HYPERTEXT MARKUP LANGUAGE (HTML)

1.1 Introduction:

HTML- The Hypertext Markup Language. HTML is used to develop web pages. HTML is the language interpreted by the browser. Web pages are also called HTML documents.

HTML is not a procedural programming language. The HTML can be described as the text written in the angle brackets, known as "Hypertext". Mark up means "making up"; L for language means i.e. to embed the normal text in such a way as to give

output as a web page.**Html Program System:**

Output:

```
<html>
<head>
<title>title</title>
</head>
<body>
Tags & their attributes
</body>
</html>
```

1.2 HTML Tags and Their Attributes:

An HTML Tag is a word specifying the appearance of your web page. Tag is always written in the <and > symbol (i.e. between angle brackets). HTML Tags can be of two types:

- **Paired Tags**

A tag is said to be a Paired Tag if it is used along with a companion Tag, i.e. opening and closing Tag both. For example, the <B> Tag is a paired tag. The <B> tag with its companion tag </B>. Whereas the <B> is opening and </B> is called closing tag.

- **Singular Tags**

The second type of tag is the singular or stand-alone tag. This tag does not have a companion tag or closing tag. For example,<HR>tag will insert a horizontal line in your web page. This tag does not require any companion tag.

Additional information supplied to an HTML tag is known as **attributes** of a tag. Attributes are written immediately following the tag separated by a space; multiple attributes can be associated with a tag. For example, the attributes of <HR> tag will be:

1. Size
2. Width

3. Alignment
It can be represented as
<HR SIZE=8 WIDTH=40% ALIGN=RIGHT>

1.3 Division of HTML Document

The HTML Document, or in simple words, a web page has three sections as follows:

- **HEAD Section**

The top line of a web page, which is blue by default, is called the head section of a web page. Title comes under the head section. A web page could have a title that describes what the page is about. For that the tag is:

<HEAD>
<TITLE>
</TITLE>
</HEAD>

- **BODY Section**

The white portion (below URL and above Taskbar) on which you write the contents of web page is called the body section of a web page. For that the tag is:
<BODY>.....</BODY>

- **FOOTER Section**

Copyright information, contact details of the creator of the web site and so on are the types of information normally placed at the foot of web page. For that the tag is:
<ADDRESS>.....</ADDRESS>

Example:

<HTML>
<TITLE>My first web page</TITLE>
</HEAD>
<BODY>
<ADDRESS>This is a footer</ADDRESS>
</BODY>

1.4 Headings Tag

Headings can be created with the tag <H> (whereas i can have value from 1 to 6) Like H1, H2...H6. H1 will make the bigger heading, H2 will make a smaller than the H1 and H3 will make smaller than the H2 and so on, and finally the H6 will make the smallest heading as shown in the picture given below after the coding.

Output:

<html>
<head>
<title>heading tag</title>

<html>
<body>
<h1>Heading1</h1>
<h2>Heading2</h2>
<h3>Heading3</h3>
<h4>Heading4</h4>
<h5>Heading5</h5>
<h6>Heading6</h6>
</body></html>

1.5 Text Style: -

- **Center:** Displays text in the center of the page.

Example: <CENTER>HELLO</CENTER>
More than one tag can also be used at a time. **Like:** <B><I>Hello I am learning HTML</I></B>
This will appear as
Hello I am learning HTML.

- **Bold:** Displays text in BOLDFACE style.

Example: <B> My First Web Page</B>

- **Italics:** Displays text in Italics style.

Example: <I>My First Web Page</I>

- **Underline:** Displays the text underlined.

Example: <U> My First Web Page</U>

- **Teletype:** Displays the text in Teletype style.

Example: <TT> My First Web Page </TT>

- **Big:** Displays the text in larger style.

Example: <BIG> My First Web Page</BIG>

- **Small:** Displays the text in smaller style.

Example: <SMALL> My First Web Page</SMALL>

- **Strike:** Displays the text in Strike style.

Example:<STRIKE> My First Web Page </STRIKE>

- **Sub:** Displays the text in Subscript style.

Example:_{My}^{First}_{Web}^{Page}

- **Sup:** Displays the text in Superscript style.

Example:_{My}^{First}_{Web}^{Page}

- **Strong:**Displays the text in Strong (bold) style.

Example: <STRONG> My First Web Page</STRONG>

- **Mark:** Displays the text in Mark (highlight) style.

Example: <Mark>HTML</Mark>

- **Dfn:** The <dfn> tag in HTML stands for "definition element" and is used to specify a term that is going to be defined within the content. This tag is particularly useful for marking up terms that are being introduced and defined in a document.

Example: <Dfn>HTML</Dfn>

- **Del:** The <del> tag in HTML is used to represent text that has been deleted from a document.

Example: <Del>HTML</Del>

- **Ins:** The <ins> tag in HTML is used to define text that has been inserted into a document. Browsers typically render inserted text with an underline.

Example: <ins>HTML</ins>

WAP Using Text Styles.

```
<html>
<head>
<title> text formatting </title>
</head>
<body>
<b> this is a bold text</b><br>
<i>this is a italic text</i><br>
<u>this is a underlined text</u><br>
<strike>this is a strike line</strike><br>
<small>this is a small text</small></br>
<big>this is a big text</big><br>
this is a superscripted <sup>text</sup><br>
this is a subscripted <sub>text</sub><br>
<tt>this is a teletype font style text</tt><br>
<ins>HTML</ins><br>
<Del>HTML</Del><br>
<Dfn>HTML</Dfn><br>
<Mark>HTML</Mark><br>
</body>
</html>
```

Output:

1.6 Line Breaks

The tag for a line break is <BR>. When you insert this tag in your document, the contents will go to the next line. The <BR> tag does not need a closing tag afterward. The line break tag is like hitting "enter" key. The browser will not go to the next line until it runs out of space, or sees a tag that will force it to the next line.
Example: Hello <br> how are you?
Output: Hello
How are you?

1.7 Paragraph Breaks

<P> The paragraph tag. This tag will skip a vertical space after going to the next line, as though you had typed <BR> twice. This tag is good for skipping a line quickly and for knowing where you wanted a new paragraph to begin. The paragraph tag does not require a closing tag, but if you'd like to add one for your own reference, you place a </P> where you would like the paragraph to end.
We will compare <BR> and <P> tags in our example.
Hello. How are you?

You came after so many days
<P>
Was there any problem at your place?
1.8 Spacing Tag
** tag**
This is also an effective tag that is supported by any internet explorer. The   tag is used to give space between any Text, Images, Tables etc. It is similar to your spacebar that is encounted on your keyboard. One   is equal to one spacebar, two   are equal to two spacebars and so on.
Example: This is my
Homepage.   Hope you like it!
Output: This is my Homepage. Hope you like it!

1.9 Drawing Lines With <HR> Tag

If you want to draw a horizontal line on your web page, you can do so by using the <HR> tag. You can also control the appearance, size, width and alignment of these drawing lines. The attributes of <HR> tag are:

Align

Align the line on your web page: by default the line is aligned to the center of the screen.

ALIGN=LEFT Align the line to the left of your web page.

ALIGN=CENTER Align the line to the center of your web page.

ALIGN=RIGHT Align the line to the right of your web page.

Size

Changes the size of the rule.

Width

Width of a line can be defined in two ways, either in pixels or in percentage.

WAP using HR tag

```
<html>
<head>
<title> line and horizontal row </title>
</head>
<body>
<hr size=5 width=50% color=red align=center>
</body>
</html>
```

Output

1.10 Formatting Text With <FONT> Tag

FACE: Sets the font to the specified font name like

Arial Font

Arial Black Font, etc.

