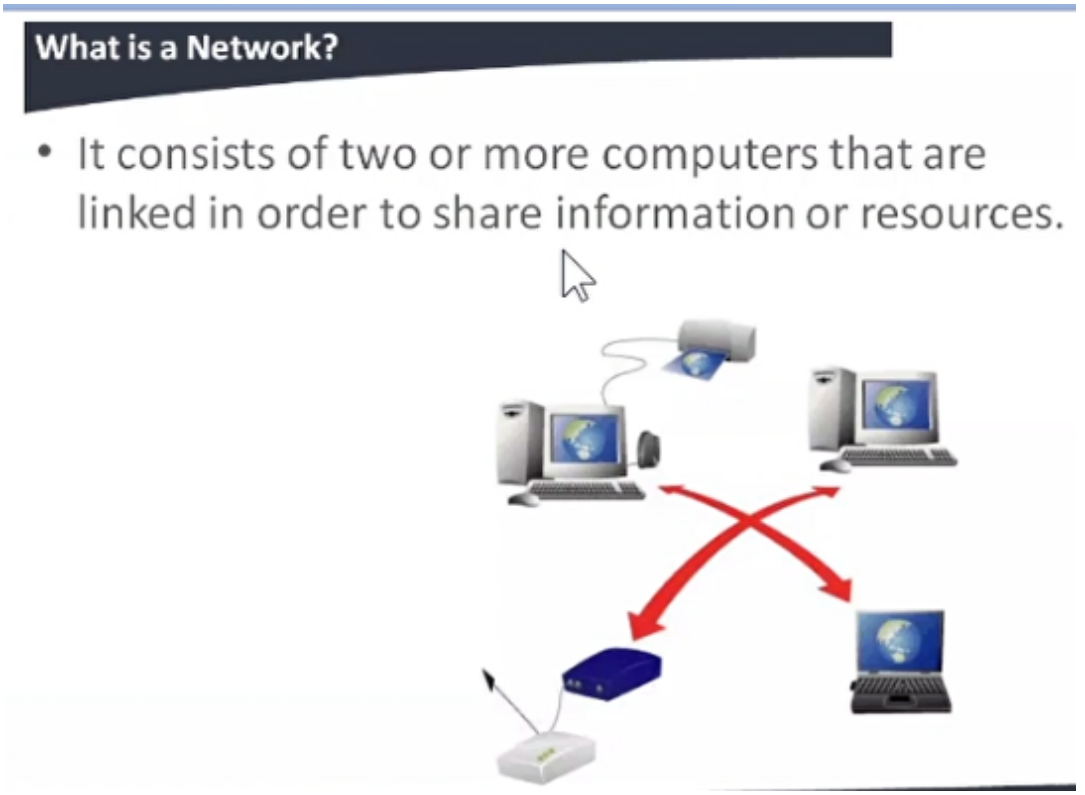
HTML

Why Html ?
What is the need of html page ?
to create web applications, main advantage to web app is you just need a browser and you can use it , and for this we use **media query**
Which will help me to adjust the view based on devices on which it will gone to run (**So read about MEDIA QUERY**)



To know how exactly my packets are travelling you have **Tracert** Command, followed by you can you can give ip address if you know or you can pass the domain name and press enter

```
C:\>ping google.com

Pinging google.com [2404:6800:4009:821::200e] with 32 bytes of data:
Reply from 2404:6800:4009:821::200e: time=23ms
Reply from 2404:6800:4009:821::200e: time=23ms
Reply from 2404:6800:4009:821::200e: time=24ms
Reply from 2404:6800:4009:821::200e: time=23ms

Ping statistics for 2404:6800:4009:821::200e:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 23ms, Maximum = 24ms, Average = 23ms

C:\>tracert google.com
```

now it wil go to hops which will start from my computer and goes max to 30 hops so , it will go to my nearby ISP(Internet service provider) from there it will goes to all the routers ,my packet start talking to all the routers

```
Ping statistics for 2404:6800:4009:821::200e:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 23ms, Maximum = 24ms, Average = 23ms

C:\>tracert google.com

Tracing route to google.com [2404:6800:4009:821::200e]
over a maximum of 30 hops:

  1     1 ms     1 ms     1 ms  2405:201:d001:911:aada:cff:fe4a:7cbe
  2
```

Internet

What is Internet?

