1 Advanced Web Designing

Let us learn

- Student can design the layout of web pages using CSS.
- Students can learn to design the website.
- Student can design the web form with validations.
- Students can learn concept of image map and Iframe (inline frame).
- The aim is to give the skills to create HTML WebPages, using HTML5 and CSS.

1.1 Advanced Web Designing

We have been introduced to basic terminologies related to creation of web pages. The Hypertext Mark-up Language (HTML) is an evolving language, with different versions supporting different features. HTML5 is currently used because it supports mobile technology. The major browsers are Google Chrome, MozillaFirefox, Microsoft Edge, Safari, Opera and Apple support the features of HTML5.

1.2 Forms in HTML5

In eleventh standard we have studied different controls related to form like text, radio, checkbox, submit, reset, select and textarea.

These controls are used to collect different kinds of user inputs, such as contact details like name, address, single or multiple options from group of options, as well as clearing and submitting data etc.

HTML5 has introduced additional form controls which can also be used for validation purpose.

HTML5 advanced <input> elements

HTML5 introduces a number of new input type values for the type attribute of <input> tag.

Input type	Description
<input type="color">	Defines a color picker
<input type="number">	Defines a field for entering a number
<input type="url">	Defines a field for entering a URL.
<input type="image">	Defines an image as a submit button.
<input type="date">	Defines a date picker with the year, month and day
<input type="email">	Defines a field for an e-mail address

Input type	Description
<input type="month">	Defines a month and year control in format is "YYYY-MM"
<input type="range">	Define a range control. Default range is 0 to 100.
<input type="datetime-local">	Defines a date picker that includes the year, month, day and time.
<input type="time">	Defines a control for entering a time.
<input type="week">	Defines a week and year control.
<input type="search">	Defines a text field for entering a search string like a site search or Google search.
<input type="file">	Defines a file-select field and a "Browse" button for file uploads.
<input type="tel">	Used to define input fields that should contain a telephone number.

Input Restrictions

A list of some common input restrictions is given below, few of which can be used for validation purpose.

Attribute	Description
disabled	Specifies that an input field should be disabled.
max	Specifies the maximum value for an input field.
min	Specifies the minimum value for an input field.
pattern	Specifies a regular expression to check the input values.
read only	Specifies that an input field is read only (cannot be changed).
placeholder	This acts as a temporary label showing the purpose of a text field without requiring a label tag.
required	Specifies that an input field is required (must be filled out).
autocomplete	Specifies whether a form or input field should have autocomplete On or Off.
autofocus	Specifies that the input field should automatically get focus when the page loads.
height and width	Specifies the height and width of an <input type="image">
multiple	Specifies that the user is allowed to enter more than one value in the <input> element. This works with input types like email and file.

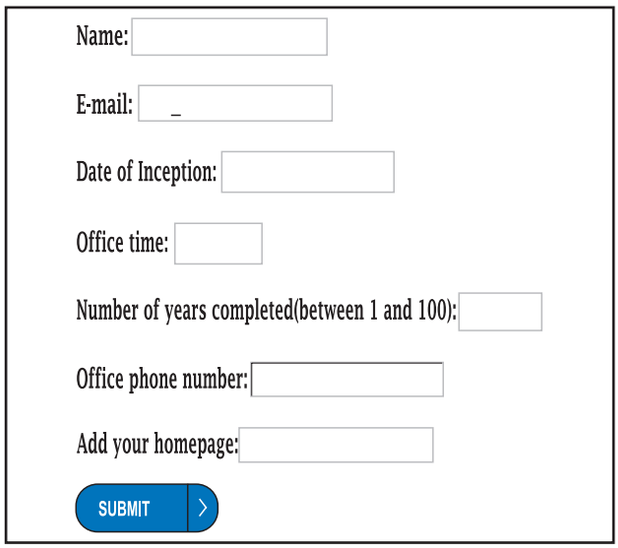
Some other useful attributes used with <input> are-

1. **id :** This is used to identify the html element uniquely through the document object model.
2. **class:** It is used to apply CSS style to the individual input element.

Examples :

```
<!DOCTYPE html> <html>
<head>
<title>Forms in html 5 </title></head>
<body>
<form> Name: <input type="text"autocomplete><br><br>
E-mail:<input type="email" name="email"><br><br>
Date of Inception: <input type="date" name="bday"><br><br>
Office time: <input type="time" name="usr_time"><br><br>
Number of years completed(between 1 and 100): <input type="number" min="1" max="100"><br><br>
Office phone number: <input type="tel" name="phone" pattern="[0-9]{2}-[0-9]{10}" required><br><br>
 Add your homepage:
<input type="url" name="homepage"><br><br>
<input type="image" src="E:/submitbutton.png" alt="click here to submit" >
</form>
</body>
</html>
```

The output is as follows



Do it Yourself

1. *Use multiple attribute in <input>*
2. *Use pattern attribute in <input> and see the Output.*

1.3 <meta> tag

The meta tag is a tag in html that describes some aspects of contents of a webpage. The HTML <meta> tag is used by search engines to search information

that is provided with the webpage. This is empty tag (singular tag) which carries information within its attributes. The <meta> tag is placed between the <head>and </head> tags. Metadata will not be displayed on the webpage.

