**Introduction to HTML**

## Introduction to HTML

- HTML stands for Hyper-Text Markup Language.
- It is a documentation language (tool) to mark the headings, title, tables etc.
- It is a universal language to design a static a web page.
- It is machine independent and all the Internet browsers accept the HTML code.
- HTML is a set of special code that can be embedded in text to add formatting and linking information.

**HTML -** A type of text code in Hypertext Markup Language which, when embedded in a document, allows that document to be read and distributed across the Internet. The Hyper Text Markup Language (HTML) is a simple data format used to create hypertext documents that are portable from one platform to another. HTML documents are SGML documents with generic semantics that are appropriate for representing information from a wide range of domains.

## HTML TAGS

- **<H> Tag : (Heading tag)**
  - Headings can be created with tags H1, H2, H3, H4, H5 and H6.
  - H1 will make a big heading. H2 will make it smaller and H3 will
    make it still   Smaller, and so on.

For Example:

| | | |
|---|---|---|
| <h1> HTML </h1> | O/P: | **HTML** |
| <h2> HTML </h2> | O/P: | **HTML** |
| <h3> HTML </h3> | O/P: | **HTML** |
| <h4> HTML </h4> | O/P: | **HTML** |
| <h5> HTML </h5> | O/P: | **HTML** |
| <h6> HTML </h6> | O/P: | **HTML** |

- We can align the heading to the left, right or center. The default alignment is left
- The following are the four types of **alignments.**
  1. Left
  2. Right
  3. Center
  4. Justified

    For Ex : <h1 align=left>  Or     <h1 align=right> Or      <h1 align=center>       Or <h1 align= justify>

    Note: A fresh line paragraph will start only after an </h>, </p> and
   <br> tag.

- **<big>  tag**
  - It used to display the larger text

```
<html>
        <head>
                <title>            </title>
        </head>

        <body>
                <big> This is larger text> </big>
        </body>
</html>
```

1

O/P :    This is larger text

- **<center> tag**
  - This tag isused align text and other object in central position of page.

    For Ex.

    ```
     <html>
    <head>
            <title>          </title>
    </head>

    <body>
                    <center> M.B.Patel Science College </center>

    </body>
    </html>
    ```
    O/P :                    M.B.Patel Science College

- **<Strike> Tag**
  - It is used for crossing out a word by having a line drawn through it.

    ```
    <html>
            <head>
                    <title>          </title>
            </head>

            <body>
                    <strike> This is  strike effect. </strike>

            </body>
    </html>
    ```

    For Ex.

    **O/P :** ~~this is strike effect~~

- **<MARQUEE> tag**

  - This tag is used to Make text scroll across the screen

    ```
    <html>
            <head>
                    <title>          </title>
            </head>

            <body>
                    <MARQUEE> This is scrolling text < MARQUEE>
            </body>
    </html>
    ```

- **<BLINK> tag**
  - This tag enables the text blinking in the page.

    ```
    <html>
            <head>
                    <title>          </title>
            </head>
            <body>
            <BLINK> This is blinking Star </BLINK></body></html>
    ```

**&lt;BUTTON&gt; tag**
- This tag used to insert a standard clickable button within a form.
- It is generally better than using " input type "  tag.

&lt;html&gt;
    &lt;head&gt;
        &lt;title&gt;      &lt;/title&gt;
    &lt;/head&gt;
&lt;body&gt;
&lt;BUTTON&gt; SUBMIT &lt;/ BUTTON&gt;
&lt;/body&gt;
&lt;/html&gt;

**&lt;DIV&gt; tag**
- Division tag specifies a logical division within a document. It is used to separate or identify chunks of content that are not otherwise distinguished naturally using other tags.

- **&lt;STYLE&gt; tag**
  - This tag is used set CSS (Cascading Style Sheet) . Normally used in **&lt;head&gt;** section of a page.
  - Example:

&lt;html&gt;
    &lt;head&gt;
        &lt;title&gt;     &lt;/title&gt;
        &lt;style&gt;
            H1{color:red;}
            P{color:blue;}
        &lt;/style&gt;
    &lt;/head&gt;
&lt;body&gt;
&lt;h1&gt;A heading. &lt;/h1&gt;
&lt;p&gt; A paragraph.&lt;/p&gt;
&lt;/body&gt;
&lt;/html&gt;

- **&lt;TEXTAREA&gt; tag**
  - Using this tag it enables multi-line text input area in a form
    For Example:

&lt;html&gt;
    &lt;head&gt;
        &lt;title&gt;     &lt;/title&gt;
    &lt;/head&gt;
&lt;body&gt;
&lt;textarea row=5 cols=60&gt;
&lt;/textarea&gt;
&lt;/body&gt;
&lt;/html&gt;

- **&lt;SUB&gt; tag**
  - It used to display subscript text
    For Ex.

&lt;html&gt;
    &lt;head&gt;

```
                    <title>              </title>
              </head>
      <body>
       H<sub>2</sub>SO<sub>4</sub>
      </body>
      </html>
   O/P: H₂SO₄
```

O/P: $H_2SO_4$

- **<sup> tag**
    - It used to display superscript text effect.
      For ex.
      ```
      <html>
                    <head>
                          <title>          </title>
                    </head>
      <body>
      a <sup>2</sup>b
      </body>
      </html>
      ```
      O/P : $a^2b$

## Structure of an HTML document

- The following is the general structure of HTML Code.

```
<html>
        <head>
                <title>          </title>
        </head>

        <body>

        </body>
</html>
```

**HTML :** <html> </html> These tags tell the server that this page should be interpreted as HTML. The opening tag should always be the first tag on
any Web page. The closing tag should always be the last tag
on any Web page.

**Head :** <head> </head> Identifies the "HEAD" section of your HTML  page

**Title :** <title> </title> Identifies the title bar text for your page. One and only one tag set should appear in your HTML document. This tag is always
located between the Head tags of your document.

**Body :** <body> </body> These tags Identify the Body section of your   page. Most of the content that anyone sees on your page will be situated
between the opening and closing Body tags. The browser will always assume these tags exist even if you don't include them in your HTML document. However, you should use them to take advantage of the attributes listed below.
BODY ATTRIBUTES:

background=" ", bgcolor=" "
Example:
<html>
<head>
<title>Example page</title>
</head>
<body align="center" background="picture.jpg">
Text for your page.
    </body>
    </html>


## Text And Paragraph Formatting

- **<b> Tag : (Bold tag)**
    - It is used to make the text bold.
    For Ex.
    <html>
            <head>
                    <title>            </title>
            </head>
            <body>
                    <b> M.B.patel Science College </b>
            </body>
    </html>
    **O/P: M.B.patel Science College**


- **<i> tag : (Italic tag)**
    - It is used to make the text italic.
    For Ex.
    <html>
                    <head>
                            <title>            </title>
                    </head>
    <body>
            <i> M.B.patel Science College </i>
    </body>
    </html>
    **O/P:** *M.B.patel Science College*


- **<u> tag : (Underline tag)**
    - It is used to make the text underlined.
    For Ex.
    <html>
                    <head>
                            <title>            </title>
                    </head>
    <body>
                    <u> V.P Science College </u>
    </body>
    </html>
    **O/P:** <u>V.P Science College</u>


- **<br> tag : (Break tag)**
    - It is used for line breaking.
    For Ex.