SIZE: Sets the size of the font. SIZE can have any value between 1 to7, the default size of the font is 3. You can assign any value between 1 to 7 to the font,

<FONT SIZE="x">text to change</FONT>

"x" will be replaced by a number with a + or – sign in front of it. Suppose you wanted to make the font larger.

COLOR: Sets the color of the text COLOR can be set to an English language like Red, Yellow, Blue etc (but remember these are the spellings of color not the color).

<FONT COLOR="color">

In order to use font face, color and size you can use the following tag:

Example: <FONT FACE="Verdana" SIZE=4 COLOR=BLUE>Hope you like my Homepage.</FONT>

WAP using Font tag.

```
<html>
<head>
```

```
<title> font</title>
</head>
<body>
Font size :<br>
<font size=1 > This line displays use of smallest font size value. </font><br>
<font size=30 > This line displays use of 30th font size value. </font><br>
Font face:<br>
<font face=cooper black >this line shows times new roman font.</font><br>
<font face=Calibri>this line shows cooper black font.</font><br>
Font color :- br>
<font color=red >red color</font><br>
<font color=green >green color</font>
</body>
</html>
```

Output

1.11 Marquee Tag

There is a special tag which can move the text, images, tables etc from left to right and vice versa or up to down and vice versa. That is to say, it can move the contents which are written in between the <MARQUEE> ……..</MARQUEE> You can also assign the behavior with this tag. The attributes of <MARQUEE> tag are:

- **BEHAVIOR**

It specifies the behavior of the object that it will move either from left to right or from right to left or alternate.

- **DIRECTION**

It specifies the direction of the object that it will move from up to down or from down to up.

- **LOOP**

This will tell the browser to scroll the text the number of times you set it to. So, LOOP=1 will scroll the text only once. You can give any value for loop.

- **BGCOLOR**

  These allow you to change the background color of the area the text is scrolling over.

- **WIDTH**

  This lets you control the width of the marquee. You can use the number of pixels, or a percentage of the screen.

WAP using Marquee tag.

```
<html>
<head>
<title> marquee </title>
</head><body>
<marquee behavior= scroll direction= left bgcolor=yellow loop= infinite height=60>
This text is the use of marquee tag</marquee>
</body></html>
```

Output:

LISTS

2.1 Introduction:

Suppose you want to give the list of members or employees of your company. For that purpose HTML has a facility of <LIST> tag. With the help of this tag you can arrange or manage the lists of your employees or members according to your requirements.

2.2 Types of Lists:

(a) Unordered List (Bullets)
(b)Ordered List (Numbering)
(c) Definition List

1. Unordered List (Bullets)

An unordered list starts with the tag <UL> and its closing or companion tag is </UL>. Each list item must start with the tag <LI>. The <LI> tag does not have a closing tag. The attributes that can be specified with the <UL> tag are:

TYPE: Specify the type of the bullet.
TYPE=FILLROUND will give you a solid round black bullet.
TYPE=SQUARE will give you a solid square black bullet.

Example:

Mouse Function Contains:
<UL TYPE = FILLROUND>

<LI>Clicking
<LI>Double Clicking
<LI>Dragging
</UL>

Output

Mouse Function Contains

- Clicking
- Double Clicking
- Dragging

Nested Unordered List:

You can use an unordered list inside another unordered list for your convenience.

Example.

```
<HTML>
<HEAD>
<TITLE> Nested Unordered Lists</TITLE>
</HEAD>
<BODY>
<CENTER>
<H3>Computer parts</H3>
<CENTER>
<UL TYPE = "fill Round">
<LI>Motherboard
<LI>Processor
<LI> Monitor
<UL>
<LI>LG
<LI>Samsung
<LI>Sony
<UL>
<LI>Visual Display unit (CRT-Cathode Ray Tube)
<LI>Flat Panel Display (LCD-Liquid Crystal Display)
<UL>
<LI>14 Inches
<LI>15 Inches
</UL>
</UL>
</UL>
<LI>Keyboard (Multimedia)
<LI>Mouse (PS2)
<LI>UPS
<LI>ATX Cabinet
<LI>CDROM
<LI>Floppy Drive
<LI>Speakers (Woofers)
```

Output:

</UL>
</BODY>
</HTML>

2. **Ordered List (Numbering)**

We use an ordered list in our web page where we deal with numbers like 1, 2, 3 and a, b, c or i, ii, iii etc. An ordered list starts with the tag <OL> and its closing or companion tag is </ OL>. Each list item must start with the <LI> tag. The attributes that can be specified with <OL> tag are:

TYPE: Controls the numbering scheme to be used.

TYPE = "1" will give counting Numbers (1,2,3,.....)
TYPE = "i" will give Lowercase Roman Numbers (i, ii,.....)
TYPE = "I" will give Uppercase Roman Numbers (I, II, III,.....)
TYPE = "A" will give Uppercase Letters (A,B,C ...)
TYPE="a" will give Lowercase Letters (a, b,c,....)

START: It tells the starting of numbering sequence. It can be set to any integer value.

VALUE: It can change the numbering sequence in the middle of an ordered list. It may be specified with the <LI> tag.

Example:

Mouse Function Contains:

<OL TYPE = "1" START=5>
<LI>Clicking
<LI>Double Clicking
<LI>Dragging
</OL>

Output

Mouse Function Contains:
5. Clicking
6. Double Clicking
7. Dragging

Nested Ordered Lists

You can also use an ordered list inside another ordered list for your convenience.

Example:

<HTML>
<HEAD>
<TITLE> Nested Ordered Lists
</TITLE>
</HEAD>
<BODY>
<CENTER>

<H3>Computer parts</H3>
<CENTER>
<OL TYPE="1">
<LI>Motherboard
<LI>Processor
<LI> Monitors
<OL TYPE="A">
<LI>LG
<LI>Samsung
<LI>Sony
<OL TYPE="i">
<LI>Visual Display unit (CRT-Cathode Ray Tube)
<LI>Flat Panel Display (LCD-Liquid Crystal Display)
<OL TYPE="a">
<LI>14 inches

Output:

<LI>15 inches
</OL>
</OL>
</OL>
<LI>Keyboard (Multimedia)
<LI>Mouse (PS2)
<LI>UPS
<LI>ATX Cabinet
<LI>CDROM
<LI>Floppy Drive
<LI>Speakers (Woofers)
</OL>
</BODY>
</HTML>

1. Definition List

The third type of form is the Definition List. The Definition list values appear within the <DL> and </DL> tags. The Definition list contains two parts: The Definition Term <DT> and the Definition Description <DD>.

Definition Term: appears after the tag <DT>.
Definition Description: appears after the tag <DD>.
The <DT> Definition tag and <DD> Definition description tags do not be closing or component tags.
Example:
<HTML>
<HEAD>
<TITLE>Working with Definition Lists</TITLE>

```
<HEAD>
<BODY>
<DL>
```

```
<DT>Monitors
<DD>LG
<DD>Samsung
<DD>Sony
<DT>Printers
<DD>Dot Matrix
<DD>Inkjet
<DD>Laser
```

Output:

```
</DL>
</BODY>
</HTML>
```

TABLE

3.1 Introduction:

The table is a two dimensional matrix. The table organizes data into rows and columns. Tables are used for displaying data in columns on a web page. In HTML the beginning of a table is marked by <TABLE> tag and the end is marked by </TABLE> tag.
<TD>...</TD> describe each column of a table.
<TR>...</TR> describe each flow of a table.

There are two types of Table rows. They are:
Header Rows
(Rows that span across columns of a table)
To describe the table header we use the <TH>...</TH> tag. By default the contents of a table header row are centered and appear in boldface.
Data Rows

Individual data cell placed horizontally creates a data row. To describe the table data rows, we use the <TR>...</TR> tag. There could be a single (i.e. single column table) or multiple data cells (i.e. multi column table). By default the contents of the data rows are left justified.
The <TABLE> tag also has number of attributes for the convenience of user. These are:

(a) Border: Specifies the border thickness.

