

Note met

⇒ The internet began year 1969. The US department of defence [ARPA] advance research program agency. To provide immediate communication with in the department in case of war they started the concept of internet. Later on the use of internet becomes wide and the US university started research project with the defense department.

As a scholar begin to go online. It change the network from mainly used to scientific used.

As a ARPA Net grow the national scientific foundation [NSF] took the responsibility for the transmission of the ARPA Net in to the communication used. The internet is a world wide fully communication system that provide connectivity from millions of big or small networks.

⇒ Website ⇒ Website is a collection of web pages, which contains text, audio, images, video, and others. There are available over the internet and can be published on atleast one web server. Website can be identify by a common domain name.

Eg. ⇒ .Com, .Arg, .AC, .AU

The website published under the world wide web (www) can accessible publicly. There are few website that can be accessible in to a private network.

Most of the websites are dedicated to a particular topic or purpose.

Eg. \Rightarrow news, education, sports, games and social networking.

The website start with a home page which is followed by some other pages which are linked with hyper linking between the web pages.

There are two types of websites.

① Static website \Rightarrow The combination of web page that are stored on a server in the same format and to a client web browser is the type of static website. These type of websites are initially coded in the HTML.

② Dynamic Website \Rightarrow Dynamic website is a collection of web pages that change or customized it self automatically.

The dynamic web pages will be modify "on the fly". by the computer code. These websites can be coded using HTML, CSS, JAVA, Servlets.

Home page \Rightarrow The home page come use for the first page of websites. The home page is contains the overview of websites and provide the navigation for different web pages.

Web Browser \Rightarrow Web browser is a software used to access the information of world wide web at clients screen in web browser. When a user request for any information in web browser. It fetchs the data from a web server and then display the web page on the clients screen.

Eg. ⇒ Chrome, opera, safari, metashop Ag.

Protocols ⇒ Protocols are be set of rules and regulations. They are made for communication purpose (data transmission).

* Transmission Control Protocol / Internet Protocol (TCP/IP) ⇒
Transmission Control Protocol / Internet Protocol is a set of rules and regulations to define communication between computer and other devices. It also define conditions on which the data should be sent. TCP/IP is a five layer model which follows OSI model.

- Application layer
- Transport layer
- Internet
- network layer
- physical layer

① physical layer ⇒ This layer defines the interface for communicating with the transmission medium and the interface between hardware. It consists of hardware like cable, modem and devices.

② Network layer ⇒ It is a portion of TCP/IP and it actually moves data from one source point to destination point.

③ Internet layer ⇒ This layer defines interface with the physical layer. This layer is responsible for accepting (IP) Datagram and transmitting them over the specific network.

④ Transport layer ⇒ This layer is responsible for data packets in

this layer. The TCP breaks data into small pieces and wrap it with the information needed at the receiving point the bundles webed with the needed / required information is called datagram.

⑤ Application layer \Rightarrow It is the highest layer of TCP/IP Protocol. The Application like telnet, FTP and other internet with this layer. The user uses the application program interact with one of the transfer layer protocol to send and receive data. The application program provides all available services to the user.

* Simple Mail Transfer Protocol (SMTP) \Rightarrow The simple Mail Transfer Protocol is used by mail server to exchange email servers or messages. It suppose sending function of email but does not support extension of user email from server. The SMTP is a mail delivery protocol.

* Post office Protocol (POP) \Rightarrow The Post office Protocol is allows user to receive and download emails from mail server to client inbox. The POP has the access to a database of email messages created by SMTP Server. Once the emails are downloaded to the clients end, All the downloaded messages are deleted from the email server. The active version of post office protocol is PoPs.

* IMAP (Internet Message Access Protocol) \Rightarrow The Internet message (IMAP) is a standardized email receiving protocol from the mail server. It stores stores all email messages in a mail server and enable the recipient to views the emails.

* Telnet \Rightarrow The Telnet is a network protocol which works on TCP client Protocol, allows user to exchange information or messages with remote device or server. The telnet is available of unix/linux

- System and also a part of windows OS. This protocol provide command lined interface for communication with each other.
- **User Datagram Protocol** ⇒ The user datagram protocol is a connection less transfer layer protocol it identify various running application on a device. This protocol sent the message to the client without taking the connection type. UDP specially use for time sensitive transmission such as video exteme.
- **File Transfer Protocol (FTP)** ⇒ The file transfer protocol is allows computers to communicate and exchange files over a remote network. FTP is the supported by most web browsers. Files can be retrieve from FTP by clicking on particular hyper link. The FFP protocol based on TPP network. It works by opening a connection that links the computer to communicate each other.
- **Trivial File Transfer Protocol (TFTP)** ⇒ The Trivial File transfer Protocol is a simple file transfer protocol. Which provide the basic file transfer function with no user authentication this protocol is good example of datagram. Oriented protocol. But it is not secure protocol. A small file can be transfer using this protocol.
- **Hyper Text Transfer Protocol (HTTP)** ⇒ The Hyper text transfer protocol is the founder of world wide web (www) and it is used to load web page using hyper text. links.
- **HTTP** is a application layer protocol designed to transfer information between network device. It establish a connection to a server and client site. It send request to the server or loading the required information.

Hyper

hyper text transfer Protocol secure (HtPs) is a protocol that secure the connection and transfer data between web server and client client

MIME \Rightarrow The multipurpose Internet mail exchange protocol is a internet standard that allows user to send and receive various emails and its attachment (files like audio, video, text image, or, any other applications program) it works with SMTP, POP, IMAP, and HTTP protocol.

Internet

S/MIME \Rightarrow Secure Multipurpose mail exchange ^{Secure} protocol is a Internet standard that can do both encryption and digital signature for securing emails.

S/MIME provides protection for business business email \rightarrow it is advance Version of MIME user can send audio, Video, images document and text files in a secure manner

SNMP (Simple network management protocol)

This

protocol is a Internet Standard protocol used for managing and monitoring monitoring network connected devices.

SNMP is a application layer protocol in which is use to monitor the network failure and configue the Remote devices. The ~~SNM-SNMP~~ architecture has three main components.

① SNMP Manager = It is a Centralized system used to manage and monitor the network it is known as network management section (NMS).

② SNMP Agent = It is a Software module installed on managed device the manager access information in database.

③ (MIB) Management Information base \Rightarrow It consists concised on information on Resources they are to be managed.

Router

Router \Rightarrow Router Router interconnects the multiple networks and devices together and allowing them to transmet or communicate with each other. the Router Send the data packets from one network to another ~~to~~ network by Selecting path using Various protocol.

Repeaters

Rep
Repeaters

1. Repeater = Repeaters are the networking devices device this device are use to boost (amplify) the Signals in network by Receiving Weak Signals and Regenerate the signals before retransmitting it used used in both wired and wireless network by boosting the Signals bridging

2 bridge \Rightarrow bridge is a networking device than Support lan to lan it connect two or more local area network (lan) to make (form) a singal bridging lan bridge handles traffic between different networks.

3. Gateway \Rightarrow Gateway is a network device that is to provide Interface between to dissimitor networks . gateways gateway connect the networks which use different protocol or data Gateway can be use for LAN WLAN. It is slower than bridge but bridge or Router, and it is good combination of hardware ^{ware} and Software .

4. client Server Computing \Rightarrow The client Server Computing is an arrangement in which Central Computer (Server) Provides data and its peripherals to other Computer (client).
Sometimes clients are also Workstation a Server Without Storage and can be handled by one person high computing capacity and huge storage capacity that provides data programmes per peripherals and other utilities. Whereas the Client has lower computing capacity than Server Without Storage and can be handled by one person.

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Hyper text Markup language (HTML)

HTML = The hyper text markup language was developed by Tim Berner Lee at cern - in 1993 he is also known as father of HTML the aim of HTML is to create simple way to share and access document over the internet using HTML we can create web pages in which HTML defines the structure and contents of web documents by using tags and attributes to format text, embed images, creating hyperlinks and build interactive web website.

the HTML communicate between web browsers and servers to making it a proper web development.

Structure of HTML

html
doc

Head
area

body
area

Structure of HTML =

```
<HTML>
  > <head>
    > <title> my first Web </title>
    > </head>
    > <Body>
      > </Body>
    > </HTML>
```

tags

HTML tags \Rightarrow The html HTML tags can be define as instructions (Command) (Command) which are being directly embedded in the text of HTML document. There are Various types of tags used in HTML to tell Web & Web browsers do to do. Something told Instead of just displaying the text the tag names are define between angle bracket brackets ($<>$) and close between. There are two types of tags.

- 1) Paired tag
- 2) Unpaired tag

1. Paired tag \Rightarrow An HTML tag is known to has paired tag, if the tag consist of opening tag and closing tag

HTML Format
example

$<\text{tag}>$ - - - $</\text{tag}>$

ex.

$<\text{html}>$ - - - $</\text{html}>$

$<\text{h1}>$ - - - $</\text{h1}>$

$<\text{p}>$ - - - $</\text{p}>$

The content can be Return between the opening and Closing tag

Ex

<h1> This is my first heading </h1>

opening tag

closing tag

unpaired tag

2 Unpaired tag. \Rightarrow an html tag is called unpaired tag when the tag only has opening tag and does not required the closing tag

Example

<h1>

<HTML>

<head>

<title>

My first title

</title>

</head>

<body>

<h1> I am
This my creating my first
Web page

</h1>

<h2>

html
Web page by using HTML

</h2>

</body>

</HTML>

1 Html tag = The HTML tag Represent the Root of html document.
the html tag (`<html>`) contained the other html and element tags.
it allows define the document type means the Version of html. & this document type tells the web browser what format and content to the particular web page requires.

example

```
<!doctype html>
```

a web browser can different between html content and simple content.

Attributes => Attributes are use to describe a particular information to display content of web page in better way.

Example -

```
<body bgcolor = "Red">
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title> my first web page
```

```
</head>
```

```
<body bgcolor = "yellow">
```

```
</body>
```

```
</html>
```

head section \Rightarrow This section is define the head part of any web page.
there are different tags which can be used under link tag

1 link tag = the link tag is used to inform the web browser about previous and next web document. it also define the ~~less~~ Relies attribute hyperlink Refenc to inform about the location of web document.

ex <link Rel="Previous" href="Prev.htm" />
2 base = <base href="Bennar.htm" target="Bennar.gif">

2 Base = the base tag dectais the global Reference Values for href and target attributs. the attribut href Spacific the Ref Refenc URL, which is use do help compute Relative URLs. the attribut target Spacific the default frame name to which all links are targeted

3 Meta example

```
<base href="target.wl">
<base href="fram_name">
```

3 Meta \Rightarrow The meta tag defines the documents with meta information like keywords, author, date, expiry date it also supports a dynamic tag which the browser loads a new document.

Example \Rightarrow

```
<meta name="keyword" content="BCA,  
BCA collage, Kote university">
```

4 Script = It This tag contains the little code reference in the body of document or web page

Ex

```
<script language="javascript">  
    code  
</script>
```

5.) Style \Rightarrow This tag specifies the style information for the document of webpage

Ex =

```
<style type="mim-type">  
    /  
    /  
</style>
```

Body Section (Body tag) \Rightarrow The HTML body tag is the main part of any web page it represent the main content which is visible to user it works to the user, it define with is the HTML tag and works in conjunction with the head tag. It is essential for defining the structure, layout and content displayed in a browser including text, images, links, tables and audio / video contents.

Syntax =

<body>

:

:

</body>

Example \rightarrow

<body>

Creating

<h1> I am ~~at~~ my first webpage

</h1>

<p>

This is the ~~to~~ real webpage development
using the <body> tag

</p>

</body>

Example 2 →

```
<body background="E:\html\cat.jpg">
```

```
<h1>
```

I am creating my first web page

```
</h1>
```

```
<p>
```

This is the real time Web page development, using the <body> tag.

```
</p>
```

```
</body> <a href="image-3.jpg"> Open here to open it </a>
```

```
</body>
```

The following attributes can be used in the body tag

1. background → The background attribute in body tag is used to specify a background image for entire the page

Syntax

```
<body background="url image file path">
```

it contains the value (URL) which specifies the address of the background image

Example →

```
<body background="E:\html\cat.jpg">
```

2 BgColor \Rightarrow The bgcolor attribute in body tag is used to set the background color of Web page. It accepts the colour name, RGB Values or hexadecimal Color code.

Syntax

```
<body bgcolor = "colorname">
```

Example =

```
<body bgcolor = "green">
```

3 Text = The text attribute in body tag is used to define color for the text in Webpage

Syntax

```
<body text = "green color">
```

Example

```
<body text = "yellow">
```

4alink \Rightarrow The alink attribute in body tag specifies the colour of active link

Example

```
<body alink = "yellow">
```

Slink = the ~~alink~~ attribut in body tag is used to specify the color of given link

Example =

```
<body alink="#77AD56" link="Red">
```

alink

6 Vlink => The ~~Vlink~~ attribut in body tag specifies the color of visited link

```
<body alink="#77AD56" link="Red" vlink="skblue">
```

Example =

```
<!doctype HTML>
```

```
<html>
```

```
  <head>
```

```
    <title> -- -- </title>
```

```
  </head>
```

```
  <body>
```

```
    <h1> heading 1: Main heading of page
```

```
  </h1>
```

<h2> heading 2 : Section </h2>
<h3> heading 3 : Subsection </h3>
<h4> heading 4 : Sub-subsection </h4>
<h5> heading 5 : Lower-level heading </h5>
<h6> heading 6 : Lowest-level heading </h6>

8 Paragraph tag = The HTML paragraph are block-level elements

that are used to structure and format text content on a webpage.

it allows us to organize and present textual information in a coherent and readable manner. The HTML <p> tag is used to create a paragraph element

Example

<p> This is paragraph </p>

9 Text formating =

1 HTML B tag = HTML tag is used for making the text bold there is no logical aspect of this tag it is only used for visual impact -

Example

```
<html>
  <body> <head>
    <title> Bold text Example
    </title>
  </head>
```

```
<body>
  <p> The following word uses a <b>
  block type </p>
</body>
</html>
```

2 HTML Strong Tag = The strong tag is used for making the text strong that has more importance and the text inside it is typically displayed in the basic.

Example

```
<body>
  <p> The <strong> following </strong> </p>
</body>
```

3 HTML Italic tag = Any content that is enclosed within the *<i> --- </i>* element is displayed in italicized.

```
<html>
  <head>
    <title> italic text Example </title>
  </head>
  <body>
    <p> <i> italic </i>
  </body>
</html>
```

4. HTML tag = Any content that is enclosed
text with in one font size
larger than the size of the text surrounding

<P> Hello welcome to <big> tutorials point </big> <P>

(5.) HTML Tag = The content which is
~~small~~ enclosed within the
<small> - - </small> element is displayed
one font size smaller then the rest of
the text surrounding it

ex =

<P> Hello welcome to <small> Tutorials point
</small> <P>

(6.) HTML <sup>tag = Any content enclosed with
in ^{- -}
element is written in superscript.</sup>

example =

```
<body>
  <p> The following word uses a <sup>
    superscript </sup> typeface </p>
</body>
```

(7.) HTML <sub>tag = Any content of a <sub>
 </sub> element is written
in subscript the font size used is the
same as the characters surrounding
it and is displayed half a character</sub>

height beneath the other characters.

Ex = `<p> The following word uses a _{Subscript} typeface. </p>`

8. HTML `<u>` Tag = Any content enclosed within the `<u>` - `</u>` element is displayed with an underline.

Example =

`<p> Tag following word uses a <u> underlined <u> typeface. </p>`

(9.) HTML `<strike>` Tag = Content that is enclosed within the `<strike>` - `</strike>` element is displayed with strike through, which is a thin line through the text.

Example =

`<body>`
`<p> The following word uses a <strike> strike through </strike> typeface </p>`

(10.) HTML `<mark>` Tag = HTML `<mark>` tag is used to mark or highlight text that is important for ~~text~~ notation purposes.

Example =

`<body>`
`<p> This following word uses a <mark> Strike through </mark> typeface </p>`
`</body>`

11 HTML tag = The HTML tag is used to embed an image in web pages by linking them. It creates a placeholder for the image, defined by attributes like src, width, height and alt does not require a closing tag.

There are two ways to insert the images into a webpage.

by Providing a full path or address (URL) to access an internet file

by Providing the file Path relative to the location of the current web page file.

Syntax

```
<img src = "address with image name"  
      width = "width" height = "height"  
      alt = "alternate text">
```

12 HTML List tag = An HTML list allows you to organize data on web pages into an ordered or ~~unordered~~ unordered format to make the information easier to read and visually appealing.

HTML lists allows web developers to group a set of related items in lists

An unordered HTML list

- * Item 1
- * Item 2
- * Item 3
- * Item 4

An ordered list

1. first item
2. Second item

12 Type of HTML list

There are three main type of list in HTML =

1. unordered list = These lists are used for items that do not need to be in any specific order. The list items typically marked with bullets. an unordered list starts with the `` tag. each list items start with the `` tag.

Example

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

2 Ordered list = These list are used when the order of the items is important - each item is an ordered list is typically marked with numbers or letters. an ordered list starts with the `` tag - each item starts with

the `` tag.

Example

```
<ol>                                         output  
  <li> Coffee </li>  
  <li> tea </li>  
  <li> Milk </li>  
</ol>
```

3 Description list = The `<dl>` tag defines the description list the `<dt>` tag defines the term (name), and the `<dd>` tag describes.

```
<dl>  
  <dt> Coffee </dt>  
    <dd> black hot drink </dd>  
  <dt> Milk </dt>  
    <dd> white hot drink </dd>  
</dl>
```

HTML Favicon = A HTML favorite icon is (`favicon`) is a small image or icon that represents a website, typically shown browser tab bookmark and shortcuts.

To add a favicon to HTML document we will need to define it in the `<head>` section using the `<link>` attach a `favicon`.

Example =

```
<head>
  <title> using favicon & to labpage </title>
  <link rel="shortcut icon" href="favicon.
    - Png">
</head>
```

table tag = The HTML table tag is used to create the structure for tabular data. It arranges the information in rows and columns. The basic structure of a table includes rows (`<tr> - - </tr>`), column header (`<th> - - </th>`), column (`<td> - - </td>`).

Syntax

```
<table>
  <tr>
    <th> - - </th>
  </tr>
  <tr>
    <td> - - </td>
  </tr>
</table>
```

Example

```
<table border="1">
  <tr>
    <th> Sno. </th>
```

```
<th> Name </th>
<th> Contact no. </th>
<th> City </th>
</tr>
<tr>
<td> 1 </td>
<td> Rashid </td>
<td> 123456 </td>
<td> Kota </td>
</tr>
<tr>
<td> 2 </td>
<td> Ajay </td>
<td> 654321 </td>
<td> Kota </td>
</tr>
</table>
```

The Caption tag = The caption tag is use to show the information about the table it will be used under the table tag : ~~Syntax~~

Syntax

```
<caption> ----- </caption>
```

Example

```
<caption> Student name </caption>
```

Attributes of <table> tag

1. Align left
right
center
justify

2. border Specify value to display border of table
~~of table~~ Specify

3. bgcolor define the background colour
(table, row and cell)

Example - Table

```
<!DOCTYPE HTML>
<html>
  <head>
    <title> Student detail </title>
  <head>
  <body>
    <table border = "1">
      <tr>
        <th> first name </th>
        <th> last name </th>
        <th> age </th>
      </tr>
      <tr>
        <td> priya </td>
        <td> sharma </td>
        <td> 24 </td>
      </tr>
```

`<td>`

`<td> Rani </td>`
`<td> Singh </td>`
`<td> 21 </td>`

`</tr>`

`<tr>`

`<td> Rames </td>`
`<td> Vyas </td>`
`<td> 28 </td>`

`<tr>`

`<table>`

`<body>`

`<caption> Student Detail`

`</caption>`

`</HTML>`

A + 1 or but

- ① `cellpadding` it can exist the space with in the cell and between the cell & between the cell
- ⑤ `rowspan` and `colspan` is use to merge two colspan in Table (or more columns)
- It is use to merge two or more rows.

Ex 1:

Name	Villi
Phone	SSS - 1234 123 - 1234

```

<table border>
  <tr>
    <th> Name </th>
    <th> Jill </th>
  </tr>
  <tr>
    <th colspan=2> Phone </th>
    <td> 555 - 1234 </td></td>
  </tr>
  <tr>
    <td> 123 - 1234 </td>
  </tr>
</table>

```

Example 9

	Name	age
Jill	Smith	21
Eve	Teason	24

```

<table>
  <tr>
    <th colspan=2> name </th>
    <th> age </th>
  </tr>
  <tr>
    <td> Jill </td>
    <td> Smith </td>
    <td> 21 </td>
  </tr>
  <tr>
    <td> Eve </td>
    <td> Teason </td>
    <td> 24 </td>
  </tr>
</table>

```