A computer network made up of thousands of networks worldwide.

How does Internet work?

Every computer that is connected to the internet is part of a network.

A home computer may use a modem and dial to connect to an Internet Service Provider(ISP)

If part of LAN, the network in turn is connected to a ISP.

The ISP in turn is connected to various ISP's to be part of Internet.

World Wide Web

Who invented World Wide Web?

It was invented by Tim Berners Lee, when he was working in a physics laboratory called CERN in Switzerland.

Need for World Wide Web

- Computers in the Internet run on different Operating Systems and use different software's to store information.
- In order to share information across the computers over the Internet a standard format of the information needs to be used and common rules to access the information.
- This led to the development of Web.

How does the Web work?

- Web is based on Client Server Architecture.

How does the Web work?

- Web is based on Client – Server Architecture.
- Clients are machines which request for services or information.
- Servers are machines which provide services or information on request from the clients.

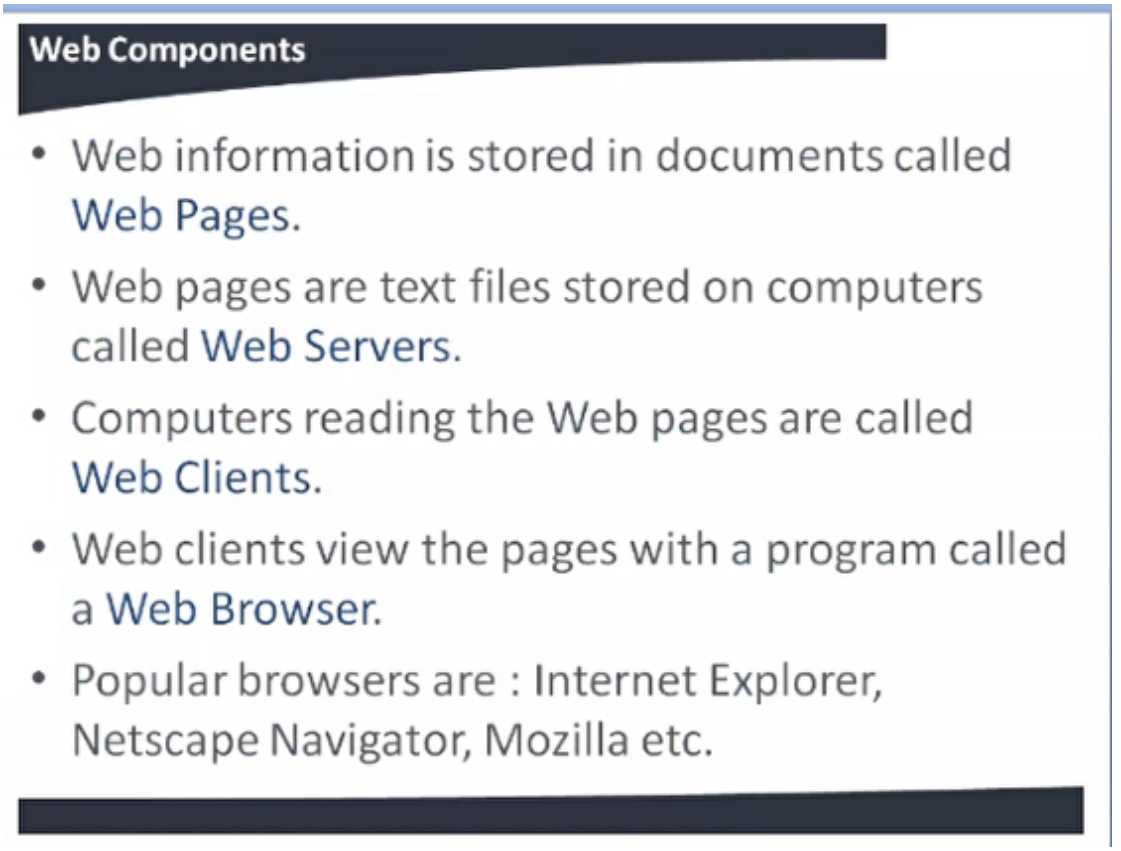
How do Client and Server interact?