(b) Width: Sets the width in pixels or in percentage of table. If width is not specified the data cell is adjusted based on the data cell value.

(c) Align: Specifies the horizontal alignment. It can be set to LEFT, CENTER or RIGHT.

(d) Valign: Specifies the vertical alignment. It can be set to TOP, MIDDLE or BOTTOM.

(e) Colspan: Inside <TH> or <TD> tag this attribute tells the browser to make the cell defined by the tag to take up more than one column. It can be set equal to the number of columns the cell is to occupy. This attribute is useful when one row needs a certain number of columns wide.

(f) Rowspan: This tag allows a cell to take up more than one row. It can be set to equal any numeric value like ROWSPAN= 2. This attribute works the same way as COLSPAN tag does.

(g) Cellpadding: It specifies the distance between the data in a cell and the boundaries of the cell

(h) Cellspacing: It controls the spacing between adjacent cells.

3.2 The CAPTION Tag

To assign a heading to the table we normally use the <CAPTION></CAPTION> which can be used to render a context for the information used in the table. This tag also has an attribute:
ALIGN: This attribute controls placing of the caption with respect to table, like
ALIGN = BOTTOM will place the caption immediately below the table.
ALIGN=TOP will place the caption immediately above the table.
Note: This must be specified inside the <TABLE></TABLE> tag.

Here is an example of Basic HTML Table:
```
<HTML>
<HEAD>
<TITLE> Working with tables
</TITLE>
</HEAD>
<BODY >
<CENTER><H2>Basic HTML table</H2></CENTER>
<TABLE BORDER="1" ALIGN="CENTER" WIDTH="80%">
<CAPTION> Here is a small sample of table. </CAPTION>
<THEAD>
<TR>
<TH>This is the head section</TH></TR>
<TD>
```

</THEAD>
<TBODY>
<TR>
<TD>This is the body section</TD>
<TR>
</TBODY>
</TABLE>
</BODY>
</HTML>

Output:

The above picture shows the output of HTML coding. The TABLE tag has number of attributes. in the above example.

<table border="1" align=center width=60%>

HTML coding specifies here that the BORDER= "1" is the thickness of the table. If you want to make the border invisible then you can specify BORDER = "0".

The horizontal alignment also applies to the cell of a table with the ALIGN tag it can values (ALIGN="left", "center", "right").

<TR>...< TR> or table row tag, is used for formatting the cells of individual rows.

<TH>...< TH> or table head is used to format the smallest area of the table in the data cells. There are two types of data cells. These are

<TH>...</TH> table header

<TD>...</TD> table description

Another example of using the WIDTH and BORDER attribute

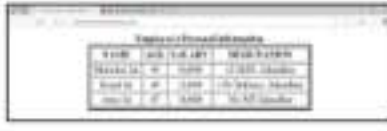
<HTML>
<HEAD>
<TITLE>Using border and width attributes</TITLE>
<HEAD>
<BODY >
<CENTER>
<TABLE BORDER= "4" WIDTH= "60%">
<CAPTION ALIGN = TOP>
<B>Employee's Personal information</B>
</CAPTION>
<TR>
<TD>NAME</TD>
<TD>AGE </TD>
<TD>SALARY</TD>
<TD>DESIGNATION</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Manohar</TD>
<TD>45</TD>

<TD>10,000</TD>
<TD>12 MSN, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Kunti Jal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>15 Defence, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun Jal</TD>
<TD>47</TD>
<TD>14,000</TD>
<TD>Plc MT,Jalandhar</TD>
</TR>
</TABLE>
</CENTER>
</BODY>
</HTML>

Output

3.3 Use of CELLPADDING attribute

CELLPADDING attribute is a very useful attribute in table. We can increase the size of all the cells of a table. We can also specify any number with this tag just as wanted in our above example.



<TABLE BORDER= "2" WIDTH="30%" CELLPADDING=10>

Example

<HTML>
<HEAD>
<TITLE>Using Cellpadding attribute</TITLE>
</HEAD>
<BODY>
<B><U> Table Without Cellpadding</U></B>
<CENTER>
<TABLE BORDER = "2" WIDTH="30%">
<CAPTION ALIGN=TOP>
<B><U>Employee's Personal Information</U></B>
</CAPTION>
<TR>
<TH>NAME</TH>
<TH>AGE</TH>
<TH>SALARY</TH>
<TH>DESIGNATION</TH>

</TR>
<TR ALIGN=CENTER>
<TD>Manohar lal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>12 MSN, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Kanti lal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>56 Defence, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun lal</TD>
<TD>47</TD>
<TD>14,000</TD>
<TD>30, MS Jalandhar</TD>
</TR>
</TABLE>
</CENTER>
<HR>
<B><U>Table With Cellpadding</U></B>
<CENTER>
<TABLE BORDER="2" WIDTH="50%" CELLPADDING="10">
<CAPTION ALIGN = TOP>
<B><U>Employee's Personal information</U></B>
</CAPTION>
<TR>
<TH>NAME</TH>
<TH>AGE</TH>
<TH>SALARY</TH>
<TH>DESIGNATION</TH>
<TR>
<TR ALIGN=CENTER>
<TD>Manohar lal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>12 MSN, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Kanti lal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>56 Defence, Jalandhar</TD>
</TR>

Output:

<TR ALIGN=CENTER>
<TD>Arun lal</TD>
<TD>47</TD>
<TD>14,000</TD>
<TD>Jlk MT Jalandhar</TD>
</TR>
</TABLE>
</CENTER>
</BODY>
</HTML>

3.4 Use of CELLSPACING attribute

You can increase or control the spacing of cells of the table, just as we have done the above example

<TABLE BORDER= "2" WIDTH="80%" CELLSPACING=12>

Example

```
<HTML>
<HEAD>
<TITLE>Using Cellspacing attribute</TITLE>
</HEAD>
<BODY >
<H><U>Table Without Cellspacing</U></H>
<CENTER>
<TABLE BORDER= "2" WIDTH="80%">
<CAPTION ALIGN=TOP>
<H><U>Employee's Personal information</U></H>
</CAPTION>
<TR>
<TH>NAME</TH>
<TH>AGE </TH>
<TH>SALARY</TH>
<TH>DESIGNATION</TH>
</TR>
<TR ALIGN=CENTER>
<TD>Manohar lal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>12 MSN. Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Kunj lal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>150 Defence. Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun lal</TD>
```

```
<TD>47</TD>
<TD>14,000</TD>
<TD>30, MT.Jalandhar</TD>
<TR>
</TABLE>
</CENTER>
<BR>
<B><U> Table With
Cellspacing</U></B>
<CENTER>
<TABLE BORDER= "2"
WIDTH= "80%" CELLSPACING= "10"
<CAPTION ALIGN = TOP>
<B><U>Employee's Personal
information</U></B>
</CAPTION>
<TR>
<TH>NAME</TH>
<TH>AGE</TH>
<TH>SALARY</TH>
<TH>DESIGNATION</TH>
</TR>
<TR ALIGN=CENTER>
<TD>Manohar lal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>12 MSN, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Kirori lal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>150 Defence, Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun lal</TD>
<TD>47</TD>
<TD>14,000</TD>
<TD>30, MT.Jalandhar</TD>
</TR>
</TABLE>
</CENTER>
</BODY>
</HTML>
```

Output:

3.5 Use of Colspan &Rowspan attributes:

With these attributes of table you can increase or decrease the size of any cell of the table. You can give any numeric value to these attributes according to your requirement.

