Unit-2 Introduction of HTML

HTML

What is HTML?

- Stands for Hypertext Markup Language.
- Most documents that appear on the World Wide Web were written in HTML.
- HTML is a markup language, not a programming language. In fact, the term HTML is an acronym that stands for Hypertext Markup Language.
- We can apply this markup language to your pages to display text, images, sound and movie files, and almost any other type of electronic information.
- We use the language to format documents and link them together, regardless of the type of computer with which the file was originally created.

HTML Elements

- An element consists of three basic parts: an opening tag, the element's content, and finally, a closing tag.

  * - opening paragraph tag*
  Element Content- paragraph words
  * - closing tag*

- Every (web) page requires four critical elements: the html, head, title, and body elements.

1. **<html> Element...</html>**
   - <html> begins and ends each and every web page.
   - Its purpose is to encapsulate all the HTML code and describe the HTML document to the web browser.

     <html></html>

2. **<head> Element**
   - The <head> element is "next" as they say. As long as it falls somewhere between your <html> tag and your web page content (<body>).
   - The head functions "behind the scenes." Tags placed within the head element are not directly displayed by web browsers.
   - We will be placing the <title> element here.
   - Other elements used for scripting (JavaScript) and formatting (CSS) will eventually be introduced and you will have to place them within your head element.

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

3. **The <title> Element**
   - Place the <title> tag within the <head> element to title your page.
   - The words you write between the opening and closing <title></title> tags will be displayed at the top of a viewer's browser.

```
<html><head><title>My WebPage!</title></head></html>
```

4. **The <body> Element**
   - The <body> element is where all content is placed. (Paragraphs, pictures, tables, etc).
   - The body element will encapsulate all of your webpage's viewable content.

```
<html>
<head><title>My WebPage!</title></head>
<body>
Hello World! All my content goes here!
</body>
</html>
```

Data Formatting tags

1. **<b>:** Defines bold text

```
<html>
<body>
    This is normal text - <b>and this is bold text</b>
</body>
</html>
```

Output:

This is normal text - **and this is bold text**

2. **<i>:** Defines a part of text in an alternate voice or mood. The content inside istypically displayed in *italic*.

```
<html>
<body>
    This is normal text - <i>and this is italic text</i>
</body>
</html>
```

Output:

This is normal text - *and this is italic text*

3. **<u>:** Content inside is typically displayed with an underline

```
<html>
<body>
    <u>Underlined text</u>
</body>
</html>
```

Output:

Underlined text

4. **:** Define emphasized text. The content inside is typically displayed in *italic*.

```
<html>
<body>
    <p>You <em>have</em> to hurry up!</p>
    <p>We <em>cannot</em> live like this.</p>
</body>
</html>
```

Output:

You *have* to hurry up!

We *cannot* live like this.

5. **:** Define text with strong importance. The content inside is typicallydisplayed in **bold**.

```
<html>
<body>
<strong>This text is important!</strong>
</body>
</html>
```

Output:

This text is important!

6. **
:** It inserts a single line break. It is an empty tag which means that it has noend tag.

```
<html>
<body>
    Have a<br>greatful<br>life<br>!!!!!
</body>
</html>
```

Output:

Have a
greatful
life
!!!!!

7. **<hr>:** Stands for horizontal rule and is used to insert a horizontal rule or athematic break in an HTML page to divide or separate document sections. The

<hr> tag is an empty tag, and it does not require an end tag.

```
<html>
<body>
        There is a horizontal rule below this paragraph.
        <hr>
        This is a horizontal rule above this paragraph.
</body>
</html>
```

Output:

There is a horizontal rule below this paragraph.

This is a horizontal rule above this paragraph.

Attributes: Size – To give thickness to horizontal bar

8. ** :** The tag was used in HTML4 to center-align text.

```
<html>
<body>
    Follow this
    <center>Be happy</center>
</body>
</html>
```

Output:

Follow this

Be happy

9. **<sup>:** Defines the superscript text. Superscript text appears half character above the normal line and is sometimes rendered in a smaller font. Superscript text can be used for footnotes.

```
<html>
<body>
    2<sup>X+1</sup>
</body>
</html>
```

Output:

2^{X+1}

10. **<sub>:** Defines the subscript text. Subscript text appears half a character belowthe normal line and is sometimes rendered in a smaller font.

```
<html>
<body>
    log<sub>b</sub>a
</body>
</html>
```

Output:

$\log_b a$

HTML Heading: <h1> to <h6>

HTML headings are titles or subtitles that you want to display on a webpage. HTML headings are defined with the <h1> to <h6> tags. <h1> defines the mostimportant heading. <h6> defines the least important heading.

<h1> headings should be used for main headings, followed by <h2> headings, thenthe less important <h3>, and so on.

```
<html>
<body>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
</body>
</html>
```

Output:

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

Paragraph: <p>, <pre>

<p>: Defines a paragraph. Browsers automatically add a single blank line beforeand after each <p> element.

```
<html>
<body>
    <p>This is a paragraph.</p>
</body>
</html>
```

Output:

This is a paragraph.

