**HTML (Hyper Text Markup Language)**

HTML is used to create web pages. Collection of web pages is called as a web site.

HTML consists of a series of elements. Elements tell the browser how to display the contents.

**Basic Structure:-** Following basic structure is used to write a html program.

<!DOCTYPE html>  
<html>  
<head>  
<title>Page Title</title>  
</head>  
<body>

Elements  
  
</body>  
</html>

**Tags:-** The commands enclosed between angular brackets are called as tags.

e.g. <body>, <head>, <html> etc.

Most of the tags are having starting and ending tags. They are written as

e.g.<body>--</body>, <head>--</head> etc

The tags which are not having ending tags are called as standalone tags or singleton tags. E.g. <hr>, <br>, <img> etc.

**Elements:-** Whatever written between start and end tags is called as elements.

**Attributes:-** The extra properties we add in the tags are called as attributes.

Text editors like html are used to write html code. You can save the file with .html extension and then open in the browser to display contents.

**<body>:-** Contents in <body>..</body> are displayed on web page.

**Attributes of <body>:-**

Align- align contents from left, right, center or justify. Default value is left.

Bgcolor-specifies background color for the web page.

Background-displays an image as background of web page.

Link-specifies color of the hyperlink. By default is blue.

Alink-specifies color of the active link.

Vlink-specifies color of the visited link.

**Headings:-** Html has some heading tags to display heading on the web page. There are 6 heading tags used in html. <h1>,<h2>,<h3>,<h4>,<h5>, and <h6>. <h1> tag displays heading in biggest font size and <h6> displays heading in smallest size. From <h1> to <h6> size goes on decreasing.

e.g. <h1> This is a heading </h1>

**Paragraphs:-** By using <p> tag we can display a paragraph on web page.

e.g. <p> Paragraph </p>

To insert a new line we can use <br> tag.

To break the paragraph we can use <hr> tag.

**Formatting Elements:-** Following tags are used to format elements:

* <b> - Displays text in bold.
* <strong> - Displays text as important text.
* <i> - Displays text in Italics format.
* <em> - displays text in italics.
* <mark> - Displays text as highlighted.
* <small> - displays text in Smaller size.
* <del> - Marks text as deleted.
* <ins> - marks text as Inserted text by underlying it.
* <sub> - displays Subscript text.
* <sup> - Displays Superscript text.

**Comments:-** Comments are not displayed by the browser. They just help to write html code. Comments are written as:

<!..Comment..>

**Hyperlinks:-** Hyperlinks are created to link with another file or URL or document.

<a> (anchor ) tag is used to create a hyperlink.

Href(hyperlink reference) attribute is used to get the file/URL.

e.g. <a href=”abc.html”> Click here.</a>

**Use image as hyperlink:-**

You can use image as hyperlink as following:

<a href=”abc.html”> <img src=”a.jpg” height=100 width=100> </a>

**Use E-mail address as hyperlink:-**

We can use mailto with href attribute to link an e-mail address.

e.g. <a href=”mailto:abc@gmail.com”>send mail</a>

Target attribute-it specifies where to open the linked document.

The target attribute can have following values:

* \_self - Default. Opens the document in the same window.
* \_blank - Opens the document in a new window.
* \_parent - Opens the document in the parent frame.
* \_top - Opens the document in the full body of the window.

**Image:-** We can insert an image on the web page using <img> tag. Attributes of <img> tag are as following:

Src- used to get source of image. (path and name of image with extension.

Alt- used to specify alternate text for the image.

Style- used to specify style for the image like height, width and float. Float property is used to float image to right or left.

**<font>:-** It is used to format the text. It has following attributes:

* Color:- decides color of the text.
* Face:- specifies type of font you want to use for the text.
* Size:- Decides size of the text. You can use sizes from(0 to 7).

**Favicon:-** It is a small image displayed next to page title.

**Tables:-** We can insert tables on web page. <table> tag is used to insert table with some other tags for creating rows and columns.

Attributes of <table> tag:-

Align- aligns table to right, left or center of web page.

Border- to specify border for the table.

Bgcolor-to specify background color.

Bordercolor- to specify border color. You can also use bordercolorlight and bordercolordark attributes.

<table> tag includes following tags:

<tr>- to create table row.

<th>-to create column heading.

<td>- to create table data.

<caption>- to create heading for table.

Cellpadding- this attribute is used to specify space between cell edges and its contents.

Cellspacing-it is used to specify space between two cells.

Cellpadding and cellspacing attributes are used with <th> and <td> tags.

Rowspan- it used to merge two or more rows.

Colspan-it is used to merge two or more columns.

Rowspan and colspan attributes are used with <tr> tag.

**Lists:-** We can create different lists by using various tags in html.

<ul>- it is used to create a unordered list. Which means a list with bullets. Three types of bullets we can use disc, square and circle. Disc is the default value.

Type attribute is used to specify the type of bullet.

<ol>-it is used to create a ordered list. That means a list with numbers. Type attribute is used to specify the number format. By default is 1,2,3. We can use a,b,c…, A,B,C,…, i,ii,iii,iv…and I,II,III,IV…also.

<li>- it is used to create list items in both <ul> and <ol> tags.

<dl>- it is used to create a description list. It includes <dt> and <dd> tags. <dt> tag defines the term and <dd> tag describes the term.

**Inline frames:-** It is used to embed another document in html document. It is created by using <iframe> tag. It has following attributes:

Src-to get the external file.

Style- to specify style including height, width and border. Height and width can be specified separately.

Title- to specify title for the frame.

Name- to specify name for the frame.

e.g. <iframe src="abc.html" height="200" width="300" title="Iframe Example"></iframe>

**Canvas:-** It is used to draw graphics on a web page. Canvas is only container for the object. Actual object can be drawn by using javascript.

e.g. <canvas id="myCanvas" width="200" height="100"></canvas>

It creates a rectangular canvas area.

**SVG(Scalable Vector Graphics):-**

<svg> is used to define graphics for the web page.

SVG circle:- To draw a svg circle use following code:

<!DOCTYPE html>  
<html>  
<body>  
  
<svg width="100" height="100">  
  <circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" />  
</svg>  
  
</body>  
</html>

SVG rectangle:- to draw svg rectangle use following code:

<svg width="400" height="100">  
  <rect width="400" height="100" fill=rgb(0,0,255) stroke-width=10 stroke=rgb(0,0,0) />  
</svg>

SVG rounded rectangle:- to draw svg rounded rectangle use following code:

<svg width="400" height="180">  
  <rect x="50" y="20" rx="20" ry="20" width="150" height="150"  
  fill=red stroke=black stroke-width=4 />  
</svg>

SVG Star:- to draw svg star use following code:

<svg width="300" height="200">  
  <polygon points="100,10 40,198 190,78 10,78 160,198"  
  fill=lime stroke=purple stroke-width:5" />  
</svg>

**Forms:-** Forms are created to accept use information. User information is mostly

sent to server for processing. <form> tag is used to create forms in html.

It has following attributes:

* Action:- It defines action to be performed when form is submitted.
* Method:-It specifies HTTP method used to submit the form data. It has two values Get and Post. Get value submits data to the specifies URL. Get is the default method and it displays data on address bar. So it is not secured while using confidential data. Post method does not display data on address bar, so it is a secured method while sending sensitive or confidential data.
* Name:- It specifies name to the form.

Form elements:- There are different elements of form which we can insert on web page. There are some form elements which we can insert using <input> tag.

<input> tag attributes:-

* Type:- It specifies type of element.
* Name:- It specifies name for an element.
* Size:- It specifies width of text box. It is normally used with text and password types.
* Checked:- It specifies default selection for options in checkbox or radio button.
* Value:-It is used to specify default value for an element. It is used with text, checkbox, radio, submit and reset. When used with text type it specifies default value in a text box. For checkbox and radio it defines value which is sent on submit.

Elements we can use in html are:-

* Textbox:- It creates a simple text box.

e.g. Name: <input type=text name=t1>

Output will be as:- Name:

* Password:- It creates a textbox where data is displayed by using either dots (.) or asterisk(\*) sign.

e.g. Enter Password:<input type=password name=pwd>

Output will be as: Enter Password:

**……..**

* Checkbox:-It displays checkbox to select a particular action. User can select multiple options at a time using checkbox.

e.g. <input type=checkbox name=ch1 value=English> English

<input type=checkbox name=ch2 value=Maths> Maths

Output will be as: English

Maths

* Radio button:-It displays radio button where user can select only one option at a time.

e.g. Gender: <input type=radio name=gender value=Male> Male

<input type=radio name=gender value=Female> Female

Output will be as: Gender: Male Female

* Submit:- It creates submit button to submit form data.

e.g. <input type=submit value=”Submit”>

Submit

Output will be as:

* Reset:- It creates reset button to clear form data.

e.g. <input type=reset value=”Reset”>

Reset

Output will be as:

* Button:-It creates a simple button.

e.g. <input type=button value=”Add”>

Add

Output will be as:

* <Select>:- It creates a dropdown list. List elements are created using <option>

Attributes of <select> are:

Name:- to assign name to the list.

Multiple:- It allows to select multiple options from the list.

e.g. City: <select>

<option> Pune</option>

<option> Mumbai</option>

<option> Nasik</option>

<option> Nagpur</option>

</select>

Pune

Output will be as:

* <textarea>:-It creates a multiline textbox.

Attributes of <textarea> are:

Name:- To assign name to multiline textbox.

Rows:- Decides number of lines to be used in textbox.

Cols:- Decides number of characters in a line.

e.g. Comment: <textarea rows=5 cols=25> </textarea>

Output will be as: Comment:

**Audio:-** To use audio file on web page <audio> tag is used with <source >tag.

Attributes of <audio> tag are:

* Controls:- Used to add controls like Play, pause and volume.
* Autoplay:- used to start audio file automatically.
* Muted:- used to run audio file as muted.

<source>:- It is used to get source of audio file with alternate source.

Attributes of <source> tag are:-

* Src:- to get the source of audio file.
* Type:- to mention type of audio file . E.g.audio/mpeg

e.g.

<audio controls autoplay>  
  <source src="horse.ogg" type="audio/ogg">  
  <source src="horse.mp3" type="audio/mpeg">  
</audio>

**Video**:- To use video file on web page <video> tag is used with <source >tag.

Attributes of <video> tag are:

* Controls:- Used to add controls like Play, pause and volume.
* Autoplay:- used to start video file automatically.
* Muted:- used to run video file as muted.
* Height:- Specifies height.
* Width:- Specifies width.

<source>:- It is used to get source of video file with alternate source.

Attributes of <source> tag are:-

* Src:- to get the source of video file.
* Type:- to mention type of videofile . E.g.video/mp4

e.g.

<video width="320" height="240" autoplay>  
  <source src="movie.mp4" type="video/mp4">  
  <source src="movie.ogg" type="video/ogg">  
</video>

**Programs**

Tables:- create table for following outputs:

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Input Device** | **Output Device** |
| 1 | Keyboard | Monitor |
| 2 | Mouse | Printer |
| 3 | Joystick | Plotter |

<!DOCTYPE html>

<html>

<head>

<title>Table creation </title>

</head>

<body>

<table border=2>

<tr> <th> Sr. No. <th> Input Device <th> Output Device </tr>

<tr> <td> 1 <td> Keyboard <td> Monitor </tr>

<tr> <td> 2 <td> Mouse <td> Printer </tr>

<tr> <td> 3 <td> Joystick <td> Plotter </tr>

</table>

</body>

</html>

2.

|  |  |
| --- | --- |
| Colors | Red |
| Green |

<!DOCTYPE html>

<html>

<head>

<title>Table creation with rowspan</title>

</head>

<body>

<table border=3>

<tr> <td rowspan=2> Colors <td bgcolor=red> Red </tr>

<tr> <td bgcolor=green> Green </tr>

</table>

</body>

</html>

3.

|  |  |
| --- | --- |
| Colors | |
| Red | Green |

<!DOCTYPE html>

<html>

<head>

<title>Table creation with colspan</title>

</head>

<body>

<table border=3>

<tr> <td colspan=2> Colors </tr>

<tr> <td bgcolor=red> Red <td bgcolor=green> Green </tr>

</table>

</body>

</html>

Forms:- Write html programs using form elements for following outputs:

**Use of Form**

Enter your name:

Enter your standard: 11th  12th

Choose your optional subjects:

* Marathi
* German
* Biology
* I.T.

**Reset**

**Submit**

<!DOCTYPE html>

<html>

<head>

<title> Form creation </title>

</head>

<body bgcolor=orange>

<h1> Use of form </h1>

<form>

Enter your name: <input type=text name=t1> <br><br>

Enter your standard: <input type=radio name=r1 value=11>11<sup>th</sup>

<input type=radio name=r1 value=12>12 <sup>th</sup><br><br>

Choose your optional subjects:<br>

<input type=checkbox name=c1 value=Marathi>Marathi <br>

<input type=checkbox name=c2 value=German>German <br>

<input type=checkbox name=c3 value=Biology>Biology <br>

<input type=checkbox name=c4 value=I.T.>I.T. <br><br>

<input type=submit value=Submit>

<input type=reset value=Reset>

</form>

</body>

</html>

2.

**Use of Form elements**

Enter your name: 

Enter your city: 

Enter your address:

**Send**

<!DOCTYPE html>

<html>

<head>

<title> Form creation </title>

</head>

<body bgcolor=cyan text=red>

<h1> Use of form elements</h1>

<form method=post>

Enter your name: <input type=text name=t1> <br><br>

Select your city: <select>

<option> Pune</option>

<option> Mumbai</option>

<option> Nasik</option>

<option> Nagpur</option>

</select>

<br><br>

Enter your address: <textarea rows=4 cols=25> </textarea>

<br><br>

<input type=submit value=Send>

</form>

</body>

</html>

List: Write html programs using list tags for following outputs:

**Welcome to Sevenmentor & Training Pvt. Ltd.**

List of available courses

* Data structure
* Web Technology
* Programming Languages
* Networking

Data structure topics

1. Array
2. Linked list
3. Stacks
4. Queues
5. Trees
6. Graphs

<!DOCTYPE html>

<html>

<head>

<title> List creation </title>

</head>

<body>

<h1> Sevenmentor & Training Pvt. Ltd. </h1>

<ul> List of available courses

<li> Data Structure

<li> Web Technology

<li> Programming Languages

<li> Networking

</ul>

<ol> Data Structure topics

<li> Array

<li> Linked List

<li> Stacks

<li> Queues

<li> Trees

<li> Graphs

</ol>

</body>

</html>