Example

```
<HTML>
<HEAD>
<TITLE>Using Colspan &Rowspan attributes</TITLE>
</HEAD>
<BODY>
<CENTER><H><U>Table With Colspan & Rowspan</U></H></CENTER>
<BR><HR><BR><BR>
<CENTER>
<TABLE BORDER= "2" WIDTH="80%">
<CAPTION ALIGN = BOTTOM>
<B><U>Employee's Personal information</U></B>
</CAPTION>
<TR>
<TH ROWSPAN=2>NAME
<TH COLSPAN=2>EMPLOYEE
</TR>
<TR ALIGN=CENTER>
<TH>Age of employee
<TH>Salary of employee
<TH>Working Hours of employee
<TH>Designation of employee
</TR>
<TR ALIGN=CENTER>
<TD>Kewal</TD>

<TD>49</TD>
<TD>12,900</TD>
<TD>6 to 7</TD>
<TD>15 DC Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun</TD>
<TD>47</TD>
<TD>14,900</TD>
<TD>5 to 6</TD>
<TD>30 MI Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Manohar</TD>
<TD>38</TD>
<TD>11,000</TD>
<TD>7 to 8</TD>
<TD>15 4B Jalandhar</TD>
```

</TR>
<TR ALIGN=CENTER>
<TD>Rahul</TD>
<TD>16</TD>
<TD>12,000</TD>
<TD>6 to 7</TD>
<TD>10 DC Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Arun</TD>
<TD>4*</TD>
<TD>4,000</TD>
<TD>5 to 6</TD>
<TD>30 MC Jalandhar</TD>
</TR>
<TR ALIGN=CENTER>
<TD>Manohar</TD>
<TD>28</TD>
<TD>11,000</TD>
<TD>7 to 8</TD>
<TD>35 BR Jalandhar</TD>
</TR>
</TABLE>
</BODY>
</HTML>

3.6 Use of Images (IMG SRC tag) In Table

You can also place an image or picture in a cell of a table according to your requirement. You can also control the width and height of the image in a cell.

Example

```
<HTML>
<HEAD>
<TITLE> IMAGE IN TABLE </TITLE>
</HEAD>
<BODY >
<TABLE BORDER="2">
<CAPTION>IMAGE IN TABLE</CAPTION>
<TR>
<TD>NAME</TD>
<TD>IMG</TD>
</TR>
<TR>
<TD>FLOWERS</TD>
<TD><IMG SRC="D:\WINDOWS\DATA\DESKTOP\A.JPG" WIDTH="100"
HEIGHT="250"></TD>
</TR>
</TABLE>
```

Output:

</BODY>
</HTML>

3.7 Use of Background Color (BGCOLOR)in Table

The most interesting thing of the tables is that you can give a background color to the table. You can also specify the different colors for each cell of a table with the help of BGCOLOR tag. It is also used in our example earlier.

Example

```
<HTML>
<HEAD>
<TITLE>Using background colors</TITLE>
</HEAD>
<BODY>
<TABLE BORDER= "2" WIDTH= "50%" BGCOLOR= SGOLDEN>
<TR>
<TD>NAME</TD>
<TD>AGE </TD>
<TD>SALARY</TD>
<TD>DESIGNATION</TD>
</TR>
<TR ALIGN=CENTER BGCOLOR= PINK>
<TD BGCOLOR=GREEN>Manohar Jal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>12 MSN Jalandhar</TD>
<TR>
<TR ALIGN=CENTER>
<TD>Kanti Jal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>150 Defence Jalandhar</TD>
</TR>
</TABLE></BODY></HTML>
```

Output

NAME	AGE	SALARY	DESIGNATION
Manohar Jal	45	10,000	12 MSN Jalandhar
Kanti Jal	40	12,000	150 Defence Jalandhar

3.8 Use of Border Styles & Border Colors In Table

Another most interesting thing of the tables is that you can give a border styles and color to the table. You can also specify the different colors for each border with the help of STYLE tag. With the border-style property, you can set the appearance of the border, like:

- dotted
- dashed
- solid
- double
- groove
- ridge
- inset, etc.

It is also used in our example earlier

Example

```
<HTML>
<HEAD>
<TITLE>Using background colors</TITLE>
</HEAD>
<BODY>
<TABLE BORDER= "2" WIDTH="50%" style="border-left-color:purple;border-right-color:lime;border-bottom-color:green;border-top-color:brown;border-style:dotted">
<TR>
<TH>NAME</TH>
<TH>AGE</TH>
<TH>SALARY</TH>
<TH>DESIGNATION</TH>
</TR>
<TR ALIGN="CENTER">
<TD>Manohar lal</TD>
<TD>45</TD>
<TD>10,000</TD>
<TD>32 MSN, Jalandhar</TD>
</TR>
<TR ALIGN="CENTER">
<TD>Rajesh lal</TD>
<TD>40</TD>
<TD>12,000</TD>
<TD>456 Defence, Jalandhar</TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

Output:

NAME	AGE	SALARY	DESIGNATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

GRAPHICS

4.1 Adding Images and Pictures to HTML Document

In any web page the most important thing is its opening time after clicking the Go button or hitting the Enter key from keyboard after typing the website name in the URL. For that, the size of your website or web page should be small. The size of any web page can be determined from the material that it contains. The most important part is the Images and Pictures that can increase and decrease the weightage of any web page. Two major file formats used for images on the web are GIF (Graphic Interchange Formatting) and JPG or JPEG (Joint Photographic Experts Group). Do not place too many images on any web page as doing so can slow down the rendering of the page (like BMPs etc). If server space is a problem and your image has many more than 256 colors, it is a better idea to use the jpeg format.
A picture or an image can be inserted in a web page using the <IMG> tag. The <IMG> tag has several attributes for the convenience of user.

- **Align:** It controls the alignment of the text following the image. ALIGN=TOP indicates the text after the image to be written at the top, next to the image.
  ALIGN=MIDDLE indicates the text after the image to be written at the middle, next to the image.
  ALIGN=BOTTOM indicates the text after the image to be written at the bottom, next to the image. It also specifies the position of the image with respect to the browser screen i.e. the image will appear on the left, right or center of the web page, like (ALIGN=LEFT, ALIGN=RIGHT or ALIGN=CENTER).
- **Border:** It specifies the size of the border to place around the image.
- **Width:** It specifies the width of the image expressed either in pixels or percentage like (WIDTH=150).
- **Height:** It specifies the height of the image expressed either in pixels or percentage like (HEIGHT=100).
- **Hspace:** It indicates the amount of space to the left and right of the image.
- **Vspace:** It indicates the amount of space to the top and bottom of the image.
- **Alt:** It indicates the text to be displayed in case the browser is unable to display the image specified in the SRC attribute.
- **Src:** It specifies the source of the image like (C:\My Documents\logo.jpeg).

Example:

```
<IMG SRC= "Logo.gif">
<IMG WIDTH="350" HEIGHT="300" SRC="Logo.gif">
<IMG SRC= "Logo.gif" WIDTH="250" HEIGHT="300">
```

The first example will place the sign Logo.gif on your web page.
The second and third examples will place the image Logo.gif on your web page but with width and height of the image 300, 300 respectively.

4.2 Using the BORDER Attribute

```
<HTML>
<HEAD>
<TITLE>working with the graphics</TITLE>
</HEAD>
<BODY>
<CENTER>
<H>Controlling Image
Border</H><HR><HR><HR>
<I>image without a
BORDER</I><HR><HR><HR>
<IMG SRC="D:/Windows Data/Desktop/A.jpg">
<HR><HR><HR>
<I>image with a BORDER=5</I><HR><HR><HR>
<IMG BORDER=5 SRC="D:/Windows
Data/Desktop/A.jpg">
</CENTER>
</BODY>
</HTML>
```

Output:

4.3 Using the ALT Attribute

The image alt command is used to display text in the case someone visits your page with a browser that can't show image, or in the case they have image loading turned off to so pages will load faster. If you have images as links, this is a handy way to let people know what the image was supposed to do. This is the alt command:
Alt="something you want to write"
Place this inside the image tag:
<IMG SRC= image.gif" alt="something you want to write">

Example