Attribute of <meta> tag

Attribute	Values	Description
Name	The value of the name attribute can be related to any of the following- i) Author ii) Description iii) Keywords iv) copyright e.g. <meta name = "author" >	Specifies the Name of the meta-data like the author, keywords or description.
Content	It can have any textual matter related to the name as in eg. i. <meta name = "author" content = "Balbharti"> ii. <meta name = "description" content = "Advance web de-signing"> iii. <meta name = "keywords" content = "html5, learn html5, list in html 5">	Here content of author is balbharati. Here the value for content attribute specifies name of the topic advance web designing. Here the values for content attribute are given as keywords like html5 , learn html5 etc.
Charset	UTF-8, Big5 e.g <meta charset="UTF-8"> <meta charset="Big5">	Specifies the character encoding used by the document, This is called a character encoding declaration. UTF-8 For Indian characters Big5 – for Chinese characters
http-equiv	refresh , set-cookie, content-type, expires, e.g. <meta http-equiv="refresh"content="5"> <meta http-equiv="set-cookies"> <meta http-equiv="content-type"content="text/html"charset="Big5"> <meta http-equiv="expires" content="userid=pqr; expires=Wednesday, 8-feb-2018 23:59:59 GMT;">	Used for http response message headers. Here the page will get refresh after every 5 seconds. The browser sends the cookies back to the server. Specifies the character encoding for the document Here page session will get expire at specified date and time.

Example:

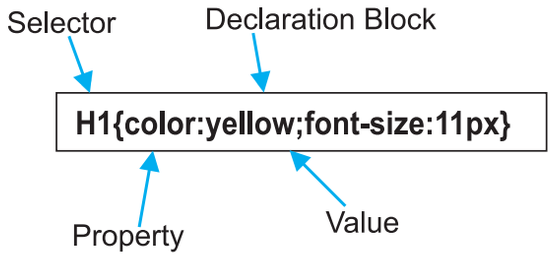
```
<!DOCTYPE html>
<html>
      <head>
            <title>meta tag
examples</title>
            <meta name = "authors"
content = "Balbharti">
<meta name = "description" content =
"Advance web designing">
<meta name = "keywords" content =
"html5, learn html5, list in html5">
<meta name="copyright" content
= " copyright Balbharti All right
Reserve">
      </head>
      <body>
            <p> Welcome to HTML5
            </p>
      </body>
</html>
```

1.4 Cascading Style Sheets in HTML5

CSS stands for Cascading Style Sheets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. CSS allows you to control the look and feel of several pages by changing a single source.

CSS Syntax

- A CSS rule set contains
  - a selector and
  - a declaration block.



Selector : Selector indicates the HTML element you want to style. It could be any tag like <h1>, <body> etc.

Declaration Block : The declaration block can contain one or more declarations separated by a semicolon. For the above example, there are two declarations:

1. color : yellow;
2. font-size :11 px;

Each declaration contains a property name and value, separated by a colon.

Property : A Property is a type of attribute of HTML element. It could be color, border etc.

Value : Values are assigned to CSS properties. In the above example, value "yellow" is assigned to color property.

Selector{Property1: value1; Property2: value2}

Types of CSS

There are three methods of implementing styling information to an HTML document.

1. **Inline CSS**
2. **Embedded stylesheet or Internal CSS**
3. **External CSS**

1. **Inline stylesheet :** It uses the style attribute in the HTML start tag.

Inline CSS is used to apply CSS on a single line or element.

For example :

```
<p style="color:blue">Hello CSS</p>
```

2. **Embedded stylesheet or internal CSS :** This is used to apply CSS on a single document or page. It can affect all the elements of the page. It is written inside the style tag within head section of html.

For example :

```
<!DOCTYPE html>
<html>
<head>
<style>
h1{color: Red;}
</style></head>
<body>
<h1>The internal style sheet is applied on this heading.</h1>
<p>This paragraph will not be affected.
</p>
</body>
</html>
```

The output of above program is as follows-

CSS Properties

Property	Use	Value	Example
Color	Changes the color of the text	Color name	h1{color: maroon}
Background-color	To set the background color in your webpage	Color name	body{background-color:yellow}
Font-weight	Used to bold text	bold or 100, 200…900	p{font-weight:300}
Font-style	Used to italicize text	Italic, oblique or normal	p{font-style:italic}
Text-decoration	This property is used to add 1. strike-through marks 2. underline 3. overstrike 4. to remove underlines from links	 1. line-through 2. underline 3. overline 4. none	p{text-decoration: underline} a{text-decoration: none}
Text-align	This property is use to control the horizontal alignment of any block-level text that are paragraphs, tables and other elements	left, right, center or justify	h1{text-align:center}
Font-family	This is used to control the fonts	Font name	p{font-family:arial}

Property	Use	Value	Example
Font-size	This property allows you to control the size of the font	px, in, mm, cm, pt	p{font-size:10px}
Letter-spacing	This helps in controlling the horizontal spacing between characters of text	px, in, mm, cm, pt	h1{letter-spacing: 5pt}
Padding	This property is used when you want to add padding (blank spaces) around the content of an element.	Pixel	h1{padding:30px}
Border	This property adds a border to a webpage element	Solid, double, groove, ridge, inset, outset, dotted or dashed	h1{border:double}
Background-image	To set an image as the background of your webpage	url("X") where X is the path of image file	body{background-image: url('background.jpg')}
Background-repeat	To set the background image to repeat or not	repeat no-repeat	background-repeat: repeat background-repeat: no-repeat
Margin-Left	Sets margin area on the left side of the element.	px,pt,cm etc.	h1{margin-left;10px}

3. **External stylesheet : The external style sheet is generally used when you want to make changes on multiple pages.** It facilitates to change the look of the entire web site by changing just one file. It uses the <link> tag on every page and the <link> tag should be put inside the head section.