<pre>: Defines preformatted text. Text in a <pre> element is displayed in a fixed- width font, and the text preserves both spaces and line breaks. The text will be displayed exactly as written in the HTML source code.

```
<html>
<body>
    <pre>
Text in a pre element
is displayed in a fixed-width
font, and it preserves
both      spaces and
line breaks
    </pre>
</body>
</html>
```

Output:

```
Text in a pre element
is displayed in a fixed-width
font, and it preserves
both      spaces and
line breaks
```

HTML Lists

- There are 3 different types of lists.
- A <ol> tag starts an ordered list, <ul> for unordered lists, and <dl> for definition lists.
  1. - unordered list; *bullets*
  2. - ordered list; *numbers*
  3. <dl> - definition list; *dictionary*

1. HTML Ordered Lists

- Use the <ol> tag to begin an ordered list. Place the <li> (list item) tag between your opening <ol> and closing tags to create list items.
- Ordered simply means numbered, as the list below demonstrates.

```
<ol>
<li>Find a Job</li>
<li>Move  Out</li>
</ol>
```

Attribute:

type: type=" 1/ i/ I/ a/ A"

start: Specifies the start value of an ordered list

reversed: Specifies that the list order should be reversed (9,8,7...)

- Start your ordered list on any number besides 1 using the start attribute.

```
<ol start="4" >
<li>Buy Food</li>
<li>Get a Degree</li>
</ol>
```

- There are 4 other types of ordered lists. Instead of generic numbers you can replace them with Roman numerals or letters, both capital and lower-case. Use the type attribute to change the numbering.

```
<oltype="a">
<oltype="A">
<oltype="i">
<ol type="I">
</ol>
```

```
<html>
<body>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

<ol start="50">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

Output:

1. Coffee
2. Tea
3. Milk

50. Coffee
51. Tea
52. Milk

2. HTML Unordered Lists

- Create a bulleted list with the <ul> tag. The bullet itself comes in three subtypes: squares, discs, and circles.
- The default bullet displayed by most web browsers is the traditional full disc.

Attribute:

type: type = ” disc/square/circle/none”

```
<ul>
<li>Milk</li>
<li>Chocolate</li>
</ul>
```

- There are 3 other types of unordered lists.

```
<oltype="square">
<ol type="disc">
<oltype="circle">
</ol>
```

```
<html>
<body>
    <ul>
        <li>Coffee</li>
        <li>Tea</li>
        <li>Milk</li>
    </ul>
</body>
</html>
```

Output:

- Coffee
- Tea
- Milk

3. HTML Definition Term Lists

- Make definition lists as seen in dictionaries using the <dl> tag. These lists displace the term word just above the definition itself for a unique look. It's wise to bold the terms to displace them further.
  - <dl> - defines the start of the list
  - <dt> - definition term
  - <dd> - defining definition

```
<dl>
<dt><b>Fromage</b></dt>
<dd>French word for cheese.</dd>
<dt><b>Voiture</b></dt>
<dd>French word for car.</dd>
</dl>
```

4. HTML Nested Lists

- You can also nest one list within another, so you could make an unordered list inside a

```
<ol>
        <li> Clear out garage</li>
        <ul>
                <li> Tomatoes</li>
  </ul>
        <li> repair fence </li>
</ol>
</html>
```

HTML Color Coding System - Color Names

There are 3 different methods to set color.

- We can set color using three methods.
  a. Using color name

```
<body bgcolor=”red”>
<font color=”red”>
```

  b. Using RGB(Red, Green, Blue) value

```
<body bgcolor=”rgb(72,0,0)”>
<font color=”rgb(72,0,0)”>
```

  c. Using Hexadecimal value

```
<body bgcolor=”#ffff00”>
<font color=”#ffff00”>
```

HTML - Font

- The <font> tag is used to addstyle, size, and color to the text on your site. Use the size, color, and face attributes to customize your fonts.
- Use a <basefont> tag to set all of your text to the same size, face, and color.

1. Font Size

- Set the size of your font with size. The range of accepted values is from 1(smallest) to 7(largest). The default size of a font is 3.

```
<p><font size="5">Here is a size 5 font</font></p>
```

2. Font Color

- Set the color of your font with color.

```
<font color="#990000">This text is hexcolor #990000</font><br />
<font color="red">This text is red</font>
```

3. Font Face

- Choose a different font face using any font you have installed.

```
<p><font face="Bookman Old Style, Book Antiqua, Garamond">This paragraph has
had its font...</font></p>
```

HTML - Hypertext Reference (href) or Hyperlinks

- The href attribute defines reference that the link refers to. Basically this is where the user will be taken if they wish to click this link.
- Use the <a> tags to define the start and ending of an anchor.
- Decide what typeof href attribute you need and place this attribute into the opening tag.

- The text you place between the opening and closing tags will be shown as the link on a page. Use the demonstration below as a reference.