```
<HTML>
<HEAD>
<TITLE>working with the graphics</TITLE>
</HEAD>
<BODY>
<CENTER>
<I>image available</I><HR><HR>
<IMG SRC="D:/Windows Data/Desktop/A.jpg">
<HR><HR>
<I>image unavailable A.jpg without the ALT attribute</I><HR><HR><HR>
<IMG SRC="D:/Windows Data/desktop/Alt.jpg">
<HR>
```

Image unavailable. A.jpg with the ALT attribute set to "A.jpg"
</A>

<HR>
<IMG SRC="D:\Windows Data\Desktop\AR.jpg" ALT="ERROR"><CENTER>
<BODY>

</HTML>

Output:

4.4 Using the ALIGN Attribute

<HTML>
<HEAD>
<TITLE>working with the graphics</TITLE>
<HEAD>
<BODY>
<CENTER><B>Controlling the Alignment Of The image</B>
<HR>
<IMG SRC="D:\Windows Data\Desktop\A.jpg" height=30% width=20% ALIGN=left>
Micro Chip Technologies
A private limited company was founded in December 1993. The vision of this company is to provide any corporate client a single entity which addresses all their Software, Development, Training and Manpower Recruitment needs.

<HR>

<HR>

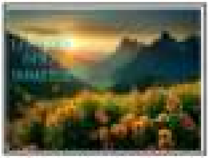
<B>Controlling The Alignment Of The Image</B>
<HR>
<IMG SRC="D:\Windows Data\Desktop\A.jpg" height=30% width=20% ALIGN=right>
Micro Chip Technologies
A private limited company was founded in December 1993. The vision of this company is to provide any corporate client a single entity which addresses all their Software, Development, Training and Manpower Recruitment needs.
</CENTER>
</BODY>
</HTML>

Output:

4.5 Write the text on images using the DIV Tag

```
<HTML>
<HEAD>
<TITLE>IMAGE</TITLE>
</HEAD>
<BODY>
<IMG SRC="D:/Windows Data/Desktop/A.jpg">
<DIV STYLE="POSITION:ABSOLUTE; TOP:100PX; LEFT:50PX;
WIDTH:200PX; HEIGHT:25PX">
<CENTER><FONT SIZE="10" COLOR="SOLIDGREEN">LOOKING INTO
SOMETHING</FONT></CENTER>
</DIV>
</BODY>
```

Output:



4.6 WAP using different shapes on images using the STYLE Tag

```
<html>
<head>
<title>image</title>
</head>
<body>
<img src="D:/Windows Data/Desktop/A.jpg" height=30% width=30% style="border-
radius:10%">
<img src="D:/Windows Data/Desktop/A.jpg" height=30% width=30% style="border-
radius:0% 100% 100% 0%">
<img src="D:/Windows Data/Desktop/A.jpg" height=30% width=30% style="border-
radius:100% 100% 100% 0%">
<img src="D:/Windows Data/Desktop/A.jpg" height=30% width=30% style="border-
radius:0% 40%">
```

<image="D:\Windows Data\Desktop\A.jpg" height=50% width=50% style="border-radius:0% 0% 100% 100%">
<image="D:\Windows Data\Desktop\A.jpg" height=50% width=50% style="border-radius:100%">
<image="D:\Windows Data\Desktop\A.jpg" height=50% width=50% style="border-radius:100% 100% 0% 0%">
</body>
</html>

Output:

LINKING

5.1 Linking HTML Documents

Until now you make so many web pages, you also want to connect or link these HTML documents. HTML allows linking to other HTML documents as well as images. HTML allows you to create links either clicking on text or images. Clicking on a section of text or an image in one web page will open an entire new web page or an image. The text or an image that provide such linkages is called Hypertext, a Hyperlink, or a Hotspot.
Every Hyperlink has the following features:

- Appears blue in color (by default color setting in a browser for Hyperlink but you can change colors according to your requirement via an HTML program if required).
- The hyperlink whether it is text/image is always underlined.
- The third and the most important point is that, when the mouse pointer is placed over the hyperlink, the standard arrow shaped mouse pointer changes to the shape of a hand.

The links are created in a web page with the help of <A>...</A> tags. Anything written between the <A>...</A> tags becomes a hyperlink hypertext. By clicking on this hyperlink the user can jump to another HTML document, web page or image.
The <A> tag also has an attribute that is HREF. By using the HREF attribute of the <A> tag specified. The syntax of this tag:
Syntax: <A HREF = "filename.html">
5.2 To change the color of LINKS:

The blue color which is the default color for a hyperlink can be changed. To change these link colors, we have three attributes that can be specified with the <BODY> tag. These are:

- **LINK:** It changes the default color of a hypertext that is from blue to any desired color specified with this tag. The user can specify any color name ("red") or an equivalent hexadecimal number ("#999999").
- **ALINK:** It stands for Active Link. It changes the default color of a hyperlink that is activated to whatever color is specified with this tag. The user can specify any color name ("yellow") or an equivalent hexadecimal number ("#999933").
- **VLINK:** It stands for Visited Link. It changes the default color of a hyperlink that is already visited to whatever color is specified with this tag. The user can specify any color name ("green") or an equivalent hexadecimal number ("#66FF00").

Hyperlinks can be of two types:

- Link to an external HTML document.
- Link or jump to a specific place within the same HTML document.

5.3 External Linking

External linking can be done with the help of <A></A> tag.

Example: <A HREF = "main.html">Click here to see my next page</A>

The Click here to see my next page becomes a hyperlink, and links to another HTML document, main.html, which is present in the current working directory. Suppose if the file on HTML document is not present in the current directory, a relative or absolute path can be specified.

WAP using External Linking in HTML.

```
<html>
<head>
<title>link</title>
</head>
<body>
<a href="C:/dgit's work/next.html"><click here></a>
</body>
</html>
```

Output:

5.4 Internal Linking

This linking is used in those web pages having more text part or to avoid the long scrolling of the side bar. For that purpose jumping is required to a different location in the same HTML document. Since the jumping has to be targeted to a specific location, the same two phases need to be performed. The only difference is that the **filename.html** now will be in the **current filename.html**.

Syntax: <A NAME = "location_name">
<A HREF= "filename.html#location_name"></A>

Note- The absence of the filename.html before the # symbol indicates that a jump is required within the same document.

WAP using Internal Linking in HTML