- HTTP

  The client and the server exchange information using a protocol called HTTP, which is short for Hypertext Transfer Protocol.

- HTML

  The information sent by the server are HTML pages, which is short for Hypertext Markup Language.



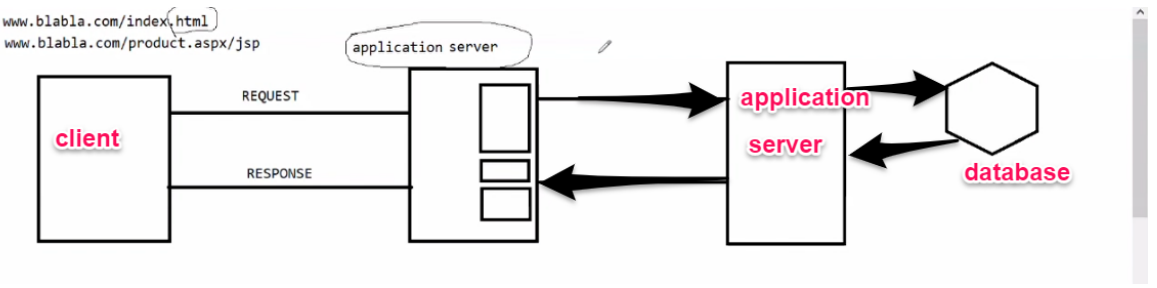
web pages :- are special html files or it can be dynamic files based on the content whatever we have

page can be a static page or dynamic page

Static pages are those pages which will have the static information

what do you mean by static information :- the information which will never be change until and unless developer goes and modifies them , static pages are your html pages

what about dynamic pages :- dynamic pages are those pages where the content will be automatically modified or the dynamic content will be injected to the respective placeholders and that entire content will be rendered back to the HTML page and sent back to the server to client , dymainc pages will be .asp or .jsp something like that



This is very important diagram

when ever the client sends the request , imagine client say www.blabla.com/index.html, so the request will be sent from your local system and it will come and hit my web server
this server will have its ip address which should be mapped to this blabla and it ask for resource.index.html , index.html is a resource
this web server has the statistics what it does it will have all the resources associated to it ,it will have all the html pages all the java script files all the css files all the image files all those things will be present here .
So it will have static or dynamic pages and the value added objects all the .html pages , .css, .aspx, .jsp , images, fonts, videos .....all those things will be called as VALUE ADDED OBJECTS (VAO's).
so when the request hit here So my server will know ok this particular page needs this particular data so it starts sending all this data back to the client

So anything which comes from the client to the server is called Request and anything which goes back to the client from the server is called response

