGN=BOTTOM Aligns the text with the bottom of the image

By default, the text is aligned with the bottom of the image

Example: Using tag with attributes

```
<HTML>
  <HEAD>
      <TITLE> Use of IMG Tag With its ALIGN Attribute</TITLE>
  </HEAD>
  <BODY>
      <P>
      <IMG SRC=NOSlogo.GIF ALIGN=TOP>
      Aligns the text with the Top of the image
      </P>
      <P>
      <IMG SRC=NOSlogo.GIF ALIGN=MIDDLE>
      Aligns the text with the Middle of the image
      </P>
      <P>
      <IMG SRC=NOSlogo.GIF ALIGN=LEFT>
      Displays image on left side and the subsequent text flows
      around the right hand side of that image. Displays image
      on left side and the subsequent text flows around the
      right hand side of that image. Displays image on left side
      and the subsequent text flows around the right hand side
      of that image.
      </P>
      <P>
      <IMG SRC=NOSlogo.GIF ALIGN=RIGHT>
      Displays image on right side and the subsequent text flows
      around the left hand side of that image. Displays image
      on right side and the subsequent text flows around the left
      hand side of that image.
      </P>
  </BODY>
</HTML>
```

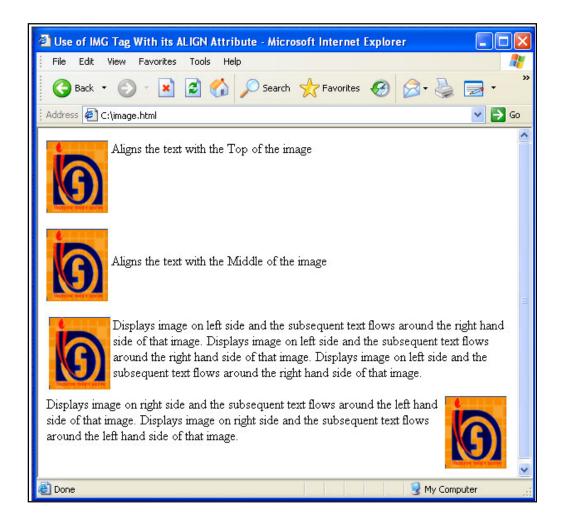


Fig. 4.10: Displaying Image with its attributes in browser

HEIGHT and WIDTH

Height and Width of an image can be controlled by using the HEIGHT and WIDTH attributes in the tag as follows:

Example:

HSPACE and VSPACE

White space around an image can be provided by using HSPACE (Horizontal Space) and VSPACE (Vertical Space) attributes of the tag. These attributes provide the space in pixels.

Example:

ALT (Alternative Text)

This attribute is used to give alternative text that can be displayed in place of the image. This is required when the user needs to stop display of images while retrieving a document in order to make the retrieval faster, or when the browser does not support graphics. It is also used a tool tips – displaying description of the image when the mouse is over the image.

Example:

BORDER

Border around the image can be controlled by using BORDER attribute of tag. By default image displays with a thin border. To change the thickness or turn the border off, the value in pixels should set to BORDER attribute.

Example:

BORDER =0 to Turn the Border off

Example:

BORDER=3 to make the border thickness to 3

Example: Showing the use of Image Attributes

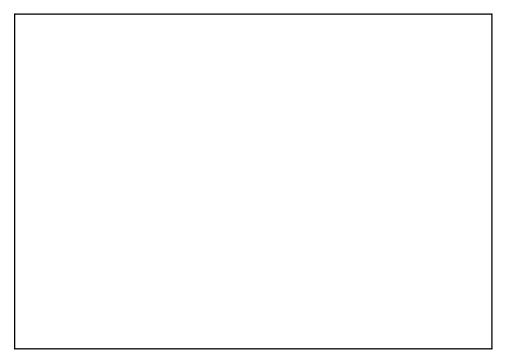


Fig. 4.11: Displaying Image with its attributes in browser

Understanding Image Maps



Web_Authoring/Image_Mapping_Tools/MapThis.html

4.7 WORKING WITH LINKS: <A> ANCHOR TAG

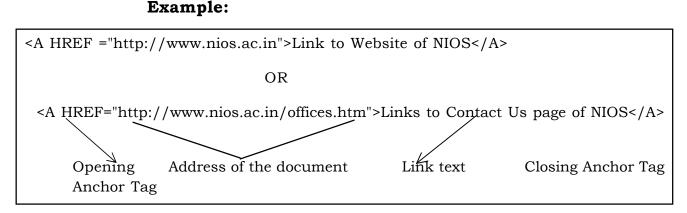
Web pages are linked to one another through Hypertext Links. Section of text or image in the HTML document can be linked to an external document or to a specific place within the same document. The text or image that provides such linkage is known as Hypertext or Hotspot.

HTML provides **<A>** Anchor Tag to create links. The format of using anchor tag is as follows:

 Make Me The Link

HREF (Hyper Link Reference) is a mandatory attribute used to refer the URL of the resource. URL (Uniform Resource Locator) is an address tells the browser about the file to link to. It identifies file locations (Addresses) on the web or on the local hard drive. These addresses can be those of HTML documents or elements such as images, scripts, applets and other files. It is always enclosed in quotes.

Linking a text to a web site / an external document



In the above example the link text "Links to Contact Us page of NIOS" would appear underlined and in a color different from any other text in the document to distinguish a link from normal text. Also you would find that the mouse pointer changes into a hand like symbol when taken over the hyperlink.

Linking an image to web site

An image can be linked to a web site or HTML document.

Example:

Linking (jumping) to a specific place within the same document

Sometimes, it is required to jump different sections in the same document. For this it needs two steps, first; identify section with a name and or second; use jumps to the location using the name used.

The syntax is:

1. <A **HREF="#section_name"**> link to another section of the same document

This link text jumps to the section named with HREF on click. *The # symbol before the section name is must.*

2. <A **NAME="section_name"**> Beginning of the section

The NAME attribute is used to identify a section with a name. It is a unique identifier within the document for the anchor.

One can also jump to a specific section of different document specifying the path on HREF attribute.

Example:

Within the same document:

Same folder, but different document: <AHREF="document. html#section name">

Different folder, different document: < A HREF="folder/document. html#section_name">

A different server:

<A HREF="http://www.nios.ac.in/foldername/document.html
#section_name>

Example: Use of Anchor Tag

```
<HTML>
<HEAD><TITLE> Use of Anchor Tag</TITLE></HEAD>
<BODY>
<H2 align="center"><U><FONT COLOR="BLUE">National Institute of Open
Schooling</FONT> </U></H2>
<A HREF="http://www.nios.ac.in"><IMG SRC="NOSlogo.GIF" alt="NIOSLOGO"</p>
align="left"></A>
The success of open learning and distance education very much depends on
the harnessing of the new and latest technology. The emerging Internet and
Web Technology helps in effective dissemination of information. The web site is
a demand source of latest information. One can access NIOS website by
clicking on <A
HREF="http://www.nios.ac.in">http://www.nios.ac.in</A> OR on Clicking
NIOS logo 
<b><i><u>Internet and Web Technology</u></i>
<FONT COLOR="BLUE">Various Terms used in Internet are:</FONT>
<br>
```

- 1. HTML (Hypertext Markup Language)

- 2. WWW (World Wide Web)

- 3. Web site (Linking within the document)

- 4. Web page

- 5. URL(Uniform Resource Locator)

- 6. HTTP(Hypertext Transfer Protocol) < br>
- 7. Hyperlink

</P>

<P></P></P></P>

HTML (Hypertext Markup Language) <hr align="left" width="24%" noshade> HTML (Hypertext Markup Language), Language used to create document on the World Wide Web. It is simply a collection of certain key words called Tags that helps to write the document. clickhttp://en.wikipedia.org/wiki/Html to read more WWW(World Wide Web<hr align="left" width="17%" noshade> The World Wide Web ("WWW" or simply the "Web") is an information space in which the items of interest, referred to as resources, are identified by global identifiers called