```
<Html>
<Head>
<Title>link</title>
</head>
<Body><center>
<b1> Select the topic to learn</h1>
<a href="#First Paragraph">First Paragraph</a></br>
<a href="#Second Paragraph">Second Paragraph</a></br>
<a href="#Third Paragraph">Third Paragraph</a></br>
<a href="#Fourth Paragraph">Fourth Paragraph</a></br>
<a href="#Fifth Paragraph">Fifth Paragraph</a></br>
<a href="#Sixth Paragraph">Sixth Paragraph</a></br>
<a href="#Seventh Paragraph">Seventh Paragraph</a></br>
<a href="#Eighth Paragraph">Eighth Paragraph</a></br>
<a href="#Ninth Paragraph">Ninth Paragraph</a></br>
<hr>
<a name="First Paragraph"></a><b>First Paragraph</b></br>
Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.</br>
<a name="Second Paragraph"></a>Second Paragraph</a></br>
To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries.</br>
<a name="Third Paragraph"></a></b>Third Paragraph</b></br>
Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.</br>
<a name="Fourth Paragraph"></a></b>Fourth Paragraph</b></br>
Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign.</br>
```

Fifth Paragraph
Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.
Sixth Paragraph
Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.
Seventh Paragraph
To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries.
Eighth Paragraph
Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.
Ninth Paragraph
Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign.
</body>
</html>

Output:

Whenever you place your mouse pointer on any of the given hyperlinks in the web page it changes to the shape hand.

5.5 E-Mail Linking

To create an e-mail link on your page, all you need to do is use the standard link tag. The trick is in what you use as the address of the link. To force the browser to treat it as an e-mail link, you

use "mailto:" rather than "http://" to begin the address. After the "mailto", you will use your e-mail address rather than a web address, like this:
<A HREF="mailto:your_email_address">mail Me!</A>
All you need to do is replace the your_email_address with your e-mail address. Here is an example, to create an email link to myself, I would place sandeep_nagrali@yahoo.com (what space, like this:
<A HREF="mailto:sandeep_nagrali@yahoomail.com">Send me some mail!</A>
<A HREF="mailto:sandeep_nagrali@yahoo.com?subject=suggestions about book">Mail Me!</A>
The example link is below, notice that when you click it, the subject field of your email message is already filled in with "Suggestions about book".

5.6 Images as Hyperlinks

Just as text can act as a hyperlink, so also images can act as hyperlinks. As we have seen already, anything included within <A>...</A> tags becomes a hyperlink. Thus, an image can be made by hyperlink by enclosing an <IMG> tag within the <A></A> tags. The <IMG> tag places the image on the screen, and because the <IMG> tag is enclosed within the <A>...</A> tags, it becomes a hyperlink.

Image as a Link

To use an image as a link, you will have to use two things:
1. How to create a link.
2. How to add an image to page

Example:

```
<html>
<head>
<title>link</title>
</head>
<body>
<a href="info.html"><image="D:\Windows Data\Desktop\A.jpg"></a>
</body>
</html>
```

Output:

5.7 Image Maps

When a hyperlink is created on a image, clicking on any part of the image will lead to opening of the document specified in the <A HREF...> tag. If the image is a large image and there is a need to link multiple documents to the same image, there has to be technique that divides the image into multiple sections and allows linking of each section to a different document.
The technique that is implemented to achieve this is an Image Map. Image map can be created and applied to an image so specific portions of the image can be linked to a different file/image. Linked regions of an image map are called hot regions and each hot region is associated with a filename.html document that will be loaded into the browser (navigated to) when the hot region is clicked. The attributes of Image Map are:

SHAPE: The shape of the region can be one of the following: **Rectangle, Circle, Polygon, default**.

COORDS: Each of the above shapes takes different coordinate parameters.

A Rectangle will take 4 coordinates: **x1, y1, x2, y2**.
A Circle will take 3 coordinates: center x, center y and radius.
A Polygon will take 3 or more pairs of coordinates denoting a polygonal region.
A default shape will not take any parameters and it indicates the portion of the image not specified under any area tag.

HREF: Takes the name of the html file that is linked to the particular area on the image.

Example:

```
<HTML>
<HEAD>
<TITLE>working with the image maps</TITLE>
</HEAD>
<BODY>
<H4><H><CENTER><MAP NAME="picture">
<AREA SHAPE="form.html" SHAPE = "rect" COORDS="3,122,73,143" ALT = "Go to the
form">
<AREA SHAPE="contact.html" SHAPE = "rect" COORDS="102,123,190,142" ALT="Go to the
contact PAGE!">
<AREA SHAPE="homepage.html" SHAPE = "rect" COORDS="1,2,72,17" ALT="Go to the
homepage">
<AREA SHAPE="link.html" SHAPE = "rect" COORDS="153,0,199,18" ALT = "Go to the links
page">
<AREA SHAPE="email.html" SHAPE = "circle" COORDS = "146,66,42," ALT = "Email the
author">
<IMG WIDTH="350" HEIGHT="300" BORDER="2" SRC="D:\Windows Data Desktop\A.jpg"
ALT="author" USEMAP="#picture">
</CENTER>
</BODY>
</HTML>
```

Output:

<MAP NAME = "picture">
This attribute is needed for referencing purpose

<AREA HREF = "form.html" SHAPE = "rect"
COORDS = "3,122,74,143" ALT="Go to the form">
This statement causes a rectangular hotspot to be drawn around the coordinates given in the COORDS element.

<AREA HREF = "email.html" SHAPE = "poly" COORDS = "28,22,24,60,46,134,8-4,111,99,56,86,13" ALT= "Email the sarraj ">
This creates a hotspot of no preset shape you can specify the shape of the hotspot in the COORDS attribute by listing the coordinates of every vertex, or corner of the hotspot.

<IMG WIDTH="350" HEIGHT="300" BORDER="1" SRC="D:\Windows Data\Desktop\A.jpg" ALT="sarraj" USEMAP ="#picture">
Shows the image/map NAME = "picture" is applied to the IMG element being inserted in the page

5.8 Adding Sounds & Video to a Web Page.

```
<HTML>
<HEAD>
<TITLE>working with the image maps</TITLE>
</HEAD>
<BODY >
<h1> Adding Audio & Video to a Webpage</h1>
<audio controls>
<source src="full path.ogg">
<source src="D:\Windows Data Desktop\WhatsApp Audio.mp3" type="audio/mpeg">
</audio>
<br><br><br><br><br><br><br><br>
<video controls height="300" width="300">
<source src="full path.ogg">
<source src="D:\Windows Data Desktop\WhatsApp Video.mp4"></audio>
                                        </BODY >
                                        </HTML>
```

Output:

- **Controls** attribute adds audio controls, like play, pause and volume.
- **<Source>**element allows you to specify alternative audio files which the browser may choose from.

FRAMES

6.1 Introduction

The browser window is called the container. It is possible to divide the container into several frames for displaying different html documents. With the help of frames you can embed or show a number of html documents in one page or, you can say, that you can assign the different shapes to your browser window. frames have the following characteristics:
1. Each frame is given a name.
2. Each frame will be targeted by an html document.
3. Each frame resizes itself dynamically in response to the change in size of visible client area.

6.1 <FRAMESET> Tag

The HTML tags divide a browser screen into two or more HTML recognizable unique regions as the <FRAMESET>... </FRAMESET> tags. Each separate region is called FRAME.
Sets of frames are defined by using the <FRAMESET> tag. The tag has two attributes depending on whether the screen has to be divided into rows or columns.
ROWS: With this attribute we can divide the screen into multiple rows. It can be set equal to a list of values, depending on the required size of each row.
COLS: With this attribute we can divide the screen into multiple columns (cols). It can be set equal to a list of values, depending on the required size of each column. The size of the frames is mentioned in any one of the following units.
(a) In Pixels.
(b) In Percentage.
(c) In Fraction.

6.2 <FRAME> Tag

After dividing the browser screen into different rows and columns, you are left with the blank division of the browser screen. Now, to fill these separate sections you have to load different HTML documents in each section for that purpose we have to give the source (SRC) of that HTML document with the <FRAME> tag like:
<FRAME SRC = "file.html">. The <FRAME> tag also has some attributes. These are:
1. **SRC = "url"**: (Source HTML address) indicates the URL of the document to be loaded into the frame.
2. **MARGINWIDTH = "n"** : (Margin width) it specifies the amount of white space to be left along the sides of the frame "n" can have any numeric value.
3. **MARGINHEIGHT = "n"**: (Margin height) It specifies the amount of white space to be left at the top and bottom of the frame. "n" can have any numeric value.
4. **NAME = "name"**: (Name of the frame) It gives the frame a unique name so that it can be targeted by other documents. "name" must begin with an alphanumeric character.
5. **SCROLLING**: (Scrolling button) It controls the appearance of vertical and horizontal scrollbars in the frame. It has the values like YES/NO/AUTO.
6. **NORESIZE**: (Can it be resized) It disables the frames resizing capability.

You can also divide the browser screen into a number of sections according to your requirement.
Example:
```
<HTML>
<HEAD>
<TITLE>Working with Frames
</TITLE>
```