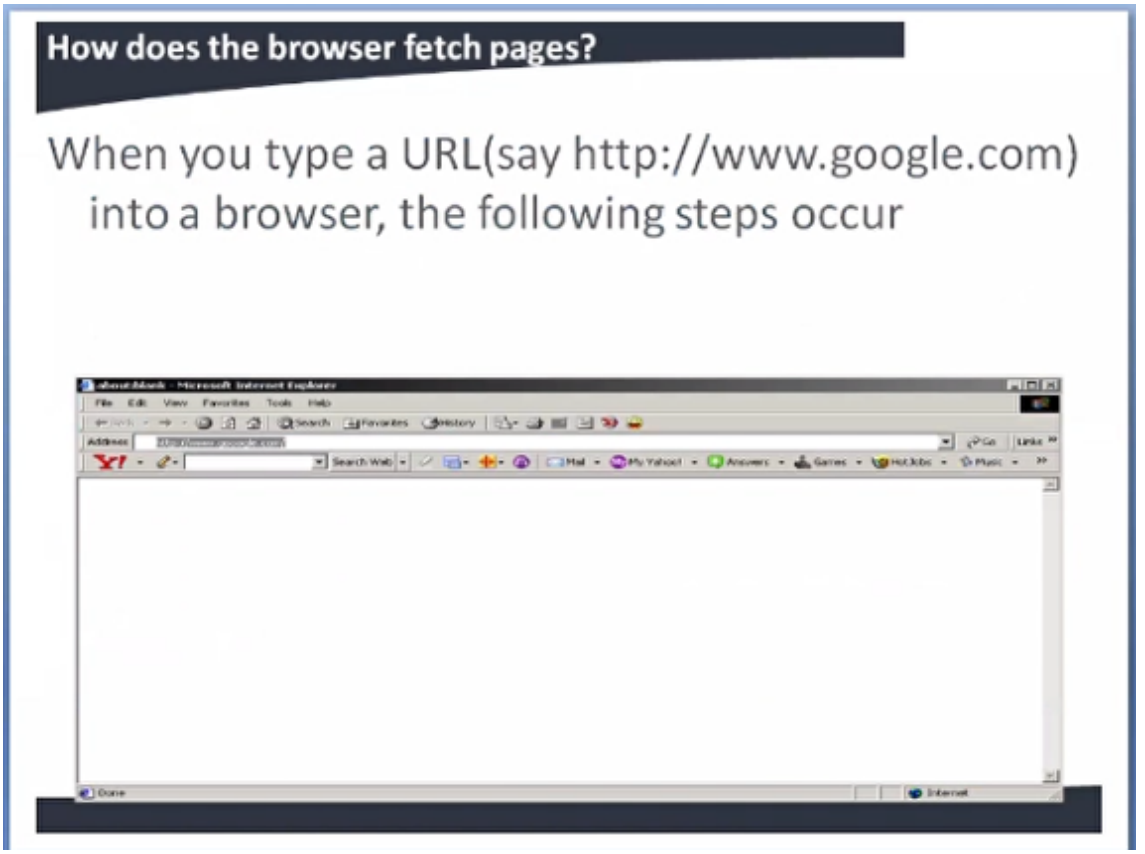
Now, suppose my request is www.blabla.com/product.asp or .aspx or .jsp or it can be without any extension
when ever my webserver sees the request like this so web server cannot handle this aspx page or jsp page .... so it will sent that request to the application server remember the word APPLICATION , its says that it is related to some technology , it can be related to .NET Technology .aspx is built with .net , .jsp is built with java technology so my web server cannot handle this
so web server sent this request to application server now my application server is smart enough to know how to handle this request
So it will take some dynamic content may be i would have written some kind of code which will talk to my database and soo many other things So that particular data will be fetched and my application server will convert that to a html response and the html response is sent back from the application server to your web server and webserver will simply forward that response .

Remember In .Net world we don't have the concept of Webserver or application server

any request will be hit to my application server directly i.e my IIS (i.e my application server by default)

But whereas in Java we have differenciation between web server and application server So in java world we use Tomcat, Tomcat is a server which can handle any sorts of .jsp or a servelt request but it cannot handel some of the java bean at particular time it will send the request to some of the heigher servers where that will be completely configured

So this is important that in which server you are deploying your application this is critical



How does the browser display pages?

- All Web pages are ordinary text files.
- All Web pages contain display instructions.
- The browser displays the page by reading these instructions.
- The most common display instructions are called HTML tags.

What is an HTML File?

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage
- An HTML file is a text file containing small **markup tags**
- The markup tags tell the Web browser **how to display** the page
- An HTML file must have an **htm** or **html** file extension
- An HTML file can be created using a **simple text editor**

HTML → Hyper text Mark up Language

- Html file is a text file contain samall markups.
- The markups tags tell the browser. How to display the page
- An html file must have an htm or html file extension
- An html file can be created using simple text-editor
- Syntax :-

```
<!DOCTYPE html>
<html>
  <head> </head>
  <body> </body>
</html>
```

<title> </title>

- Can be written inside head
- whatever we write inside this is shown in tab area

Purpose :- help in SEO search engine optimization

when we type something in browser the top sites should be displayed 1st this kind of decision is taken by your search engine.

what my search engine does is. based on the kind of ~~data~~ keywords what ever user types here it will it will gone to check weather the keyword is ~~makeh~~ marked with the metadata, whatever we have mentioned here, we can specify alot of metadata here.

<meta> ___ </meta>

Here we can mention content, discription &p so many other things here so all this become the meta info, on all the meta info you are giving include the title the search engine will going to find that this is the best suited thing

and put rating here

<head> ___ </head>

- head section will usually have all the meta info associated to the site
- so we can, But will be write anything related to presentation here.

which should be rendered on the screen.