For example :

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
<h1>This is a heading</h1>
</body></html>
```

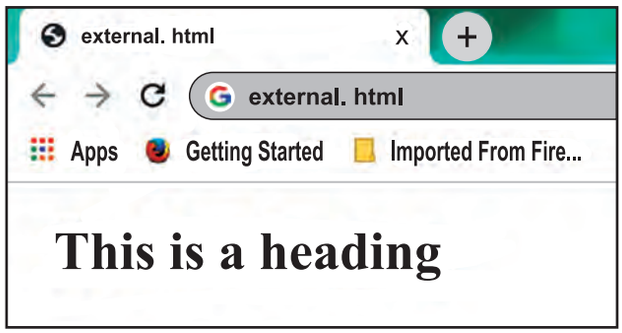
An external style sheet can be written in any text editor, and must be saved with a .css extension. The external css file should not contain any HTML tags.

Here is how the "style.css" file looks like:

Style.css

h1{color:navy;margin-left:20px}

The output is as follows

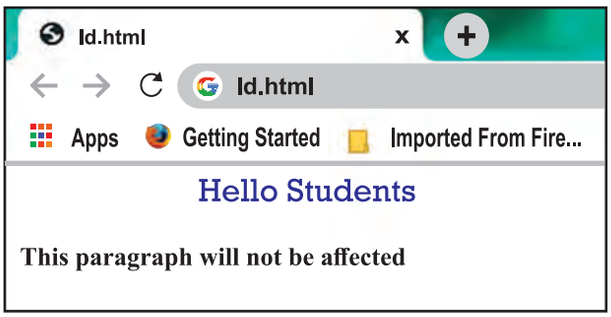


CSS Id Selector

The Id selector selects the id attribute of an HTML element to select a specific element. An id is always unique within the page so it is unique element. It is written with the hash character(#), followed by the id name.

```
<!DOCTYPE html>
<html>
<head>
<style>
#para1{text-align: center; color: blue}
</style>
</head>
<body>
<p id="para1">Hello Students</p>
<p>This paragraph will not be affected.</p>
</body>
</html>
```

See the output as follows



CSS Class Selector

The class selector selects HTML elements with a specific class attribute. **It is used with a period character '.'** (full stop symbol) followed by the class name. **The Class selector is used when you want to change a group of elements within your HTML page.**

The class name should not start with number.

Let's take an example with a class "intro".

```
<!DOCTYPE html>
<html>
<head>
<style>
.intro{text-align:center;color:blue}
</style></head>
<body>
<h1 class="intro">This heading is blue and center-aligned.</h1>
<p class="intro">This paragraph is blue and center-aligned.</p>
</body>
</html>
```

The above code results as

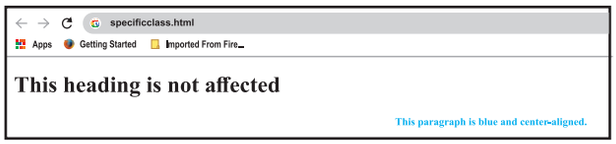
Class Selector for specific element

To specify only one specific HTML element should be affected then you should use the element name with class selector.

Let's see an example :

```
<!DOCTYPE html>
<html><head><style>
p.intro {text-align: center;color: blue}
</style></head>
<body>
<h1 class="intro">This heading is not affected</h1>
<p class="intro">This paragraph is blue and center-aligned.</p>
</body></html>
```

The output is as follows



Universal Selector

The universal selector is used as a wildcard character. It selects all the elements on the Webpages.

```
<!DOCTYPE html>
<html><head><style>
* { color: green; font-size: 20px;}
</style></head>
<body>
This css style will be applied on Entire page.It does not check tag or plain text<br>
<h2>This css is  applied to heading </h2>
<p id="para1">it is applied to first paragaraph</p>
<p>Also to second paragraph !</p>
</body>
</html>
```

Output :

This css style will be applied on Entire page. It does not check tag or plain text

This css is applied to heading

it is applied to first paragraph

Also to second paragraph !

Group Selector

The grouping selector is used to select all the elements with the same style definitions. It is used to minimize the code. Commas are used to separate each selector in grouping.

Let's see the CSS code without group selector.

h1{ text-align:center;color:blue}

h2{ text-align:center;color:blue}

p {text-align:center;color:blue}

As you can see, you need to define CSS properties for all the elements. It can be grouped as-

h1,h2,p{ text-align:center;color:blue}

Let`s see full code as follows :

```
<!DOCTYPE html>
<html>
<head>
<style>
h1,h2,p{text-align: center; color: blue}
</style>
</head>
<body>
<h1>Hello Heading 1</h1>
<h2>Hello Heading 2 (In smaller font)</h2>
<p>This is a paragraph.</p>
</body>
</html>
```

Output :

Hello Heading 1

Hello Heading 2 (In smaller font)

This is a paragraph

Positioning in CSS

CSS helps to position the HTML elements. The position property is used to set position for an element. The element can be positioned using the top, bottom, left and right properties.

Syntax :

Selector{position:value;top:value;

left:value:bottom:value;right:value}

Where values in positions are fixed, absolute, relative and values of top, bottom, left, right are in pixels

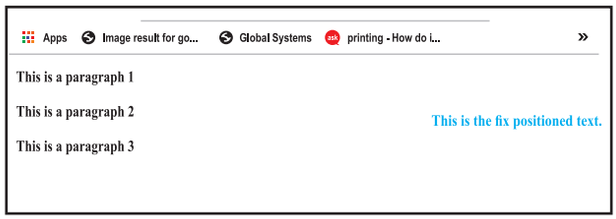
There are four types of positioning in CSS

1. **Static Positioning :** This is a by-default position for HTML elements. It is not affected by the top, bottom, left and right properties.
2. **Fixed Positioning :** This property helps to put the text fixed on the browser. The FIXED property forces an element into a fixed position relative to the browser window. The fixed element will not move, even when the page is scrolled.

Let`s see the example :

```
<!DOCTYPE html>
<html><head><style>
p.fixed{position: fixed; top: 50px; right: 5px; color: blue}
</style></head>
<body>
<p>This is paragraph 1</p>
<p>This is paragraph 2</p>
<p>This is paragraph 3</p>
<p class="fixed">This is the fix positioned text.</p>
</body>
</html>
```

Output :

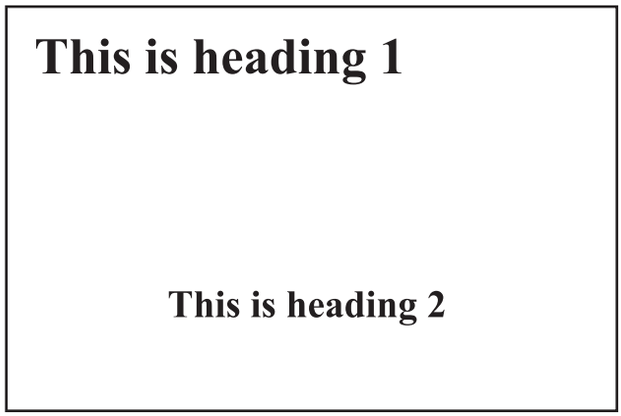


3. **Relative Positioning :** The relative positioning property is used to set the element relative to its normal position.
4. **Absolute Positioning :** This property sets an element in a specific location and it is not affected by the flow of the page. This property positions the element at the specified coordinates relative to your screen top-left corner.

For example :

```
<!DOCTYPE html>
<html><head><style>
.first{position: relative;top: -10px;
right: -10px;}
h2{position: absolute;
left:100px;top:150px}
</style></head><body>
<h1 class="first">This is heading 1
</h1>
<h2>This is heading 2</h2>
</body></html>
```

Output :



In above output the Level 1 headings with class="first"have a relative position 10 pixels above and 10 pixels to the right of it's original position.

All level 2 headings will be positioned 100 pixels from the left of the browser window and 150 pixels from the top of the browser window.

Float Property

Float is a CSS property written in CSS file or directly in the style of an element. The float property defines the flow of content.

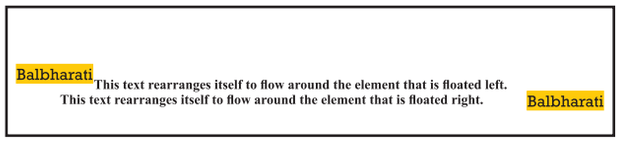
Following are the types of floating properties :

1. **float : left :** This keeps the element float on left side of the container
2. **float : right :** This keeps the element float on right side of container
3. **float : none :** This is default property i.e. this shows the element as it is.

For example :

```
<!DOCTYPE html>
<html><head>
<title>Float Example</title>
<style>
 .float-left{float:left;font-
size:20px;background-color:gold}
 .float-right{float: right;
font-size:20px;background-color:gold}
</style></head><body>
<h2 class="float-left">Balbharati
</h2><p>This text rearranges itself to
flow around the element that is floated
left.
</p>
<h2 class="float-right">Balbharati
</h2>
<p>This text rearranges itself to flow
around the element that is floated
right.  </p>
</body></html>
```

Output



Display property

The Display property in CSS defines how the components (div, hyperlink, heading, etc) are going to be placed on the web page. It specifies how the element is displayed. As the name suggests, this property is used to define the display of different parts of a web page.

Syntax :

Display : value;

Where values are :

Inline : It is used to display an element as an inline element.

Block : It is used to display an element as an block element. It starts on a new line, and takes up the whole width of the browser window.

Inline-Block : This value is very similar to inline element but the difference is that you are able to set the width and height.

None : The element is completely removed.

Let's see an example

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
display: inline;
}
</style>
</head>
<body>
<p>welcome to balbharti</p>
<p>Javascript</p>
<p>HTML5</p>
<p>CSS</p></body></html>
```

Output :

Example 2 :

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Example of CSS display</title>
<style type="text/css">
   a {
      display : block;
      background-color:orange;
   }
</style>
</head>
<body>
<p>
<a href="https://www.ebalbharti.in" >
Visit balbharti</a>
<br>
</p></body>
</html>
```

Output :

Visit balbharti

Based on the CSS properties studied so far, the representation of semantic tags displayed in 11th standard textbook can be coded as follows.

Example 1 :

Use of semantic tags and CSS.

```
<!DOCTYPE html>
<html>
<head>
<style>
header{background-color:pink;width:1
00%;height:20%}
nav{background-
color:skyblue;width:100%;height:20%}
aside{background-color:grey;width:40
%;height:42%;float:right}
section{background-color:lightyellow;
width:60%;height:10%;float:left}
article{background-color:violet;width:
60%;height:40%}
footer{background-color:orange;width
:100%;height:10%}
</style>
</head>
<body>
<header>
<h1>HTML5 includes new
semantics</h1>
<p>It includes semantic tags like
header, footer, nav
<h1>Example of complete HTML5
Basics</h1>
<h2>The markup of the future under
```

development.</h2> </header>
<nav>The nav element represents a section of navigation links. It is suitable for either site navigation or a table of contents.
http://www.w3schools.com
Balbharti website
</nav>
<aside>
<h1>Other education based websites of State</h1>
State Board website
Pune university website
</aside>
<section>
<h1>Impressive Web Designing</h1>
The aside element is for content
that is tangentially related to the content around it, and is typically useful for marking up sidebars.
</section>
<section>
<h1>Articles on:Article tag</h1>
</section>
<article>
The article element represents an independent section of a document, page or site. It is suitable for content like news or blog articles, forum posts or individual comments.
</article>
<footer>© 2018 Balbharti.</footer>
</body></html>

1.5 Ordered list or numbered list

The <ol> tag defines an ordered list. An ordered list can be numerical or alphabetical.

Attributes of <ol> tag-

Attribute	Values	Description
Type	"1" /"a"/"I"/"i"	1 is default value and other values specify the numbering type for the used items.
Reversed	Reversed	This attribute specifies that the items of the list are specified in the reverse order.
Start	Number	Specifies the starting number of the first item in an ordered list.

```
<!DOCTYPE html>
<html><body>
<h3>List of Topics</h3>
<ol>
<li>Basics of IT</li>
<li>HTML 5</li>
<li>PostgreSQL</li>
</ol>
<h3>List of Topics start with series 50</h3>
<ol start="50">
<li>Basics of IT</li>
<li>HTML 5</li>
<li>PostgreSQL</li>
</ol></body></html>
```

Output :

List of Topics

1. Basics of IT
2. HTML 5
3. PostgreSQL

List of Topics start with series 50

50. Basics of IT
51. HTML 5
52. PostgreSQL

Example 2 :

```
<!DOCTYPE html>
<html>
<body>
<h3>List of Topics in reverse sequence</h3>
<ol reversed>
<li>Basics of IT</li>
<li>HTML 5</li>
<li>PostgreSQL</li>
</ol></body></html>
```

Output :

List of Topics in reverse sequence

3. Basics of IT
2. HTML 5
1. PostgreSQL

1.6 Unordered list or bulleted list

An unordered list created using the <ul> tag, and each list item starts with the <li> tag. The list items in unordered lists are marked with bullets (small black circles), by default.

Example : 1

```
<!DOCTYPE html>
<html>
<head>
<title>Example of HTML Unordered List</title>
</head>
<body>
<h3>HTML Unordered List</h3>
<ul>
<li>Basics of IT</li>
<li>HTML 5</li>
<li>PostgreSQL</li>
</ul></body></html>
```

Output :

HTML Unordered List

- Basics of IT
- HTML 5
- PostgreSQL

Attributes of <ul> tag

Attribute	Values	Description
Type = disc/ circle/square (use style (css) instead of type attribute in HTML5. Type attribute is supported by previous versions of HTML)	style="list-style-type:disc" e.g	Sets the list item marker to a bullet (default)
	style="list-style-type:circle" e.g	Sets the list item marker to a circle
	style="list-style-type:square" e.g	Sets the list item marker to a square
	style="list-style-type:none" e.g	The list items will not be marked

Note : HTML5 does not support bullets, circle and square value of type attribute instead you use CSS style.

1.7 Definition list

To define a definition list <dl> tag is used. You can create items in definition list with the <dt> and <dd> tags. The <dt> tag is used to define the term whereas the <dd>tag is used to define the term's definition.

Type the following code

```
<!DOCTYPE html>
<html>
<head>
<title>definition List</title>
</head>
<body>
<h3>Example of HTML definition List</h3>
<dl>
<dt><b>Web</b></dt>
<dd>The part of the Internet that contains websites and web pages</dd>
<dt><b>HTML</b></dt>
<dd>A markup language for creating web pages</dd>
<dt><b>CSS</b></dt>
<dd>A technology to make HTML look better</dd>
</dl>
</body>
</html>
```

Output :

Example of HTML definition List

Web
The part of the Internet that contains websites and web pages
HTML
A markup language for creating web pages
CSS
A technology to make HTML look better

Nested list

List within another list either order list or unordered list is called nested list.

Examples : Single level nested list

```
<!DOCTYPE html>
<html >
<head>
<title>Example of HTML nested list</
title>
</head>
<body>
<h3>HTML Nested List</h3>
<ol>
<li>Introduction to IT</li>
<li>Introduction to DBMS</li>
<ul style="list-style-type:circle">
<li>Definition of DBMS</li>
<li>applications of DBMS</li>
<li>Advantages of DBMS</li>
</ul>
<li>Postgresql</li>
</ol></body></html>
```

Output :

HTML Nested List

1. Introduction to IT
2. Introduction to DBMS
    - Definition of DBMS
    - applications of DBMS
    - Advantages of DBMS
3. Postgresql

Multi level list :

```
<!DOCTYPE html>
<html >
<head>
<title>nested list</title>
</head>
<body>
<h3> Multi-level list Nested List</h3>
<ul>
<li>Daily computing</li>
<li>Web design</li>
<ol>
<li>html 5</li>
<li>hyperlink</li>
<li>Inserting Images</li>
</ol>
<li>Javascript</li>
<ul style="list-style-type:circle">
<li>conditional structure</li>
<ul style="list-style-type:square">
<li>If statment</li>
<li>If else statement</li>
<li>case statement</li>
</ul>
<li>loop statement</li>
</ul>
</ul>
</body>
</html>
```

Output :

Multi-level list Nested List

- Daily computing
- Web design
    1. html 5
    2. hyperlink
    3. Inserting Images
- Javascript
    - conditional structure
        - If statement
        - If else statement
        - case statement
    - loop statement

1.8 Inserting audio and video in HTML 5

HTML5 new specifications enables users to have a far more control over audio on webpages.

HTML5 features include native audio and video support without the need for Flash. HTML5 includes special elements (tags) allowing to include video and audio and to define controls.

Common Audio Formats :

mp3 : An audio format from MPEG(Moving / Motion Pictures Experts Group).

aac : Advanced Audio Coding, standard format on Iphone, youtube etc.

ogg : An Open container and free audio format.

<Audio >Tag

The <audio> element enables you to embed(or add) audio files on Webpages.

Declare the audio tag, and specify the source attribute with the Audio file location.

Syntax :

<audio src="sample.mp3" type="audio/mpeg" controls>

</audio>

Note: Autoplay, controls, muted are without any values. Browsers have their own policies. Autoplay attribute is supported by Microsoft Edge or Firfox, when the permission from 'Privacy & Security' panel is set as 'Allow Audio Autoplay'.

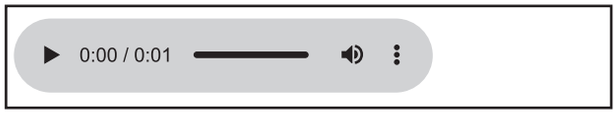
Attributes of <audio> tag

Attribute	Values	Description
Autoplay	-	The audio will start playing as soon as it is ready
Controls	-	The audio controls should be displayed (i.e. play/pause button etc.)
loop	-	The audio will start over again, every time it is finished
muted	-	This Specifies that the audio output should be muted
src	URL	Specifies the URL of the audio file

Example :

```
<!DOCTYPE html>
<html>
<body>
<p>Audio Sample</p>
<audio controls>
<source src="test.mp3" type="audio/mp3">
</audio>
</body></html>
```

Output :



In previous code

The controls attribute is used to add audio controls such as play, pause, and volume.

The"source"element is used to specify the audio files which the browser may use.

Adding audio with multiple sources :

Multiple sources of audios are specified so that if the browser is unable to play the first source then it will automatically jump to the second source.

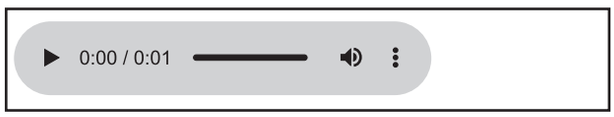
<source> tag

The <source> tag is used to specify multiple media resources for media elements. It is used with <audio> and <video> both.

Example :

```
<!DOCTYPE html>
<html>
<body>
<p>Audio Sample</p>
      <audio controls autoplay>
            <source src="test.mp3"
type="audio/mp3">
            <source src="test.ogg"
type="audio/ogg">
            <source src="test.opus"
type="audio/ogg">
      </audio>
</body>
</html>
```

Output :



<video>Tag

The HTML <video> tag is used to embed video into your web page, it has several video sources.

There are three different formats that are commonly supported by web browsers – .mp4, .Ogg and .WebM.

Syntax :

<video src="URL" controls></video>

Attributes of <video> tag :

Attribute	Values	Description
Src	URL	Defines link to video file
autoplay	-	Specifies that the video will start playing as soon as it is ready
controls	-	Specifies that video controls should be displayed (such as a play/pause button etc).
height	Pixels	Sets the height of the video player
loop	Value	Specifies that the video will start over again, every time it is finished
muted	-	Specifies that the audio output of the video should be muted

Attribute	Values	Description
poster	URL	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	1. auto 2. metadata 3. none	Specifies if and how the author thinks the video should be loaded when the webpage loads
width	Pixels	Sets the width of the video player

The <source> tag is used to specify multiple media resources for video as well as audio media elements.

Example :

```
<!DOCTYPE html>
<html>
<body>
<video width="320" height="240"
controls>
<source src="movie.mp4"
type="video/mp4">
<source src="movie.ogg" type="video/
ogg">
 Your browser does not support the
video tag.
</video></body></html>
```

Output :

1.9 Image map in HTML 5

An image with multiple hyperlinks is called an image map.

Image map is used to connect links to different regions on the webpage. An Image map is created by marking certain regions on an image clickable. These clickable regions are called as **hotspots**.

Image Maps are of two types; Client Side and Server Side. We will confine only to Client Side image map. The tags used to define client side image map are

1. **<Img> :** It is used to insert an image on a web page. To create a client side image map usemap attribute of <img> is used with value which is preceded with a # symbol. The **usemap** attribute acts as a pointer which indicates that the image is a client side image map.
2. **<map> :** It has only one attribute name. It specifies name of the image used for client side image map. The value of the name attribute is the value specified in usemap attribute of <img>.

3) **<area> -** It defines specific clickable regions. A given <map> element can contain multiple <area> element within it.<area> is singular tag and <map> is paired.

Attributes of <area>:

Attribute	Description
Href	Defines the URL to which the clickable region within the image-map navigates.
Shape	It can value rect, circle or poly.
coords	Specifies co-ordinates of the clickable regions on the image-map. Rect- specifies rectangular area with four co-ordinates. Circle-Defines a circular region. It requires three co-ordinates. Poly-Defines a polygon region with co-ordinates specifying each point on the polygon. It requires four co-ordinates. Default-Region covers the entire image. No co-ordinates are required
alt	Specifies extra information about clickable area. It is the alternative text to the clickable region.

Example : Image Map with element <map> and <area>

```
<!DOCTYPE HTML>
<html>
<head><title>image map</title>
</head>
<body>
<h1>An example of Image Map
</h1>
<img src="Tulips.jpg"
usemap="#imagemap" alt="Image of
Tulip">
<map name="imagemap">
<area href="http://www.google.com"
shape="rect" coords="0,0,93,65"
alt="google site"/>
<area href=" great_wall_china.html"
shape="circle" coords="118,140 ,40"
alt=" great wall of china"/>
<area href="http://mahahsscboard.
in" shape="poly"coords
="145,187,198,215,245,280,305"
alt="maharashtra stateboard site"/>
</map>
</body></html>
```

(In the above program great_wall_china.html is a local file created on the machine.)

1.10 INLINE FRAME IN HTML5

The <iframe> element creates an inline frame. Inline frames are often used in online advertising, where the contents of the <iframe> is an advertisement from an external party. HTML5 allows the incorporation to be seamless (no scrollbars, borders, margins etc).

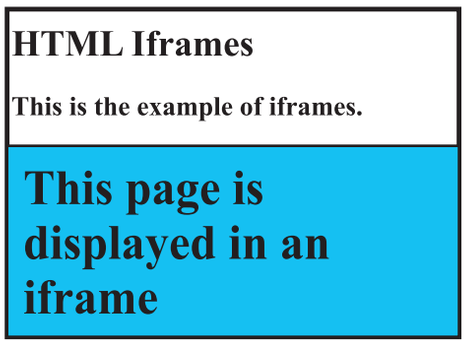
Attributes of <iframe> :

Attribute	Values	Description
Src	URL	Specifies the address of the document to embed in the <iframe>
Height	Pixel	Specifies the height of an <iframe>
Width	Pixels	Specifies the width of an <iframe>
Name	Text	Specifies name of an <iframe>
srcdoc	HTML_ code	Specifies the HTML content of the page to show in the <iframe>

For example :

```
<!DOCTYPE html>
<html>
<body>
<h2>HTML Iframes</h2>
<p>This is the example of iframes.</p>
<iframe src="abc.html" height="200" width="300"></iframe>
</body>
</html>
```

Output :



1.11 Website Hosting

In this chapter we have seen how to create a website. But just creating of a website is not sufficient. One has to make the website available on the Internet. These web pages are to be stored in the web servers that are connected to the Internet, to be made available to others.

What is web hosting?

Web hosting is the service of providing storage space. The website is made available on the Internet with the help of web hosting.

What is Web Host?

The companies that provides web hosting services are called web hosts. Web hosts own and manage web servers. These web servers offer uninterrupted Internet connectivity.

Types of Web hosting :

Types of web hosting are

1. **Shared hosting :** It is cost effective. It gives domain name to your website.
2. **Free hosting :** There are some hosting websites which provide you free hosting of the website for limited period of time.
3. **Dedicated hosting :** These are paid hosting servers for large websites.

Note : You can buy your own web server space, but it is the most expensive way to publish your website. Though it is very expensive, but it gives you a lot of control over your website.

Prerequisites for Free Web Hosting :

1. Three to Four pages website having first or Home Page named as index. html.
2. Computer with internet connection.
3. Gmail id with password.
4. Need to toggle between two websites https://www.000webhost.com/ and http://my.freenom.com
5. Have to acquire free web space from web server named 000webhost.com.
6. Have to acquire domain name for your website from my.freenom.com.
7. Park the website domain address with free server website i.e. with 000webhost.com.

   Redirect the domain free server name to the domain website i.e. with my. freenom.com.

Steps to Acquire free webspace :

1. Open the website https:// www.000webhost.com/
2. Click on free signup Login with your email id and password
3. verification email will be send to your email
4. open your email and click on "verify email"
5. Click on "Get Started"
6. From My Website page click on "+Create New site" button
7. Type your website name and any password
8. e.g. website name as :- it-xi-textbook
9. From File Manager box select "Upload" option to upload your web pages. Home page of the website must be named as "index.html" (Select all webpages including image, audio files etc) and click on "Logout"
10. Your website is ready with the sub domain as 000webhostapp.com
    e.g.it-xi-textbook.000webhostapp.com

Acquire Domain Name :

1. Open the website https://my.freenom.com
2. From Use social sign in Click on "sign in" Login with your gmail id and give password
3. Click on "Services" --> Register a New Domain
4. Type your website name and click on "check availability" button
5. Choose any domain(e.g. .tk,.ml.cg etc) and click on "Get it now" if available click on "CheckOut" button
6. Set the free period to host the website, click on "Continue" button
7. From Review &Checkout page if the Total Due is $0.00 then only select terms and conditions
8. Click on "Complete Order" button e.g. it-xi-textbook.tk
9. From Order Confirmation Screen click on "Click here to go to Client Area" button

Park the website domain :

Go to http://www.000webhost.com website perform the following steps first

1. Select "MyWebsite"--> "Manage Website" -->dashboard-->Tools--> Set Web Address
2. Click on "+Add domain" button then select radio button Park domain and then click on "Next" button

3. Type the site URL acquired by you from Freenom.com e.g. it-xi-textbook.tk. (Remember don't give http or / or any special character)
4. Then click on "Park domain" button.
5. You may see domain status as "pending" for sometime. Once it is through from the 000webhost side you can see the domain status as "parked".
6. Configure your domain's DNS provider to point to the ns01.000webhost.com and ns02.000webhost.com as your nameservers.

Redirect the domain to free server :

Now follow the final steps given below through my.freenom.com website

1. Sign in to my.freenom.com click on "Services"-->
2. "My Domains"-->"Manage Domain"
3. From Domain details screen click on "Management Tools" --> "Nameservers"
4. Change the radio button to "Use custom nameservers (enter below)" and type the NameServer1 as "NS01.000WEBHOST.COM"and NameServer2 as "NS02.000WEBHOST.COM"
5. Click on "Change Nameservers" button
6. Logout from the my.freenom.com
7. Type the website address in the browser's address bar to view your website
8. The website can also be seen from your mobile. Hosting is done.

Summary

- Html5 has introduced new types in <Input> like number, date, Tel, email, search, URL, range, month, week, color.
- Few attributes of <Input> can be used for validation purpose.
- <meta> is used by search engines to search information that is provided with the webpage. It is inserted in the <head>
- CSS- Cascading Style Sheet describes how HTML elements are to be displayed on screen, paper, or in other media.
- CSS syntax Selector{Property1: value1; Property2: value2}
- The <ol> tag defines an ordered list. An ordered list can be numerical or alphabetical.
- An unordered list created using the <ul> tag, and each list item starts with the <li> tag. The list items in unordered lists are marked with bullets (small black circles), by default.
- To insert Audio and Video in a web page, <audio> and <video> are used which specifies the source with the file location.
- An image with multiple hyperlinks is called an image map. The usemap attribute acts as a pointer which indicates that the image is a client side image map.
- The <iframe> element creates an inline frame.

Exercise

Q 1. Fill in the blanks.

1. The……element is a staring element in an HTML, it indicates that document type definition being used by the document.
2. The……. is a tag in html that describe some aspects of contents of a webpage.
3. The <ol> tag defines an……
4. An unordered list is created using the…….. tag.
5. The……element creates an inline frame.
6. …….tag is used to specify video on an HTML document.
7. If a web developer wants to add the description to an image he must use …… attribute of <img> tag.
8. The…… property is used to set position for an element.
9. The float property defines the……..of content.
10. ……is used with elements that overlap with each other.

Q2. State whether the following statement is True or False.

1. HTML is an Object Oriented Programming Language.
2. Charset is used for character encoding declaration.
3. An unordered list can be numerical or alphabetical.
4. Multilevel list can be created in HTML 5.
5. Srccode specifies the HTML content of the page to show in the <iframe>
6. The 'controls' attribute is not used to add play, pause, and volume.
7. .cs is the extension of CSS file

Q.3. Choose Single correct answer from the given options.

1. …….element used to create a linking image.

   a) <img> b) <td>

   c) <map> d) <usemap>

2. The ……tag is used to embed audio files on Webpages.

   a) <sound> b) <audio>

   c) <video> d) <embeded>

3. A programmer wants to define range for age between 18 to 50, he will use a form with following appropriate control.

a) number b) compare

c) range d) Textboxes

4. …….character is used to create id in CSS.

a) % b) $

c) @ d) #

Q 4. Choose Two correct answers from the given options.

1. List within another list either……list or……list is called nested list.

a) multilevel b) order

c) unordered d) general

e) cascading

2. Image maps are of two types ……..and …….....

a) Network side

b) Client Side

c) Computer side

d) Server Side

e) n-compting

3. A CSS rule set contains…….. and…….....

a) Set b) selector

c) post

d) declaration block e) < >

4. Client-side image map can be created using two elements …… and……...

a) <area> b) <image>

c) <usemap> d) <map>

e) <server>

Q.5. Choose Three correct answers from the given options.

1. Attributes of <area> tag is……..

a) href b) src

c) coords d) data

e) alt f) usemap

2. Attributes used with iframe are……..

a) srcdoc b) name

c) att d) src

e) href f) loop

3. Following are the Form controls……

a) email b) search

c) label d) video

e) tel f) audio

4. Attributes used with <audio> tag……..

a) autoplay b) href

c) controls d) cntrl

e) loop f) bgsound

5. CSS types are ……, ……..... and……

a) internal b) external

c) control d) inline

e) loop f) style

6. Positioning types in CSS are……

a) Static b) fixed

c) absolute d)position

e) dynamic f) nested

7. Types of floating properties are……,……,……..

a) left b) zero

c) right d) all

e) none f) dock

Q. 6. Match the pair

A	B
1)	a) Client side image map
2) usemap	b) CSS Property
3) color	c) bulleted list
4) <Img>	d) Image as a submit button
5) <Input type =image>	e) inserts an image

Q.7. Programs.

1) Write a program using html with following CSS specification-

1. The background colour of the company name should be in green.
2. The text colour of the company name should be red.
3. The heading should be large with font "comic sans ms"
4. The description of the company should be displayed in blue color in a paragraph.

2) Write Html5 code with CSS as follows-

1. To create form to accept name,age, email address, from the user.
2. Create a submit button to send the data.
3. The heading of the form should have a background colour and a different font style.

3) Write Html5 code with CSS as follows-

1. Create ordered list with names of tourist Cities.
2. Create unordered list with tourist places of those cities.
3. Divide the list into two sections left and right by using CSS.

❐❐❐