```
<HEAD>
<FRAMESET ROWS="50%,50%">
<FRAME SRC="file1.html">
<FRAMESET COLS="50%,50%">
<FRAME SRC="file2.html">
<FRAME SRC="file3.html">
</FRAMESET>
</FRAMESET>
</HTML>
```

Output:

For above output you have to make three separate HTML documents with names like file1.html, file2.html and file3.html. After creating three different HTML documents you have to specify their names in the <FRAME SRC=""> tag.

6.4 Targeting the Named Frames

If you create the hyperlinks in these files, which are invited in one frame, then you face a problem. The problem will be that the next page (web which you want to link using hyperlink tag) will open in the same space, which is assigned by you.

Whenever a hyperlink, which loads a document in a frame, is created, the file referenced in the hyperlink will be opened and will replace the current HTML document that is in the frame. Whenever you click on a hyperlink, a new HTML document should open in separate window or in the targeted frame. For that purpose, we use the NAME attribute with the <FRAME> tag. The hyperlink tag will have to be implemented with the following information:

1. The filename.html file that has to be opened.
2. The name of the frame where the filename.html file has to be opened.

To use this feature of frame the attribute is TARGET, which is a part of the <A>.....</ A> tag.

6.5 Invisible Frames

To give your page invisible frames, you will need to add some commands to your FRAMESET tag, and adjust your FRAME tags in your liking. Here some code that will give you two frames and the border between them will be invisible.

```
<FRAMESET cols="20%,80%" border="0" framespacing="0" frameborder="0">
<FRAME SRC="first.htm" name="left_frame" scrolling="no">
<FRAME SRC="file2.htm" name="right_frame">
</FRAMESET>
```

There are three new commands in the FRAMESET tag:

1. border="0"

Sets the borders to zero so they do not appear.

2. frameborder="0"

Sets the frameborders to zero so they do not show up.

3. framespacing="0"

Sets the spacing of the frames so that there won't be a gap between frames.

Always remember to set the scrolling attribute to "no" in one or all of the FRAME tags. In the example, I set the left frame for no scrolling, so the frame would be invisible. I let the right frame use the default, so scrollers are only added as needed for the right frame.

FORMS

7.1 Introduction to HTML Forms:
Using forms we can design a web page on which a user can communicate his/her wish, option, suggestion etc. For that purpose the HTML has the special feature of <FORM>... </FORM> tag. A number of attributes can be used with this tag.

7.2 Input Tag
This tag specifies an input field where the user can enter data. <input> element is the most important form element. The <input> element can be displayed in several ways, depending on the attribute.

7.3 Value Attribute
This attribute is used differently for different input type. For: "Button", "Radio", "Submit". It defines the text on the button.

- For "button", "reset" & "hidden" - It defines the text on the button.
- For "text", "password" & "hidden" - It defines the initial (default) value of the input field.

7.4 Name Attribute
This attribute specifies a name for an HTML element. The name attribute is used as a reference when the data is submitted. The name attribute can be used to target a form submission.

7.5 Type Attribute
The type attribute is used to specify the type of the input element. Its default value is text.

7.6Elements of a FORM
In a form, there can be several statements to get the input from the user. They are
(a) Selection List Box.
(b) Input Box.
(c) Text Area.

a) Selection List Box: A selection list presents a list of options to the user. The user can select option of his choice from the list. The selection list box is created with <SELECT> tag, its companion tag is </SELECT> tag.
The <SELECT> tag has three attributes. They are:
(i) NAME attribute.
(ii) SIZE attribute.
(iii) MULTIPLE attribute.
The name attribute assigns a name for the variable, which will hold the selected choice.

Example

```
<HTML>
<HEAD>
<TITLE> working with forms</TITLE>
</HEAD>
<BODY>
<CENTER><HR><BR><BR>
<SELECT NAME="NAMEBOX">
<OPTION>Chetan</OPTION>
<OPTION>Sagir</OPTION>
<OPTION>Ananth</OPTION>
```

Output:

</SELECT>
</CENTER>
</BODY>
</HTML>

7.**Input Box:** The input of the user can be given in any of the following GUI elements:

(i) CHECKBOX
(ii) TEXT FIELD
(iii) PASSWORD FIELD
(iv) HIDDEN FIELD
(v) BUTTON
(vi) RADIO BUTTON
vii) SUBMIT BUTTON
(viii) RESET BUTTON

The input box is defined by using the <INPUT> tag. The type attribute defines whether it is a checkbox or radio button etc. The values are as follows:

Input Box and Type Values

Input Type	Value of the Type Attribute	Example
CHECKBOX	"CHECKBOX"	<INPUT TYPE="CHECKBOX" NAME=A>
TEXT FIELD	"TEXT"	<INPUT TYPE="TEXT" NAME=A>
PASSWORD FIELD	"PASSWORD"	<INPUT TYPE="PASSWORD" NAME=A>
HIDDEN FIELD	"HIDDEN"	<INPUT NAME = "BUTTON" NAME=A>
BUTTON	"BUTTON"	<INPUT TYPE="BUTTON" NAME=A>
RADIO BUTTON	"RADIO"	<INPUT TYPE="RADIO" NAME=A>
SUBMIT BUTTON	"SUBMIT"	<INPUT TYPE="SUBMIT" NAME=A>
RESET BUTTON	"RESET"	<INPUT TYPE="RESET" NAME=A>

7.**SWAP using User ID and Password field with button background color & font color.**

```
<html>
<head>
<title>form</title>
</head>
<body>
<center><h1 > Enter User Name and Password</h1>
User ID: <input type="text" name="id"><br><br>
Password: <input type="password" name="pw"><br><br>
<input type="Submit" value="go"><br><br>
<h1> Using Button Background color & font color </h1>
<input type="button" style="background-color:green;color:white;width:150px;height:40px;"
value="Submit">
</center>
</body>
```

</html>

Output:

7.9Text Area: The text area is a multi-line area in which the user can type the input. For example, the experience of a user with a product or the suggestion for further improvement of a given course etc. can be obtained by using text area. A text area can be created by using <TEXTAREA> tag. The <TEXTAREA> tag has three attributes, namely:

(i) Number of rows in the text area.

(ii) Number of cols in the text area.

(iii) Name of the variable which will store the contents typed in the text area and submit it to the server.

The rows and the columns attributes tell the number of the rows and the number of columns of the text field visible at any instant. Note that this is not a restriction for the text typed.

The text area will have scroll bars for viewing the entire text type. See the example below:

<TEXTAREA NAME = "remarks" ROWS = "5" COLUMNS = "25">

Example:

```
<HTML>
<HEAD>
<TITLE>WORKING WITH THE TEXTAREA</TITLE>
</HEAD>
<BODY>
<CENTER>
<HR><CENTER><H1>Type your remarks here and press the Proceed button
</H1><HR><HR>
<TEXTAREA NAME = "remarks" ROWS = "10" COLS = "50">
</TEXTAREA>
<INPUT TYPE = "SUBMISSION" VALUE = "PROCEED">
</CENTER>
</BODY>
</HTML>
```

Output:

7.10 The following is an HTML document that shows a form with several checkboxes.