5

```
<html>
            <head>
                    <title>          </title>
            </head>
<body>
        V.P Science College <br>
        Anand-388001
</body>
</html>
```
**O/P:**   *V.P Science College*

Anand-388001


- **<pre> tag : (Preformatted Text tag)**
  - It is used to display preformatted text.
  - That means the text or symbols between <pre> and </pre> appear as they are in the page.
    For Ex.
    ```
    <html>
                    <head>
                            <title>           </title>
                    </head>
    <body>
    <pre>H T  M  L</pre>
    </body>
    </html>
    ```
    **O/P:** H T  M  L


- **<tt> tag : (Typewriter Font tag)**
  - It is used to display the typewriter font.
    For Ex.
    ```
    <html>
                    <head>
                            <title>          </title>
                    </head>
    <body>
            <tt> Vande Mataram </tt>
    </body>
    </html>
    O/P:    Vande Mataram
    ```


- **<p> tag : (Paragraph)**
  - Whenever we give the <br> tag, the subsequent text appears in a new line.
  - Also, if we want to align paragraphs, we can mark the beginning and the end of a paragraph by <p> and </p> tag respectively.
  - It is also possible to align a paragraph left, right, center or justified.
  - When a paragraph ends, a blank line left.
    For Ex.
    ```
    <html>
                    <head>
                            <title>           </title>
                    </head>
    <body>
    <p align=left>
    ```

Hello students of  S.Y.B.Sc.(CS)! I wish you all the very best for your future. Work hard with intelligence. It was very nice experience to work with you. Good Bye. From HTML and all the staff members of Computer Department.
</p>
<p align=right>
Hello students of  S.Y.B.Sc.(CS)! I wish you all the very best for your future. Work hard with intelligence. It was very nice experience to work with you. Good Bye. From HTML and all the staff members of Computer Department.
</p>
</body>
</html>
**O/P:**
Hello students of S.Y.B.Sc. (CS)! I wish you all the very best for your future. Work hard with intelligence. It was very nice experience to work with you. Good Bye. From HTML and all the staff members of Computer Department.
Hello students of  S.Y.B.Sc. (CS)! I wish you all the very best for your future. Work hard with intelligence. It was very nice experience to work with you. Good Bye. From HTML and all the staff members of Computer Department.

**<u>Ordered and Unordered List</u>**
- When we want to mention a list of items, there are two methods to doing so.
1. We can number them as 1, 2, 3,……,etc.
2. We can list them one below the other without numbers.
   - When we list them without numbers, it is called an unordered list.
   - When we list them with numbers, it is called an ordered  list.

**Example of an Unordered List**
- HTML
- Biren
- Amit
- Kalpit
- Maulik

**Example of an Ordered List**
| 1. HTML | a. HTML | i. HTML |
| 2. Biren | b. Biren | ii. Biren |
| 3. Amit | c. Amit | iii. Amit |
| 4. Kalpit | d. Kalpit | iv. Kalpit |

**<ul> tag :(Unordered Lists)**
- An unordered list is represented by the <ul> and </ul> tags.
- The <ul> tag is given at the beginning and the </ul> tag is given at the end.
- Each **list item** is given an **<li> tag.**

**For Ex.**
<html>
    <head>
       <title>     </title>
    </head>
<body>
The following are the staff members of computer Department:
<br>
<ul>
    <li> Mr. Rahul Trivedi
    <li> Mrs. Beena Patel
    <li> Mr. Sanjay Mandviya
    <li> Hiren Bhatt
</ul>
</body>

</html>

O/P:
The following are the staff members of computer Department:
- Mr. Rahul Trivedi
- Mrs. Beena Patel
- Mr. Sanjay Mandviya
- Hiren Bhatt

## Type Attribute (Bullets in a list)
- In an unordered list, every listed items has a bullet.
- The bullet can be any one of the following symbols:
  - **Disc**
  - **Circle**
  - **Square**
- The symbol that we want to include can be selected by using **TYPE attribute** of the <ul> tag.
- For example, if we use <ul type = square> we shall get a square symbol.
- if we use <ul type = circle> we shall get a circle symbol.
- if we use <ul type = disc> we shall get a disc symbol.

## Plain Attribute
In the unordered list, if we do not have any bullets, we can use the plain attribute in the <ul> tag.
- For example,

```
<html>
        <head>
                <title>              </title>
        </head>
<body>
<ul plain>
        <li> HTML
        <li>Amit
        <li>Biren
</ul>
</body>
</html>
```

- There is a provision in HTML to design bullets of our choice.
- If we design any symbol and store it as a gif, bmp or jpeg file, we can use it as a bullet.
- For Ex. suppose we create a small computer symbol and store it as computer.gif file.
- If we want to have this symbol as a bullet, we must use it as an src attribute in the <ul> tag as follows.

```
<html>
        <head>
                <title>            </title>
        </head>
<body>
<ul src="computer.gif" >
        <li> HTML
        <li>Amit
        <li>Biren
</ul>
</body>
</html>
```

**&lt;ol&gt; tag :**      **(Ordered Lists)**
- Lists which appear with numbers are called ordered lists.
- The &lt;ol&gt; tag is given at the beginning and the &lt;/ol&gt; tag is given at the end.
- Each **list item** is given an **&lt;li&gt; tag.**

**For Ex.**

```
<html>
        <head>
                <title>           </title>
        </head>
<body>
The following are the staff members of computer Department:
<br>
<ol>
        <li> Mr. Rahul Trivedi
        <li> Mrs. Beena Patel
        <li> Mr. Sanjay Mandviya
        <li> Hiren Bhatt
</ol>
</body>
</html>
```
O/P:
The following are the staff members of computer Department:
1. Mr. Rahul Trivedi
2. Mrs. Beena Patel
3. Mr. Sanjay Mandviya
4. Hiren Bhatt

**Start Attribute**
- In an ordered list, the numbers begin from 1.
- It is possible to start the numbers from any desired number.
- For Ex. if we want to start with 5, then we can represent the fact in the start attribute of the &lt;ol&gt; tag.

For Ex.
```
<html>
        <head>
                <title>          </title>
        </head>
<body>
<ol start=5>
        <li> Mr. Rahul Trivedi
        <li> Mrs. Beena Patel
        <li> Mr. Sanjay Mandviya
        <li> Hiren Bhatt
</ol>
</body>
</html>
```
O/P:
5. Mr. Rahul Trivedi
6. Mrs. Beena Patel
7. Mr. Sanjay Mandviya
8. Hiren Bhatt

**Type Attribute**

- Instead of numbers, we can have letters A, B, C,…. Or a, b, c,……. Or roman letters in the ordering of the listed items.
- This is specified by the type attribute in the <ol> tag.
- Following are the symbols used with type attribute:

| Symbol | Meaning |
|---|---|
| 1 | Numbers |
| A | Upper case letters A, B, C,….. |
| A | Lower case letters a, b, c,…… |
| I | Upper case roman letters I, II, III,….. |
| I | Lower case roman letters i, ii, iii,……. |

- The start attribute can also be used together with type attribute.

**Nested Lists**
- ➢ It is possible to use one type of list within another type of list.
- ➢ These are called nested lists.

**For Ex. of Nested List**
- This nested list can be represented by an HTML code as follows

```
<html>
            <head>
                  <title>          </title>
            </head>
<body>
<ol>
      <li>Fruits
      <ul type= circle>
            <li>Apple
            <li>Banana
            <li>Orange
      </ul>
<li>Animals
      <ul type= square>
            <li>Lion
            <li>Tiger
            <li>Cat
      </ul>
<li>Birds
      <ul type= disc>
            <li>Sparrow
            <li>Parrot
            <li>Crow
      </ul>
<ol>
</body>
</html>
```

o/p:
1. Fruits
   o  Apple
   o  Banana
   o  Orange
2. Animals
   ▪  Lion

- ▪ Tiger
- ▪ Cat
3. Birds
   - Sparrow
   - Parrot
   - Crow

## HTML Tables
**<table> tag : (Table handling)**
- Tables are very efficient means of displaying information in a concise and precise form.
- The table can be created by using <table> tag which ends with </table> tag.
- A table has following components:
  - o Table caption
  - o Table Heading Row
  - o Rows and Columns

For Ex. **Information**

| Number | Name |
|--------|-------|
| 1 | HTML |
| 2 | Amit |
| 3 | Biren |
| 4 | Kalpit |

**<caption> tag : (caption of the table)**
- As shown above the Information is the caption of the table.
- The caption for the table must be given with the <caption> tag.
 For Ex. <caption> Information </caption>
- The table heading row is

| Number | Name |
|--------|-------|

- There are 4 rows and 2 columns in this table.

**Border Attribute**
- If we want a border for our table, we must give the beginning
tag as **<table  border >**
- If we want a bigger border, we can also give numbers to represent the size of the border.
- For example, <table border=5> will give a bigger border.
- Each row of the table must be given with the **<tr> (table row) tag.**
- The table heading in each column must be given with a **<th> (table handling) tag.**
- The first row of the table is heading row.
- So the heading row must be coded as follows:
        <tr> <th> Number <th> Name
- The table heading will be displayed in bold face.
- The entries in the other rows are called **table data** and entered with
 <td> tag.
- The table data will be displayed in regular face means without bold face
 effect.
- The next row of the table is

| 1 | HTML |
|---|-------|

- This is coded as
   <tr> <td> 1 <td> HTML
- The next row of the table is

| 2 | Amit |
|---|------|

- This is coded as
  `<tr> <td> 2 <td> Amit`
and so on.

## Width of the Table and Cells
- The specification of the width of the table is only optional.
- The width can be measured in one of the following units.
1. en unit: one en is 50 percent of the width of the character M in the usual font and size.
2. Pixels: in VGA mode resolution the screen has 640*480 pixels.
3. Relative: this unit specifies the percentage of the window as the width.
For Ex.
`<table border units=en width=60>`
`<table border units=pixels width=300>`
`<table border=5 units=relative width=75%>`

## Alignment
- The data in each cell is aligned left by default.
- We can define any one of the following as the alignment for each cell.
  - Left alignment
  - Right alignment
  - Center alignment
  - Decimal alignment

## Cells spanning multiple Rows/Columns
## rowspan and colspan attribute
Car Price List
- This table has the caption "Car Price List".
- The header has only two columns. In fact, the first column of the header row spans a width of two columns.
- Thus the header row is represented in the HTML document as
  `<tr><th colspan=2 align=center> Car <th align=center> Price`
- The attribute colspan tells us that this header spans two columns.
- The cell having "Maruti" spans 3 rows.
- The attribute rowspan tells us that this table data spans three rows.
- Thus, rowspan and colspan attributes are used for row spanning and column spanning respectively.
- The code for above table is as follows:
```
<table border>
        <caption> Car Price List </caption>
        <tr><th colspan=2 align=center> Car <th align=center> Price
        <tr> <td rowspan=3>Maruti Omni</td><td>200 000</td>
         <tr> <td>Maruti 800</td<td>242 000</td>
         <tr> <td>Maruti 1000<td>242 000</td>
        <tr> <td rowspan=3>Tata <td align=center>Sumo<td>475 000</td>
         <tr> <td align=center>Sierra</td><td>447 000</td>
         <tr> <td align=center>Safari</td><td>557 000</td>
</table>
```

## Width Attribute (Table Width)
- We can change the width of the table by using the width attribute in the    `<table>` tag.
- The width of the table can be measured in any one of the following units  which have explained earlier.
  1. En unit

2.  Pixel
3.  Relative

For Ex. <table units=en width=200>

Or

<table units=pixels width=275>

Or

<table units=relative width=80%>

**Align attribute (Alignment of Cell Elements)**
-   The data in the cell of the table are always left aligned by default.
-   The alignment can be changed using the align attribute in the <td> tag.

For Ex.

<td align=center>Sierra

Will center the text Sierra as shown below:

**bgcolor attribute (Coloring Cells)**
-   Each cell can be assigned a background color using bgcolor attribute.
-   If    we    want a particular cell to have a red    background color, the <td> tag

| Sierra |
| :---: |

must be given as follows:

<td bgcolor = red > Sierra

-   **It is possible to have different colors of both background color of a cell and text (table data) color.**

For Ex.

Admission 2009-10

| Community | Male | Female |
| :--- | :--- | :--- |
| OC | 35 | 15 |
| BC | 50 | 72 |
| SC/ST | 12 | 15 |

The code for above table is as follows:

<html>
</head>
        <title> </title>
</head>
<body>
<table >
    <caption> Admission 2009-10 </caption>
    <tr> <th align=center bgcolor=orange>Community <th align=right bgcolor=aqua>Male <th align=right bgcolor=magenta>Female
    <tr> <td align=center bgcolor=orange>OC</td> <td align=right bgcolor=aqua>35</td> <td align=right bgcolor=magenta>15</td></tr>
    <tr> <td align=center bgcolor=orange>BC </td><td align=right bgcolor=aqua>50 </td><td align=right bgcolor=magenta>72 </td></tr>
    <tr> <td align=center bgcolor=orange>SC/ST</td><td align=right bgcolor=aqua>12</td><td align=right bgcolor=magenta>15</td></tr>
    </table>
</body>
</html>

**Hyper Link**

- When we click a hot text another HTML document will be opened.
- This is how we link two texts. This is called the Hyper Link.
- If a web site runs into several pages, it is possible to define hyper links within the same web document itself.
- In this case we must define a target name as follows:
  
  &lt;a name=comp&gt;                    &lt;/a&gt;
- In this case an identification called COMP has been defined using another tag &lt;A&gt;. this is called the identification of a location.
- In another part of the document we can specify a hot text as follows:
  
       &lt;A href=”#comp” &gt; Computer Department &lt;/A&gt;
- When the hot text Computer Department is clicked, then the cursor jumps to the location with the identification COMP.


**IMAGES**

**&lt;img&gt; tag : (Image)**
- A picture or an image in the web page can be  inserted using the &lt;img&gt; tag.
- The &lt;img&gt; tag has following 5 attributes.
1. Src
2. Height
3. Width
4. Align
5. Alt
- The src attribute specifies the source of the picture.
- The height and width may be expressed in terms of either pixel, percentages or en units.
- The default is pixels.
- The align attribute specifies the alignment of the picture.
- The possible alignments are as follows.

| Alignment | Effect |
|---|---|
| Align=”left” | The image is placed at the left edge of the page |
| Align=”right” | The image is placed at the right edge of the page |
| Align=”middle” | The image is placed at the middle of the page |
| Align=”top” | The image is aligned with the top of the tallest item on the line |
| Align=”text top” | The image is aligned with the top of the tallest item on the line |
| Align=”abs middle” | This aligns the middle of the middle line with the middle of the image. |
| Align=”baseline” **Or** Align=”bottom” | This aligns the bottom of the image with the baseline of current line |

**Alt attribute**
- When the browser is in the process of loading the image file, the text specified in the alt attribute will be displayed.

**Adding space around the Image**
- It is possible to leave some space around the picture.
- The attributes hspace and vspace are used for this purpose.
- The vspace attribute specifies the vertical space which is the space at the top and at the bottom of the image.
- The hspace attribute specifies the horizontal space which is the space at the left and at the right of the image.

  For Ex.

  &lt;img src=”Elelphant.gif” height=250 width=150 hspace=25 vspace=40&gt;

- The above html tag loads the image file Elephant.gif and displays it with a size of 250 pixels height and 150 pixels width.
- It also gives a horizontal space of 25 pixels and vertical space of 40 pixels.

**Border for an Image**
- It is possible to give a border of desired thickness to images.
- This is done using the **border attribute** in the <img> tag.
- The thickness of the border may be from 1 pixel to 10 pixels.

For Ex.

<img src="Elephant.gif" height=250 width=150 border=5>