```
<html>
<body>
    Open link in a new window or tab: <a href="https://www.google.com"
target="_blank">Visit Google!</a>
</body>
</html>
```

Output:

Open link in a new window or tab: Visit Google!

Link Targets

- The target attribute defines whether to open the page in a separate window, or to open the link in the current browser window.

HTML Code:	
target=" _blank"	Opens new page in a new browser window
target=" _self"	Loadsthe new page in current window

Anchors

- To link to sections of your existing page a name must be given to the anchor.
- In the example below, we've created a mini Table of Contents for this page.
- By placing blank anchors just after each heading, and naming them, we can then create reference links to those sections on this page as shown below.
- First, the headings of this page contain blank, named anchors. They look like this.

```
<h2>HTML Links and Anchors <a name="top"></a></h2>
<h2>HTML Text Links <a name="text"></a></h2>
<h2>HTML Email <a name="email"></a></h2>
```

- Now create the reference links, placing the # symbol followed by the name of the anchor in the href of the new link.

```
<a href="#top"> Go to the Top</a>
<a href="#text"> Learn about Text Links</a>
<a href="#email"> Learn about Email Links</a>
```

HTML - Images

- Use the <img /> tag to place an image on your web page.

```
<img src="sunset.gif" />
```

1. **Image src**
   - Above we have defined the src attribute.
   - Srcstands forsource, the source ofthe image ormoreappropriately, where the picture file is located.
   - There are two ways to define the source of an image. First you may use a standard URL. (src=http://www.Xyz.com/pics/htmlT/sunset.gif) As your second choice, you may copy or upload the file onto your web server and access it locally using standard directory tree methods. (src="../sunset.gif")
   - The location of this picture file is in relation to your location of your .html file.

2. **Alternative Attribute**
   - The alt attribute specifies alternate text to be displayed if for some reason the browser cannot find the image, or if a user has image files disabled.

```
<imgsrc="http://example.com/brokenlink/sunset.gif" alt="Beautiful Sunset" />
```

3. **Image Height and Width**
   - To define the height and width of the image, rather than letting the browser compute the size, use the height and width attributes.

```
<imgsrc="sunset.gif" height="50" width="100">
```

4. **Vertically and Horizontally Align Images**
   - Use the align and valign attributes to place images within your body, tables, or sections.

1. align (Horizontal)
    1. right 2. left 3. center
2. valign (Vertical)
    1. top 2. bottom 3. center

   - Below is an example of how to align an image to the right of a paragraph

```
<p>This is paragraph 1, yes it is...</p>
<p><img src="sunset.gif" align="right">The image will appear along the...isn't it? </p>
```

5. **Images as Links**
   - Images are very useful for links and can be created with the HTML below.

```
<a href="http://www.xyz.com/"><img src="sunset.gif"></a>
```

```
<html>
<body>
    <img src="flower.jpg" alt="flower" width="100" height="100">
</body>
</html>
```

Output:

HTML Forms

- A form will take input from the viewer and depending on your needs, you may store that data into a file, place an order, gather user statistics, register the person to your web forum, or maybe subscribe them to your weekly newsletter.

Making a Form

- <form> is main tag to build a form.
- It has a few optional attributes too. Below is an example of the form element.

```
<form action="processform.php" method="post">
</form>
```

- The action attribute tells the HTML where to send the collected information, while the method attribute describes the way to send it.

Type of Input

- The main tag for collecting information from the user is <input>.
- The tag itself contains a name attribute, so that we can refer to the input by a name, and the size of the entry box in characters.
- There are quite few different types of input to choose from:
- <input type="text"/> this is the default input type and accepts characters and numbers into a text box. Itcanalso have avalue attribute attached to it, which willgive it an initial value.
- <input type="password"/> this is similar to the above text box but anything that is typed cannot beseen; instead an asterisk is printed to cover up the entry. As the name suggests, this is used for password entry.
- ☐ this gives a box that can be toggled between checked and unchecked. It can initially be set to one or the other with checked="checked".
- ☐ this is similar to checkbox but in group of radio buttons only one can be selected at a time. This canalso have an initial checked stateonone ofthe radio buttons.
- <input type="file"/>This will give a box to allow you to choose a file similar to when you open or save files usually on your machine. It can be used to select a file on the local machine for upload to a server.

- <input type=”submit”/> this allows a form to be submitted. When pressed, the information will bepassedonforprocessing, usually to ascriptmentioned in the action attributeoption ofthe form.
- <input type=”button”/> this makes a button available.
- <input type=”reset”/> this will reset the form to its initial state when selected.
- <input type=”range”/>
- <input type=”number”/>
- <input type=”date”/>

HTML Text Fields

- The <input> has a few attributes that you should be aware of.
- **type** - Determines what kind of input field it will be. Possible choices are text, submit, and password.
- **name** - Assigns a name to the given field so that you may reference it later.
- **size** - Sets the horizontal width of the field. The unit of measurement is in blank spaces.
- **maxlength** - Dictates the maximum number of characters that can be entered.