```
<HTML>
<HEAD>
<TITLE>Working with checkbox in Forms</TITLE>
</HEAD>
<BODY>
<CENTER>
<H1><HR></H1>
Please select items for your computer
</U><H1><BR></CENTER><H2>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE = "Intel P4 1.8 GHz ">Intel P4 1.8
GHz<BR>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE = "With 80 GB HDD (Seagate)">
With 80 GB HDD (Seagate)<HR>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE = "With Flat Panel Monitor">With
Flat Panel Monitor<HR>
<INPUT TYPE = "checkbox" NAME="Computer" VALUE="With FDD">With FDD<HR>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE = "With CD ROM Drive">With
CD ROM Drive<BR>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE = "With CD Writer">With CD
Writer<BR>
<INPUT TYPE = "checkbox" NAME ="Computer" VALUE = "With Printer">With
Printer<BR>
<INPUT TYPE = "checkbox" NAME ="Computer" VALUE="With ATX Cabinet ">With ATX
Cabinet<HR>
<INPUT TYPE = "checkbox" NAME ="Computer" VALUE="With PS2 Mouse">With PS2
Mouse<HR>
<INPUT TYPE = "checkbox" NAME = "Computer" VALUE="With Multimedia Keyboard">
With Multimedia Keyboard<HR>
<INPUT TYPE="TEXT" NAME = "ORDER" SIZE = "20">
<INPUT TYPE="BUTTON" NAME = "TEST" VALUE = "Order Please">
</U>
</BODY>
</HTML>
```

Output

7.11 The following is an HTML document that shows a form with several radiobuttons.

```
<HTML>
<HEAD>
<TITLE>Working with radiobuttons in Forms</TITLE>
</HEAD>
<BODY>
<CENTER>
<H1><HR><U>
Please select items for your computer
</U></H1><HR></CENTER><H2>
<INPUT TYPE = "radio" NAME = "Computer" VALUE = "Intel PI.IX GHz">Intel PI.I X
GHz<BR>
<INPUT TYPE = "radio" NAME = "Computer" VALUE = "With 80 GB HDD (Seagate)"> With
80 GB HDD (Seagate)<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE = "With Flat Panel Monitor">With Flat
Panel Monitor<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE="With HDD">With FDD<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE = "With CD ROM Drive">With CD
ROM Drive<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE = "With CD Writer">With CD
Writer<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE = "With Printer">With Printer<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE="With ATX Cabinet ">With ATX
Cabinet<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE="With PS2 Mouse">With PS2
Mouse<BR>
<INPUT TYPE = "radio" NAME="Computer" VALUE="With Multimedia Keyboard"> With
Multimedia Keyboard<HR>
<INPUT TYPE="TEXT" NAME = "ORDER" SIZE = "30">
<INPUT TYPE="BUTTON" NAME = "TEST" VALUE = "Order Please">
</H2>
</BODY>
</HTML>
```

Output:

Note-It is important to note that for choosing only one item out of the given list, radio button is used. When more than one items are to be selected, check boxes are used.

7.12Finally, after having learnt making the various form options in web pages, we find that we can embed all these form options in one web page collectively also.

```
<HTML>
<HEAD>
<TITLE>FORM</TITLE>
</HEAD>
<BODY>
<H3> TEXT FIELD</H3>
<FORM NAME="FORM1">
ENTER HERE<INPUT TYPE="TEXT" NAME="TEXTFIELD" SIZE="20">
<H3> PASSWORD</H3>
ENTER HERE<INPUT TYPE="PASSWORD" NAME="RADIOBUTTON1">
<H3>BUTTON</H3>
ENTER HERE<INPUT TYPE="BUTTON" VALUE="CLICK ON ME">
<H3> CHECKBOX</H3>
CLICK HERE<INPUT TYPE="CHECKBOX" NAME="CHECKBOX1">
<H3> RADIO BUTTON</H3>
CLICK HERE<INPUT TYPE="RADIO" NAME="RADIOBUTTON1">
<H3>TEXTAREA</H3>
ENTER HERE<INPUT TYPE="TEXTAREA" ROWS="5" COLS="20">
<H3> DROPDOWN BOX</H3>
SELECT CITY<SELECT NAME="SELECT">
<OPTION>GAUHATI</OPTION>
<OPTION>SILIGURI</OPTION>
<OPTION>DAKUA
</SELECT>
<H3> FILE</H3>
BROWS THE FILE<INPUT TYPE="FILE" NAME="UPLOAD" VALUE="CLICK HERE TO
UPLOAD">
<H3> SUBMIT BUTTON</H3>
<INPUT TYPE="SUBMIT" VALUE="SUBMIT">
<H3> RESET BUTTON</H3>
<INPUT TYPE="RESET" VALUE="RESET">
</FORM>
```

</BODY>

Output:

8.1 WAP using Special characters in HTML

```
<html>
<head>
<title> special characters </title>
</head>
<body>
&ndash; dash <br>
&lowbar; underscore<br>
&iexcl; inverted exclamation<br>
&iquest; inverted questionmark</br>
&gt; greater than<br>
&lt; less than<br>
&amp; ampersand<br>
  space<br>
&copy; copyright<br>
&reg; registered trademark</br>
&trade; trademark<br>
&deg; degree<br>
&divide; divide<br>
&frac14;<br>
&brvbar; broken vertical bar<br>
</body>
</html>
```

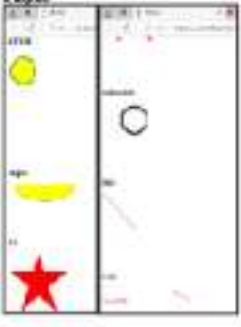
Output:

8.2 WAP using Graphics (shapes) in HTML.

```
<html>
<head>
<title>shapes</title>
</head>
<body>
<h1>circle</h1>
<svg width="100%" height="40%">
<circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" /></svg>
<h2>ellipse</h2>
<svg height="140" width="500">
<ellipse cx="300" cy="70" rx="120" ry="60" style="fill:yellow;stroke:green;stroke-
width:2" /></svg>
<h3>star</h3>
<svg id="mypolygon" width="300" height="200">
<polygon points="100,10 40,180 190,60 10,60 160,180" fill="red" /></svg>
<h3>hollow circle</h3>
<svg id="mycircle" height="200">
<circle cx="100" cy="50" r="40" stroke="black" stroke-width="3" fill="none" />
</svg>
<h2>line</h2>
<svg height="210" width="500">
<line x1="0" y1="0" x2="300" y2="300" style="stroke:rgb(255,0,0);stroke-width:2" />
</svg>
<h2>text</h2>
<svg height="30" width="200">
<text x="0" y="15" fill="red">
I love SVG! </text>
```

</svg>
<svg height="500" width="500">
<text x="0" y="15" fill="red" transform="rotate(30,20,40)">I love SVG</text>
</svg>
</body>
</html>

Output:



<svg> tag: This is the root element for your SVG image, defining its width and height.
<Circle> tag: This element creates a circle shape.
cx="50" and cy="50": These attributes define the x and y coordinates of the circle's center, placing it at the center of the SVG canvas.
r="25": This attribute sets the radius of the circle.
Stroke="black": Sets the color of the circle's border to black.
Stroke-width="3": Defines the thickness of the circle's border.
Fill="none": This crucial attribute ensures the circle is hollow by setting the fill color to "none".

5.3 WAP to coloring in graphics.

```
<html>
<head>
<title>graphics color</title>
</head>
<body>
<svg width="500" height="500">
<defs>
<linearGradient id="grad1">
<stop offset="0%" style="stop-color:yellow;Stop-opacity:1"/>
<stop offset="100%" style="stop-color:green;Stop-opacity:1"/>
<linearGradient>
</defs>
```

<rect width="400" height="100" fill="url(#grad1)" stroke-width="5" stroke="black">
</svg>
</body>
</html>

Output:

8.3 WAP Text on graphics Using SVG

```
<html>
<head>
<title>Text Graphics</title>
</head>
<body>
<svg width="700" height="300">
<ellipse cx="300" cy="50" rx="100" ry="30" fill="green" stroke="black"/>
<text fill="blue" font-size="30" font-family="Calibri MT" x="230" y="55">computer</text>
</svg>
</body>
</html>
```

Output: