Chapter 1

ADVANCE WEB DESIGNING

STUDENTS CAN:

- design the layout of web pages using CSS.
- Learn to design the website.
- Design the web form with validation using HTML 5.
- learn concept of image map and Iframe (inline frame).

WHY HTML 5:

- Evolving language with different version
- Supporting different features.
- Supports mobile technology major browsers are Google Chrome, MozillaFirefox, Microsoft Edge, Safari Opera and Apple.

Different forms control:

- TEXT
- RADIO
- CHECKBOX
- SUBMIT
- RESET
- SELECT
- TEXTAREA
- PASSWORD

HTML 5 advanced <input> elements

Type	Description
datetime	A date and time (year, month, day, hour, minute, second, fractions of a second) encoded according to ISO 8601 with the time zone set to UTC.
datetime-local	A date and time (year, month, day, hour, minute, second, fractions of a second) encoded according to ISO 8601, with no time zone information.
date	A date (year, month, day) encoded according to ISO 8601.
month	A date consisting of a year and a month encoded according to ISO 8601.
week	A date consisting of a year and a week number encoded according to ISO 8601.
time	A time (hour, minute, seconds, fractional seconds) encoded according to ISO 8601.
number	It accepts only numerical value. The step attribute specifies the precision, defaulting to 1.
range	The range type is used for input fields that should contain a value from a range of numbers.
email	It accepts only email value. This type is used for input fields that should contain an e-mail address. If you try to submit a simple text, it forces to enter only email address in email@example.com format.
url	It accepts only URL value. This type is used for input fields that should contain a URL address. If you try to submit a simple text, it forces to enter only URL address either in http://www.example.com format or in http://example.com format.

HTML 5 advanced <input> elements

INPUT TYPE	EXAMPLE
<input type="color">	Color
<input type="number">	Number
<input type="url"> **Description**	url
<input type="image">	Image
<input type="date">	Date
<input type="email">	Email
<input type="month">	Month
<input type="range">	Range
<input type="datetime-local">	Datetime-local
<input type="time">	Time
<input type="week">	Week
<input type="search">	Search
<input type="file">	File
<input type="tel">	Tel

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.

Examples of input type restrictions

HTML LIST TAGS

Ordered HTML List - The Type Attribute

- The type attribute of the <ol> tag, defines the type of the list item marker:

Attribute	Values	Description
Type	“1”/”a”/”A”/”I”/”I”	1 is default value Other values specify the numbering type for the used items
Reversed	Reversed	Attributes specifies that the items of the list are specified in reverse order
Start	Number	Specifies the starting number of the first item in order list

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

NESTED LIST

- List within another list either order list or unordered list is called nested list
- EXAMPLE:

```
<html>
<head>
<title>imfomation</title>
<ul type="square">
<li>keybord</li>
<li>mouse</li>
<li>C.P.U</li>
<OL TYPE="I">
<li>200rs</li>
<li>150rs</li>
<li>500rs</li>
</ol>
</ul>
</body>
</head>
</html>
```

UNORDERD LIST:-

- **The type Attribute**
- You can use **type** attribute for <ul> tag to specify the type of bullet you like. default, it is a disc. Following are the possible options –
- <ul type = "square"> output symbol= 
- <ul type = "disc"> output symbol= 
- <ul type = "circle"> output symbol= 
- <ul type=”none”> output symbol = none
- NOTE: Default type of <ul> is disc 

Defination List

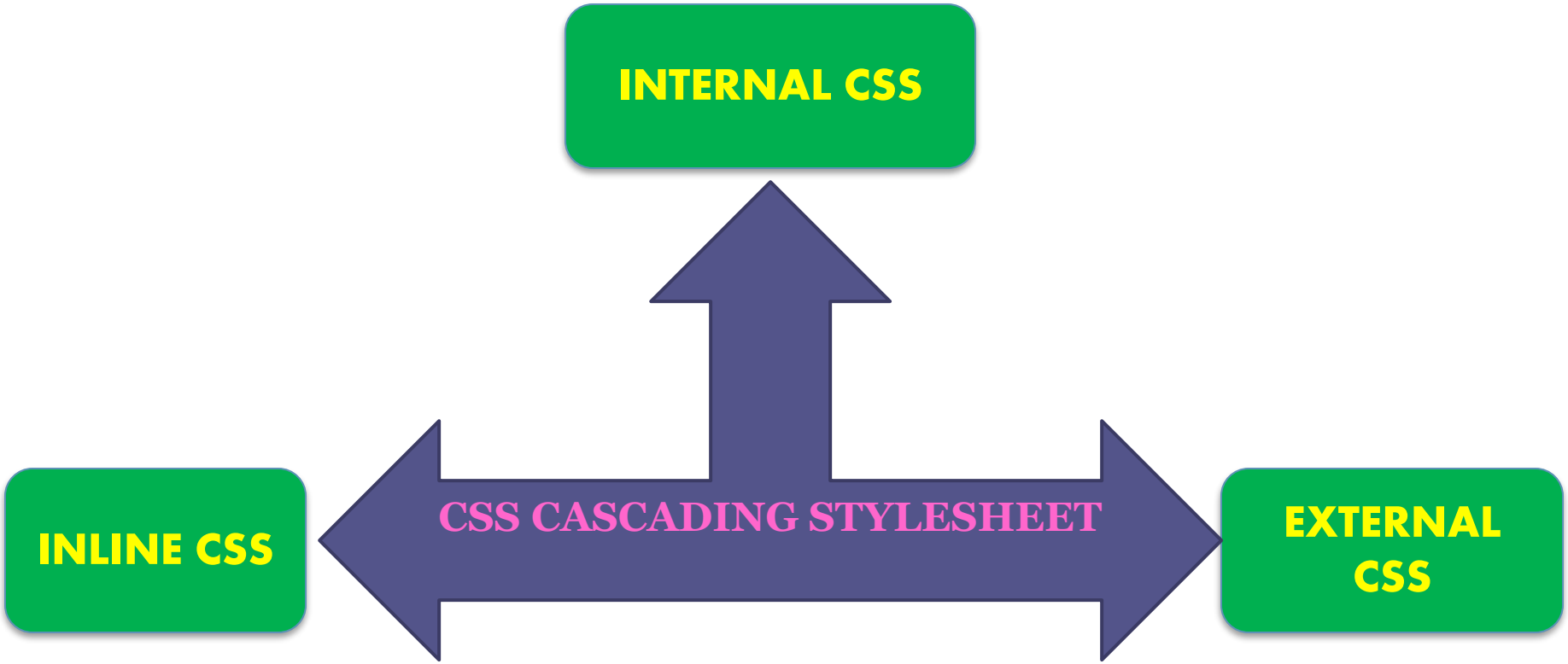
- Defination list is used to define the term.
- SYNTAX:

<dl>
<dt>
<dd>defination data</dd>
</dt>
</dl>

<DL>	specifies that the information appear as a definition list
<DT>	identifies definition terms
<DD>	indentifies definition itself

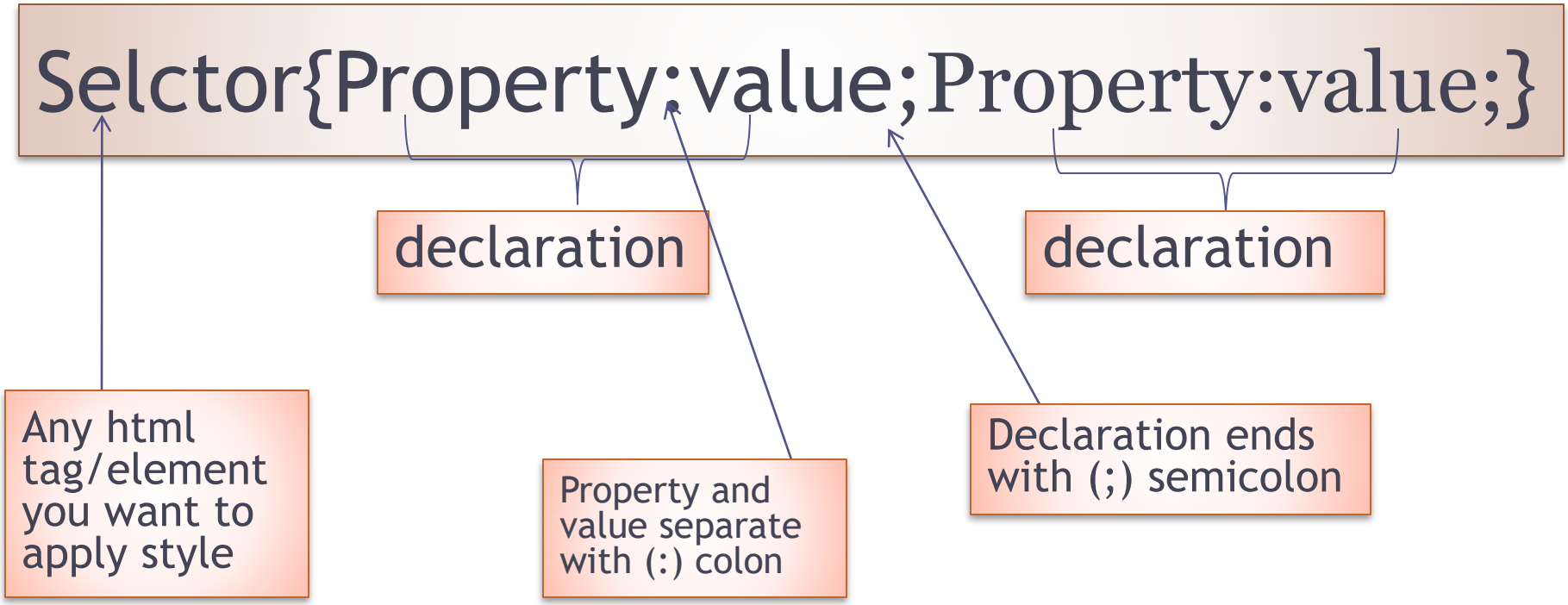
CASCADING STYLE SHEET

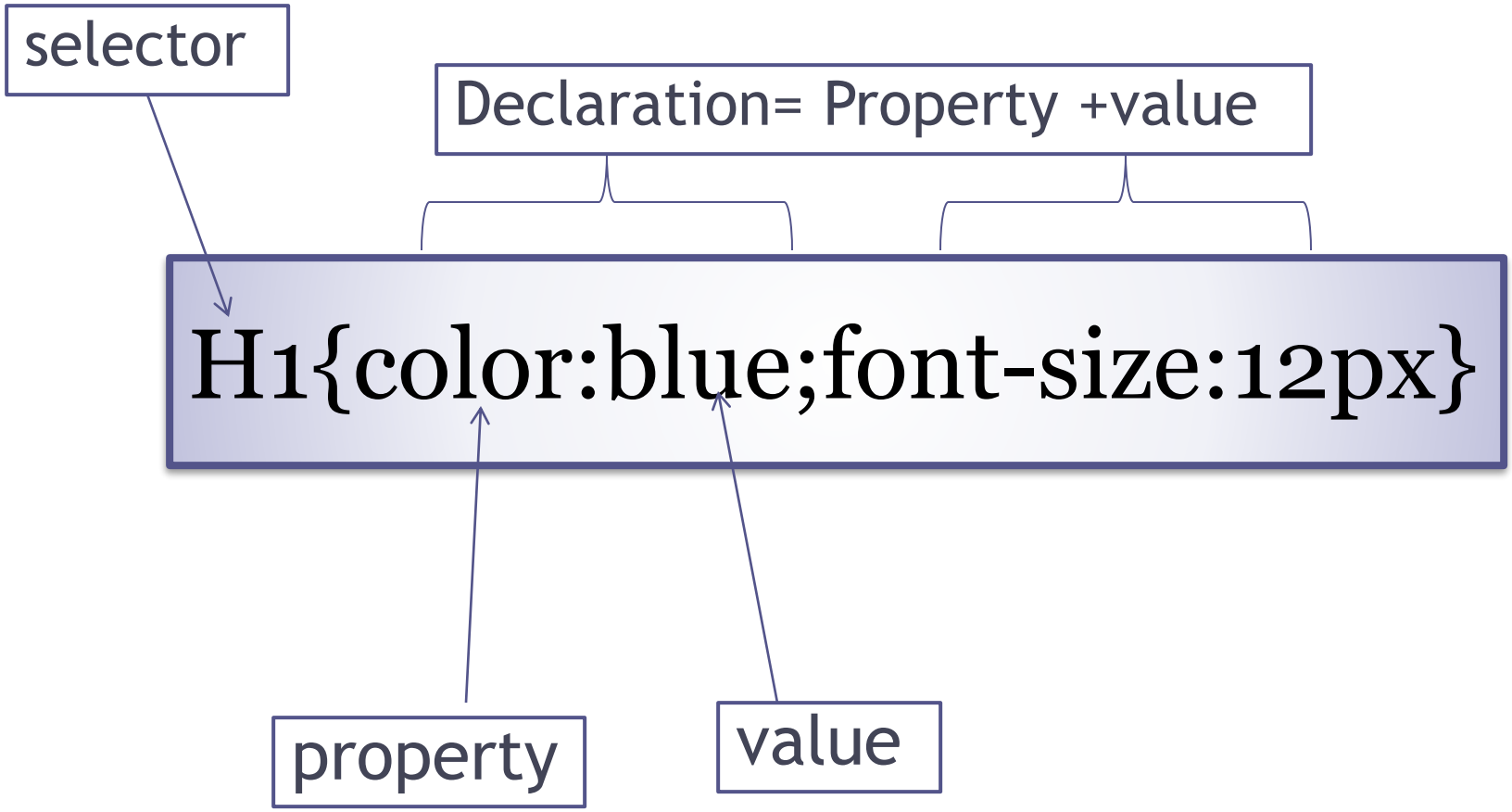
CSS TYPE:


INTERNAL CSS
INLINE CSS
CSS CASCADING STYLESHEET
EXTERNAL CSS

SYNTAX:

set of rules to define user needs
selctor,declaration:property and it's value




selector
Declaration= Property +value
H1{color:blue;font-size:12px}
property
value

INLINE CSS

- An inline CSS is used to apply a unique style to a single HTML element.
- An inline CSS uses the style attribute of an HTML element.
- You can insert stylesheet rules in the middle of all HTML pages
- That is instead of using style for whole document you can add style information right down to the single element.
- To use inline styles you use the attribute in the relevant tag
- The style attribute can contain any css property
- Syntax:
- <html tag style="property:value;property:value;...."> TEXT <closing html tag>
- Example:
- .....PARAGRAPH TEXT.....

INTERNAL CSS

- An internal CSS is used to define a style for a single HTML page.
- An internal CSS is defined in the <head> section of an HTML page, within a <style> element.
- An internal style sheet should be used when a single document has a unique style.
- All style sheet information lives at the top of the HTML document separated from the <body> of the html code.
- For embeded style sheet in html we need to use <STYLE> tag

- syntax of <style> tag:

```
<html>
<head>
<style>
Selector{property:value; property:value;.....}
</style>
</head>
</html>
```

EXTERNAL CSS

- It is ideal when the style is applied to many pages.
- In this style defination stored in a separate file with an extension ***.css***
- Link the file with HTML document using <link> tag within <head> tag
- <LINK> tag:
- Is used to link style sheet properties to an HTML document
- User can also define by linking to an external style sheet

Attribute of <link> tag

Name of attribute	description
REL	Used to define the relationship between the linked file and the HTML document
TYPE	Used to specify a media type= text/css for CSS
HREF	Specifies CSS file name to be Linked

REL:
Used to define the relationship between the linked file and the HTML document

TYPE:
Used to specify a media type= text/css for CSS

```
<html>
<head>
<link rel= “stylesheet” type=“text/css”href=“style.css”>
</head>
</html>
```

HREF:
Specifies CSS file name to be Linked

Style.css
H1{color:blue;font-family:Arial}

DIFFERENT SELECTOR

- CLASS SELCTOR(.)
- ID SELECTOR(#)
- UNIVERSAL SELECTOR(*)
- GROUP SELECTOR(,)

Class and ID selector

- The class selector is used for formatting variations of different instances of a single element.
- A class selector definitions starts with a period character (.) followed by name , and then the style definitions.

EXAMPLE

- The ID selector is similar to class selector.
- An ID selector definition starts with (#) hash symbol, followed by name and then the style definition.

EXAMPLE

UNIVERSAL SELECTOR

- The universal selector is used as wildcard character (*).
- It selects all the element on the webpages.
- Example:

Group Selector

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

POSITIONING WITH CSS

- The positioning property allows you to position an element.
- It can also place an element behind another.
- Elements can be position top bottom left and right properties.
- SYNTAX:

Selector{position:value;top:value;left:value;right:value}

- Values must be entered in pixel.

POSITIONING METHODS:

- STATIC
- ABSOLUTE
- RELATIVE
- FIXED

➢STATIC

- Elements are positioned by default.
- Places elements according to natural order in which they occur in document.
- It occurs normal flow of the page.
- Not affected by top bottom right left properties.

➢ABSOLUTE

- Places element at an absolute position.
- Uses upper left corner
- Is not affected by flow of the page.

➢Relative

- In it element is positioned relative to its normal position.

➢Fixed

- An element with fixed position is positioned relative to the browser window.
- is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled.
- The top, right, bottom, and left properties are used to position the element.
- A fixed element does not leave a gap in the page where it would normally have been located.
- Notice the fixed element in the lower-right corner of the page.

➢Overlapping elements(Z-index)

- When elements are positioned outside the normal flow ,they can overlap other elements.
- Z-index is a property specifies the stack order of an element.
- (which element should be placed in front of or behind the others)

The float Property

- The float property is used for positioning and formatting content e.g. let an image float left to the text in a container.
- The float property can have one of the following values:
- left - The element floats to the left of its container
- right - The element floats to the right of its container
- none - The element does not float (will be displayed just where it occurs in the text). This is default
- inherit - The element inherits the float value of its parent
- In its simplest use, the float property can be used to wrap text around images.

Inserting Audio in HTML

- The HTML <audio> element is used to play an audio file on a web page.
- HTML Audio - How It Works
- The controls attribute adds audio controls, like play, pause, and volume.
- The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
- The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

STEPS TO INSERT AUDIO IN HTML

- **1.To perform this program create a folder name audio**
- **2.Copy audio files with file format .mp3,ogg,opus etc.**
- **3. To check the file format right click on the audio file and in type check the file format .**
- **4. File name of audio and the file use in program must be same with proper spelling and format.**
- **5.Your written program must be also stored in same folder then only your program will run.**

HTML Audio - Media Types

File Format	Media Type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

HTML Audio Tag

Tag	Description
<audio>	Defines sound content
<source>	Defines multiple media resources for media elements, such as <video> and <audio>

HTML Video

- The HTML <video> element is used to show a video on a web page.

How it Works

- The controls attribute adds video controls, like play, pause, and volume.
- It is a good idea to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.
- The <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
- The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

STEPS TO INSERT VIDEO IN HTML

- Note:-
- Follow same steps as of audio only here you are going to take video file instead of audio.

- Example of multiple resources video:-
- Note:- If first audio is not played due to file error it will jump for second otherwise will play first video file only.
- <html>
- <body>
- <video width="400" height="300" controls>
- <source src="prey.mp3" type="video/mp4">
- <source src="Earth.webm" type="video/webm">
- </video>
- </body>
- </html>

HTML Video - Media Types

File Format	Media Type
MP4	video/mp4
WebM	video/webm
Ogg	video/ogg

HTML Video Tags

Tag	Description
<video>	Defines a video or movie
<source>	Defines multiple media resources for media elements, such as <video> and <audio>
<track>	Defines text tracks in media players

IMAGE MAPPING

- An image with multiple hyperlink is called image map
- With HTML image maps, you can create clickable areas on an image
- Clickable regions are called hotspots.
- It has two types:
- 1.CLIENT SIDE IMAGE MAP
- 2.SERVERSIDE IMAGE MAP

CLIENT SIDE IMAGE MAPPING

- Client side image map are not dependent on server.
- They are executed on client machine from web browser itself.
- For client side image map use USEMAP attribute of <img>,<map> and <area>tags used to defined hotspot on image.

Tag	Description
<img>	Defines an image
<map>	Defines an image map
<area>	Defines a clickable area inside an image map
<picture>	Defines a container for multiple image resources

- <img>:
- It is used to insert an image on a web page.
- To create client side image mapping we use USEMAP attribute of <img> tag
- Is used with value which is preceded with a # symbol.
- <map>
- It has name attribute whose value is referenced within <img> tag with USEMAP attribute.

<area> element

- <area>:
- Defines specific clickable region.
- One <map> element contain multiple <area> element.
- <area> is singular tag.
- Attributes of <area>:

Shape	Specifies as RECTANGLE,CIRCLE,POLYGON etc.
Coords	Specifies coordinates for shapes coordinates of shapes we have to find pixel location of image.
Alt	Specifies altenate text given to hotspot
Href	Specifies path or html file or URL of website

INLINE FRAME

- <iframe>_____</iframe>
- Is used to create inline frame.
- This tag display frame along with the text and graphics in an HTML page.
- Is an advertisement from external party.
- An inline frame is used to embed another document within the current HTML document.
- SYNTAX:
- <iframe src="*url*" title="*description*“>
- The HTML <iframe> tag specifies an inline frame
- The src attribute defines the URL of the page to embed
- Always include a title attribute (for screen readers)
- The height and width attributes specifies the size of the iframe
- Use border:none; to remove the border around the iframe

WEB HOSTING

- Web hosting definition
- When a hosting provider allocates space on a web server for a website to store its files, they are hosting a website. Web hosting makes the files that comprise a website (code, images, etc.) available for viewing online. Every website you've ever visited is hosted on a server.
- The amount of space allocated on a server to a website depends on the type of hosting. The main types of hosting are shared, dedicated, VPS and reseller. They are differentiated by the kind of technology used for the server, the level of management provided and the additional services on offer.

What exactly is a server?

- A server is a computer that connects other web users to your site from anywhere in the world. As the name implies, web hosting service providers have the servers, connectivity, and associated services to host websites. By offering a variety of hosting plans, they cover the spectrum of hosting needs, from small blogs and large organizations.

How does web hosting work?

- Web hosting happens when the files that make up a website are uploaded from a local computer on to a web server. The server's resources, (RAM, hard drive space, and bandwidth) are allocated to the websites using it.

What is web Host?

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

TYPES OF WEB HOSTING

SHARED HOSTING:

- Shared hosting is when a website is hosted on the same server as many other websites.
- Most web hosting companies provide shared hosting.
- It's cheap and easy to set-up which makes it a good fit for new sites which don't expect a lot of traffic in the short term.
- It's best suited for personal websites as well as those belonging to small and medium-sized businesses.
- It is cost effective.

FREE HOSTING:

- There are some hosting websites which provides you free hosting for limited period of time.

VPS HOSTING:

- Virtual private servers (VPS) also known as virtual dedicated server (VDS), is when a virtual server appears to each client as a dedicated server even though it's actually serving multiple websites.
- VPS is often used by smaller websites and organizations that want the flexibility of having a dedicated server, without the high costs implied.

- ## DEDICATED HOSTING:
- Dedicated hosting (sometimes referred to as managed hosting or a dedicated server) provides entire servers to rent. This type of hosting is comparatively expensive when placed side-by-side with shared hosting plans; for this reason, it's only really used when a website has a lot of traffic or when more server control is required.

- ## CLOUD HOSTING:
- Cloud hosting is the latest hosting type to hit the market, and it’s become extremely popular in recent years. This type of hosting operates across many interconnected web servers that supply an affordable, scalable and reliable web infrastructure. Cloud hosting plans typically offer unmetered, reliable bandwidth and an infinite amount of disk space for unlimited domains which explains why so many large businesses are turning to the cloud. It’s an effective method of running a website with resource-intensive applications or a large number of content assets such as images, but it can have a much higher cost.