```
<form method="post"action="mailto:youremail@email.com">
Name: <input type="text" size="10" maxlength="40" name="name"><br />
Password: <input type="password" size="10" maxlength="10"
name="password">
```

HTML Radio Buttons

- Radio buttons are a popular form of interaction. You may have seen them on quizzes, questionnaires, and other web sites that give the user a multiple choice question. that relate to the radio button.

```
<form method="post" action="mailto:youremail@email.com">
What kind of shirt are you wearing? <br />
 Shade:
<input type="radio" name="shade" value="dark">Dark
<input type="radio" name="shade" value="light">Light <br />
</form>
```

HTML Check Boxes

- Check boxesallow for multiple items to beselected for a certain group ofchoices. The check box's name and value attributes behave the same as a radio button.

```
<form method="post" action="mailto:youremail@email.com">
Select your favorite cartoon characters.
<input type="checkbox" name="toon" value="Goofy">Goofy
<input type="checkbox" name="toon" value="Donald">Donald
<input type="checkbox" name="toon" value="Bugs">Bugs Bunny
</form>
```

HTML Drop Down Lists

- Drop down menues are created with the <select> and <option> tags. <select> is the list itself and each <option> is an available choice for the user.

```
<form method="post" action="mailto:youremail@email.com">
College Degree?
<select name="degree">
<option>Choose One</option>
<option>Some High School</option>
<option>High School Degree</option>
</select>
</form>
```

HTML Selection List

- Yet another type of form, a highlighted selection list. This form will post what the user highlights. Basically just another type of way to get input from the user.
- The size attribute selects how many options will be shown at once before needing to scroll, and the selected option tells the browser which choice to select by default.

```
<form method="post" action="mailto:youremail@email.com">
Musical Taste
<select multiple name="music" size="4">
<option value="emo" selected>Emo</option>
<option value="metal/rock" >Metal/Rock</option>
<option value="hiphop" >Hip Hop</option><option value="ska" >Ska</option>
<option value="jazz" >Jazz</option>
</form>
```

<select>: The <select> element is used to create a drop-down list. The <select>element is most often used in a form, to collect user input.

Attribute:

name: It is needed to reference the form data after the form is submitted (if you omitthe name attribute, no data from the drop-down list will be submitted).

<optgroup>: This tag is used to create a group of the same category options in a drop-down

list. The <optgroup> tag is required when there is a long list of the itemexists.

<option>: The <option> tag defines an option in a select list. <option> elements goinside

HTML Text Areas

- Text areas serve as an input field for viewers to place their own comments onto forums and the like use text areas to post what you type onto their site using scripts. For this form, the text area is used as a way to write comments to somebody.
- Rows and columns need to be specified as attributes to the <textarea> tag.
- Another attribute to be aware of is the wrap. Wrap has 3 values.

```
<form method="post"action="mailto:youremail@email.com">
<textarea rows="5" cols="20" name="comments"> Enter Comments Here
</textarea>
</form>
```

<textarea>:rows and cols attribute

• The <textarea> tag defines a multi-line text input control.

• The <textarea> element is often used in a form, to collect user inputs like commentsor reviews.

• The size of a text area is specified by the cols and rows attributes.

• The name attribute is needed to reference the form data after the form is submitted(if you omit the name attribute, no data from the text area will be submitted).

<fieldset> and <legend>:

<fieldset>: The <fieldset> tag is used to group related elements in a form. The <fieldset> tag drawsa box around the related elements.

<legend>: The <legend> tag defines a caption for the <fieldset> element.

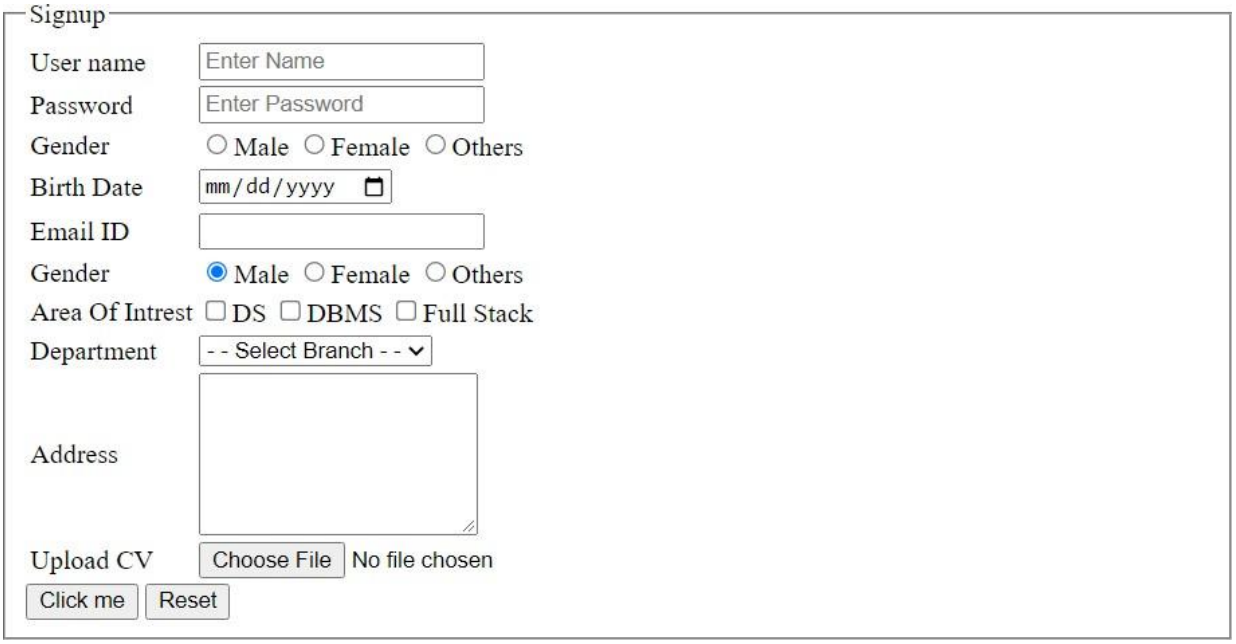
```
<html>
    <head><title>HTML Form</title>
    </head>
    <body>
        <form method="get" action="demo.html">
```

```
<fieldset><legend>Signup</legend>

<table>

<tr>

<td>User name </td>

<td><input type="text" maxlength="10" name="xyz" placeholder="Enter Name"/></td>

</tr>

<tr>

<td>Password </td>

<td><input type="password" maxlength="8"
placeholder="EnterPassword"></td>

</tr>

<tr>

<td>Gender </td>

<td><input type="radio" name="x" checked/>Male <input
type="radio"name="x"/>Female <input type="radio"
name="x"/>Others</td>

</tr>

<tr>

<td>Birth Date </td>

<td><input type="date"></td>
```

```
            </tr>

            <tr>

    </tr>

            <tr>

            <td>Email ID </td>

            <td><input type="email"></td>

            </tr>

            <td>Gender </td>

            <td><input  type="radio"  name="x"   checked/>Male    <input
                        type="radio"name="x"/>Female <input type="radio"
name="x"/>Others</td>

            </tr>

            <tr>

            <td>Area Of Intrest </td>

            <td><input  type="checkbox"  checked/>DS    <input type="checkbox"/>DBMS
<input type="checkbox"/>Full Stack</td>

            </tr>

            <tr>

            <td>Department </td>

            <td>

            <select>

            <option value=" " disabled hidden selected> - - Select Branch - - </option>

                  <optgroup label="CE">

                  <option>RAI</option>

                  <option>IT</option>
```

```
        <option>CSD</option>
        <option>CSE</option>
        </optgroup>
        <optgroup label="Mechanical">
        <option>Mech</option>
        <option>CAD</option>
        <option>Thermal</option>
        </optgroup>
</select>
</td>
</tr>
<tr>
<td>Address </td>
<td><textarea rows="6" cols="20"></textarea></td>
</tr>
<tr>
<td>Upload CV </td>
<td><Input type="file"/></td>
</tr>
</table>
<tr>
<td><Input type="submit" value="Click me"/></td>
<td><Input type="reset" value="Reset"/></td>
```

```
            </tr>

            </table>

            </fieldset>

            </form>

        </body>

</html>
```



HTML Tables

- The <table> tag is used to begin a table. Within a table element are the <tr> (table rows) and <td> (table columns) tags.

```
<table border="1">
<tr><td>Row 1 Cell 1</td><td>Row 1 Cell 2</td></tr>
<tr><td>Row 2 Cell 1</td><td>Row 2 Cell 2</td></tr>
</table>
```

Row 1 Cell 1	Row 1 Cell 2
Row 2 Cell 1	Row 2 Cell 2

- Content is placed within tables cells. A table cell is defined by <td> and </td>.The borderattribute defines how wide the table's border will be.

Spanning Multiple Rows and Cells

- Use rowspan to span multiple rows and colspan to span multiple columns.

- Note: if you would like to place headers at the top of your columns, use the <th> tag as shownbelow. By default these headers are bold to set them apart from the rest of your table's content.

```
<table border="1"><tr><th>Column 1</th><th>Column 2</th><th>Column 3</th></tr>
<tr><td rowspan="2">Row 1 Cell 1</td><td>Row 1 Cell 2</td><td>Row 1 Cell 3</td></tr>
<tr><td>Row 2 Cell 2</td><td>Row 2 Cell 3</td></tr>
<tr><td colspan="3">Row 3 Cell 1</td></tr>
</table>
```

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

Cell Padding and Spacing

- With the cellpadding and cellspacing attributes youwill be able to adjust the white space on your tables. Spacing defines the width of the border, while padding represents the distance between cell borders and the content within. Color has been added to the table to emphasize these attributes.

```
<table border="1" cellspacing="10" bgcolor="rgb(0,255,0)">
<tr><th>Column 1</th><th>Column 2</th></tr>
<tr><td>Row 1 Cell 1</td><td>Row 1 Cell 2</td></tr>
<tr><td>Row 2 Cell 1</td><td>Row 2 Cell 2</td></tr>
</table>
```

Column 1	Column 2
Row 1 Cell 1	Row 1 Cell 2
Row 2 Cell 1	Row 2 Cell 2

- And now we will change the cellpadding of the table and remove the cellspacing from theprevious example.