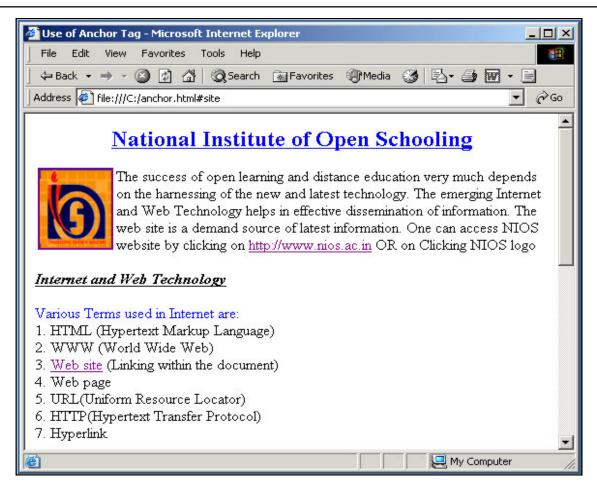


Fig. 4.12: Display of an example using Anchor Tag <A> in Browser

INTEXT QUESTION

- 3. Fill in the blanks:
 - (a) HTML _____ a web page to include an image.
 - (b) Web pages are linked to another through_____links.
 - (c) _____ tag is used to add images to HTML documents.
 - (d) Border around the image can be controlled by using _____ attribute of image tag.

4.8 WHAT YOU HAVE LEARNT

In this lesson you learnt how to create a HTML document. There are three essential tags for creating a HTML document, namely, HTML tag, HEAD tag and BODY tag. In addition, you learnt how to format a webpage using section heading tags, hyperlinks, graphics in HTML document and image links.

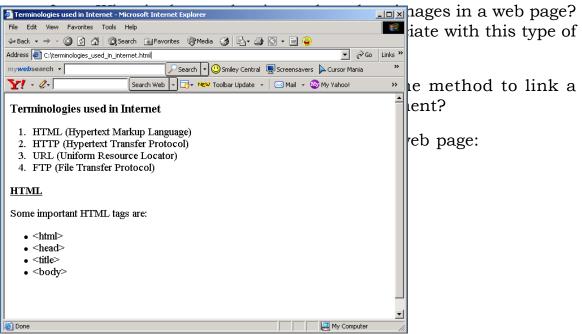
4.9 TERMINAL QUESTIONS

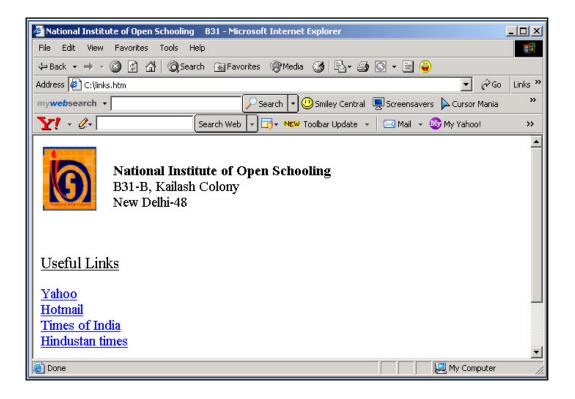
1. Create a HTML file for the following web page as shown in figure:



2. Write a HTML file to create the following web page:







N.B: Image should be linked to http://www.nios.ac.in. The Text Yahoo, Hotmail, Times of India, Hindustan times should link to http://www.yahoo.com,

http://www.hotmail.com, http://www.timesofindia.com and http://www.hindustantimes.com respectively.

4.10 FEEDBACK TO INTEXT QUESTIONS

- 1. (a) True (b) True (c) False (d) True 2. (a) True (b) False (c) True (d) False True (e)
- 3. (a) allows (b) Hypertext
 - (c) (d) BORDER

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