```
<table border="1" cellpadding="10" bgcolor="rgb(0,255,0)">
<tr><th>Column 1</th><th>Column 2</th></tr>
<tr><td>Row 1 Cell 1</td><td>Row 1 Cell 2</td></tr>
<tr><td>Row 2 Cell 1</td><td>Row 2 Cell 2</td></tr>
</table>
```

Column 1	Column 2
Row 1 Cell 1	Row 1 Cell 2
Row 2 Cell 1	Row 2 Cell 2

HTML tags for table:

<caption>	Defines a table caption
<table>	Defines a table
<th>	Defines a header cell in a table
<tr>	Defines a row in a table
<td>	Defines a cell in a table
<thead>	Groups the header content in a table
<tbody>	Groups the body content in a table
<tfoot>	Groups the footer content in a table

HTML <table> tag attribute:

Attribute	Value	Description
align	right left center justify char	Deprecated – Visual alignment.
bgcolor	rgb(x,x,x) #hexcode colorname	Deprecated – Specifies the backgroundcolor of the table.
border	pixels	Deprecated – Specifies the border width. A value of "0" means no border.
cellpadding	pixels or %	Deprecated – Specifies the space betweenthe cell borders and

		their contents.
cellspacing	pixels or %	Deprecated – Specifies the space betweencells.
rules	none groups rows cols all	Deprecated – Used in conjunction with the border attribute, specifies which rules appear between the cells of the table.
width	pixels or %	Deprecated – Specifies the width of thetable.

<td>, <tr> attributes:

Attribute	Value	Description
align	right left cente r justif ychar	Deprecated – Visual alignment.
bgcolor	rgb(x,x,x) #hexcod e colornam e	Deprecated – Specifies the backgroundcolor of the cell.
colspan	Number of columns tomerge	Number of columns a header cell shouldspan

rowspan	Number of rows tomerge	Set the number of rows a header cell shouldspan.

```
<html>
<body>
<table align="center" border="2" bgcolor="#87CEEB" rules="all" height=20%
width=20%>
<caption align="center">Table Example</caption>
    <tr align="center">
        <td>A</td>
        <td>B</td>
        <td>C</td>
        <td rowspan=3>D</td>
    </tr>
    <tr align="center">
        <td>E</td>
        <td colspan=2>F</td>
    </tr>
    <tr align="center">
        <td>G</td>
        <td>H</td>
        <td>I</td>
    </tr>
</table>
</body>
</html>
```

Output:

Table Example

A	B	C	D
E	F		
G	H	I	

Table using <thead>, <tbody>, <tfoot>:

The <tbody> tag is used to group the body content in an HTML table.

The <tbody> element is used in conjunction with the <thead> and <tfoot> elementsto specify each part of a table (body, header, footer).

Browsers can use these elements to enable scrolling of the table body independentlyof the header and footer. Also, when printing a large table that spans multiple pages,these elements can enable the table header and footer to be printed at the top and bottom of each page.

Note: The <tbody> element must have one or more <tr> tags inside.

The <tbody> tag must be used in the following context: As a child of a <table> element, after any <caption>, <colgroup>, and <thead> elements.

Tip: The <thead>, <tbody>, and <tfoot> elements will not affect the layout of the table by default. However, you can use CSS to style these elements (see example below)!

```
<html>
<head>
</head>
<body>
<table border="1">
  <thead>
    <tr>
      <th>Month</th>
      <th>Savings</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>January</td>
      <td>100</td>
    </tr>
    <tr>
      <td>February</td>
      <td>80</td>
    </tr>
  </tbody>
  <tfoot>
    <tr>
      <th>Sum</th>
      <th>180</th>
    </tr>
  </tfoot>
</table>
</body>
</html>
```

Output:

Month	Savings
January	100
February	80
Sum	**180**

HTML - <!-- Comments -->

- A comment is a way for you as the web page developer to control what lines of code are to

beignored by the web browser.

- Commentsyntax maybealittle complicated, there is anopening andaclosing muchlike tags.
    1. <!-- Opening Comment
    2. -- > Closing Comment

```
<!--Note to self: This is my banner image! Don't forget -->
<imgsrc="http://www.website.com/pics/anyimage.jpg" height="100" width="200"/>
```

HTML Frame:

HTML frames are used to divide your browser window into multiple sections whereeach section can load a separate HTML document.

A collection of frames in the browser window is known as a frameset. The windowis divided into frames in a similar way the tables are organized: into rows and columns.

Note: Main html page should not have <body> tag.

<frameset>

To decide partitions into more than one frame

attributes:

rows: Specifies how many rows are contained in the frameset and the size of eachrow.

rows=”20%, 30%, *” (Three horizontal frames – 20%, 30%, remaining space)rows=”150,

300, 200”

rows=”10%, 30%, 60%”

rows=”1*, 2*, 3*". This is an alternative to percentages. You can use relative widthsof the browser window. Here the window is divided into sixths: the first column takes up one sixth, the second takes one third, and the third takes half of the window.

cols: Specifies how many rows are contained in the frameset and the size of each row. You can specify the height of each row in the same way as explained above forcolumns.

border: This attribute specifies the width of the border of each frame in pixels. Forexample, border= "5". A value of zero means no border.

frameborder: This attribute specifies whether a three-dimensional border should bedisplayed between frames. This attribute takes value either 1 (yes) or 0 (no). For example, frameborder = "0" specifies no border.

noresize: frames are not draggable. By default, you can resize any frame by clickingand dragging on the borders of a frame.

noresize = "noresize". Or simply write noresize

<frame>

Attributes:

src: Source of HTML file to be shown in partition.

For example, src = "frame1.htm" will load an HTML file available in html directory.

scrolling: This attribute controls the appearance of the scrollbars that appear on theframe. This takes values either "yes", "no" or "auto". For example, scrolling = "no"means it should not have scroll bars.

frame.html

```
<html>

        <frameset frameborder="2" border="10" rows="25%,*,25%"
noresize>

                <frame src="demo.html"/>

                <frameset cols="50%,*">

                        <frame src="demo.html"/>

                        <frame src="demo.html"/>

        </frameset>

        <frame src="demo.html" scrolling="no"/>

        </frameset>

</html>
```

demo.html

```
<html>
	<body>
	<h1 align="center">Html File for all frames</h1>
	<pre>
h
e
ll
o
e
v
e
r
y
o
n
e
h
e
l
```

l

o

e

v

e

r

y

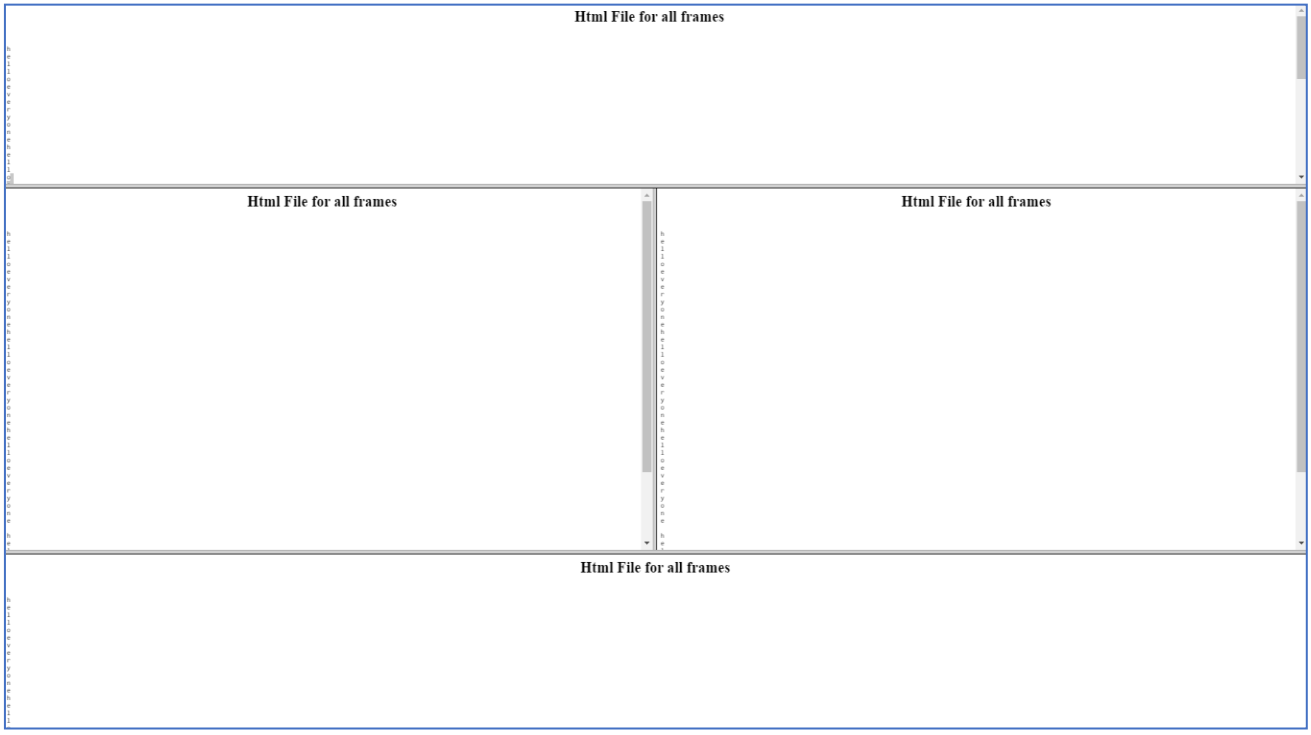
o

n

e </pre>

</body>

</html>



HTML Block and Inline elements: and

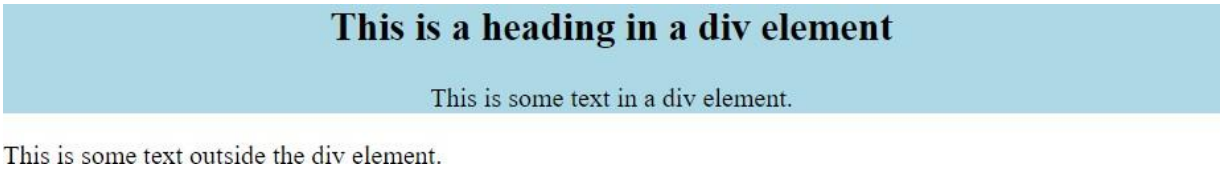
** :** The div tag is known as Division tag. The div tag is used in HTML to makedivisions of content in the web page like (text, images, header, footer, navigation bar, etc). Div tag has both open( ) and closing ( ) tag and it is mandatoryto close the tag.

It is a block level tag. This defines specific section or division in html page. This gives style to entire block and all-inclusive contents.

It is used to the group of various tags of HTML so that sections can be created and style can be applied to them.

```
<html>
<head>
</head>
<body>
<div style="background-color: lightblue;
  text-align: center;">
  <h2>This is a heading in a div element</h2>
  <p>This is some text in a div element.</p>
</div>
<p>This is some text outside the div element.</p>
</body>
</html>
```

Output:



This is some text outside the div element.

: The HTML span element is a generic inline container for inline elements and content. It is used to group elements for styling purposes (by using the class or id attributes), A better way to use it when no other semantic element is available.

The span tag is a paired tag means it has both open(<) and closing (>) tags, and it ismandatory to close the tag. The span tag is used for the grouping of inline elements& this tag does not make any visual change by itself. span is very similar to the divtag, but div is a block-level tag and span is an inline tag.

```
<html>
<body>
<p>One has <span style="color:blue;font-weight:bold">blue</span> eyes and other one has
<span style="color:darkolivegreen;font-weight:bold">dark green</span> eyes.</p>
</body>
</html>
```

Output:

One has **blue** eyes and other one has **dark green** eyes.

HTML<meta> tag:

HTML lets you specify metadata - additional important information about a document in a variety of ways. The META elements can be used to include name/value pairs describing properties of the HTML document, such as author, expiry date, a list of keywords, document author etc.

The <meta> tag is used to provide such additional information. This tag is an emptyelement and so does not have a closing tag but it carries information within its attributes.

You can include one or more meta tags in your document based on what informationyou want to keep in your document but in general, meta tags do not impact physicalappearance of the document so from appearance point of view, it does not matter ifyou include them or not.

Attributes:

name: Name for the property. Can be anything. Examples include, keywords, description, author, revised, generator etc.

content: Specifies the property's value.

http-equiv: Used for http response message headers. For example, http-equiv can be used to refresh the page or to set a cookie. Values include content-type, expires, refresh and set-cookie.

<head>

<title>Meta Tags Example</title>

<meta name = "keywords" content = "HTML, Meta Tags, Metadata" />

<meta name = "description" content = "Learning about Meta Tags." />

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv = "refresh" content = "5" />

</head>

What is an HTML Form? Discuss different form attributes

- Form is a data collection mechanism within HTML that allows the design of various styles of inputto suit most types of information.
- An input element can vary in many ways, depending on the type attribute. An input element canbe of type textfield, checkbox, password, radiobutton, submit button, and more.
- Following are **attributes of <form>.**

1. **Name:**
   - Thename attribute specifies thenameofaformwhichisusedtoreferenceelementsinaJavaScript.

     <form action="URL">
     Value : URL Description :
     Where to send the form
     data.

2. **Action:**
   - The required action attribute specifies where to send the form-data when a formissubmitted.

     <form action="URL">
     Value : URL Description :
     Where to send the form data.

3. **Method :**
   - The method attribute specifies how to send form-data (the form-data is sent to thepagespecified in the action attribute).

     <form
     method="get
     |post">
     Value : get
     Description : Default. Appends the form-data to the URL in name/value pairs: URL?name=value&name=value
     Value : post
     Description : Sends the form-data as an HTTP post transaction.

Explain following terms with example.

(1) <optgroup> :

- The <optgroup> is used to group related options in a drop-down list. If you have a long list of options, groups of related options are easier to handle

```
<select>
        <optgroup label="Swedish Cars">
                <option value="volvo">Volvo</option>
                <option value="saab">Saab</option>
        </optgroup>
        <optgroup label="German Cars">
                <option   value="mercedes">Mercedes</option>
                <option value="audi">Audi</option>
        </optgroup>
</select>
```

(2):

- The tag is used to group inline-elements in a document.
- The tag provides no visual change by itself.
- The tag provides a way to add a hook to a part of a text or a part of a document.
- When the text is hooked in a element you can add styles to the content, or manipulate thecontent with for example JavaScript.

```
<p>Mymotherhas<spanstyle="color:lightblue">lightblue</span>eyes.</p>
```