It should be the part of body

<body> ___ </body>

- body will contain all the info which should be rendered on screen.

<h1> ___ </h1> — largest
⋮ to
<h6> ___ <h6> — smallest
} Heading tag

- html automatically add extra blank line before & after a heading

What a good developers do.

always after writing code
⇓
type ctrl S to save
⇓
go to browser then right click
⇓
go to inspect element
⇓
and please inspect the elements

Inspect
↓
In style section
↓
you see if you don't write CSS
a default CSS is written by your browser
named → user agent stylesheet

- Style sheet associated to this particular browser
this info is almost same in all the browser
to check this open code in another browser
& notice difference if any.

Assignment 1 :- font-size = 2em
what is the different b/w Pixel Px & em

Pixel is a static measurement, while percent and EM are relative measurements. The size of an EM or percent depends on its parent. If the text size of body is 16 pixels, then 150% or 1.5 EM will be 24 pixels (1.5 * 16).

16px = 1.0000em = 100.00%

when you hover your cursor on the code written on right hand side it's show associated CSS to it- plz analyse the difference

all browsers follow the same standards. but there are some tags which may work in some browsers & may not in some.

If not then customize & your code specially CSS.

⊙ Tags can have attributes

↓

Provide additional info about html element on your page

<P> ____ </P> ⟹ Paragraph tag

⊙ html automatically add extra blackline before & after a heading

⊙ you cannot sure how html display paragraph मान लो paragraph में

<P>
m. m,
m m.
m m m
</P>

Problem

ऐसे अलग अलग line में लिखा है तो भी वो single line में ही show करेगा

Solution

for this Instead of <p> tag use <pre> tag

<Pre> ____ </Pre> → Stop Wrap up
→ Pre fromated text

Put a long para graph here
it will came in single line if it is written in single line even after resize the window.
& if written written in different line
it will print it in different line even after आगे बढ़ी हो तो भी..

 ___
 ___ } Heighlight or make the word bold.

 ___ → Italic

<u> ___ </u>
<ins> ___ </ins> } → Underline Deepak

 → self closing tag (Insert a single line break

  → if additionally want to add space between words.

<del> ___ </del> → Strike out

~~Deepak~~

more about- Pre tag

when we resize our window our text automatically wraps to text next line by default our browser has ability. it looks on to my content and based on the content it automatically put all the content.

Now at some places. we want to overwrite this behaviour of our browser so All I want to controll my self so we use pre tag.

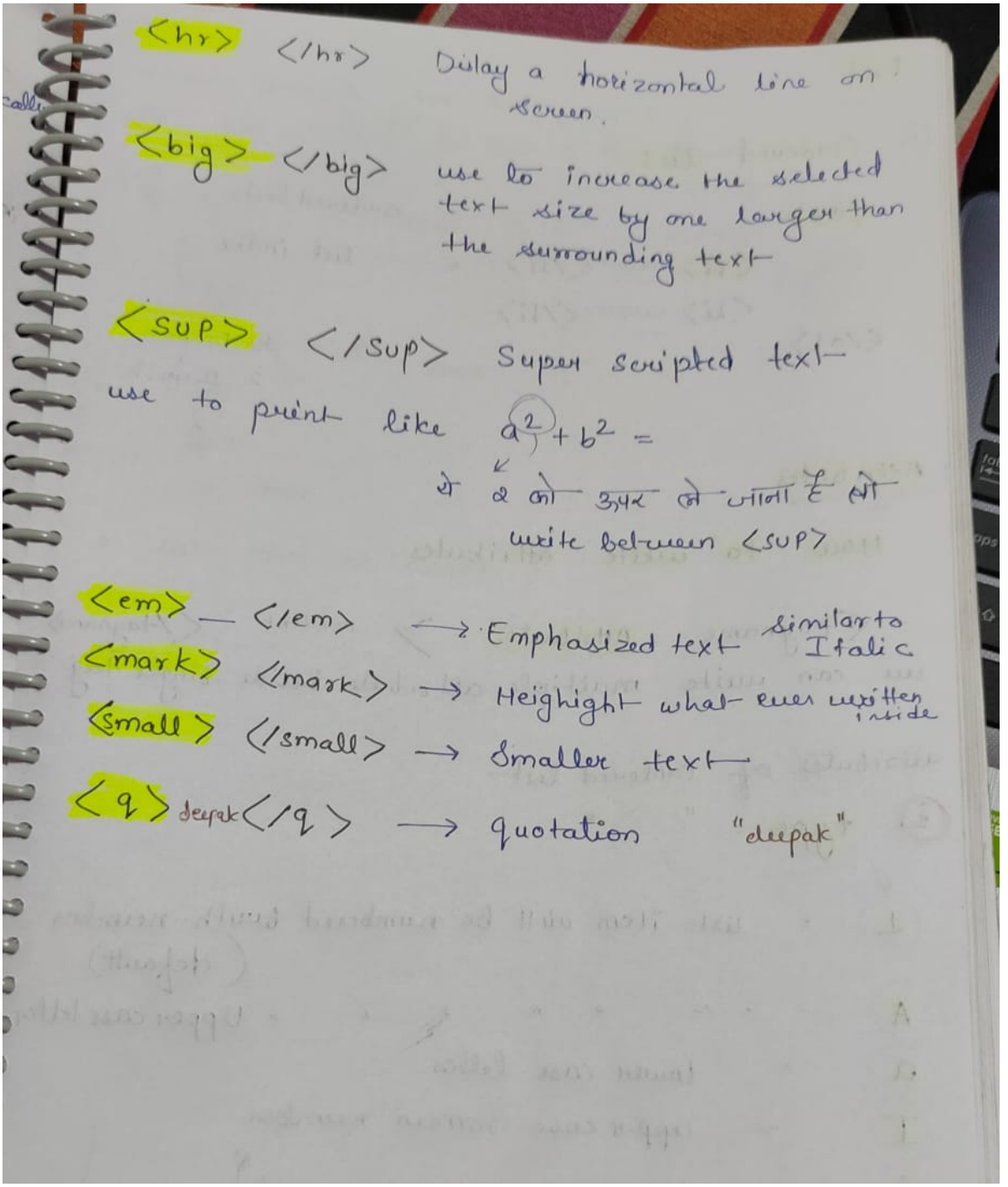
How to write H_2O, How to get 2 down.

use H ₂ O H_2O

<!-- --> Comment-

short-cut to make any line comment-

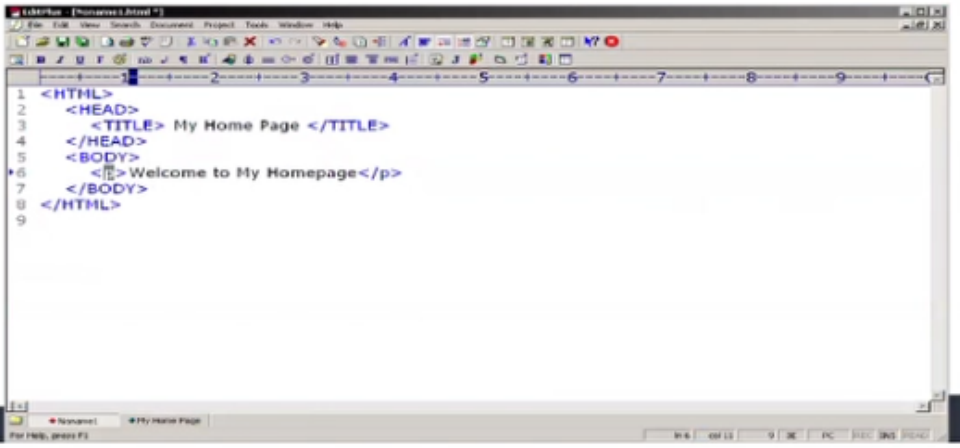
Ctrl + k + U or Ctrl + k + C



when ever you see user agent style sheet it means that css is associated to the browser .so there are some tags which may work in some browser but may not work in another browser .

Do You Want to Try It?

- If you are running Windows, start Notepad.
- If you are on a Mac start SimpleText.
- Type in the following text:



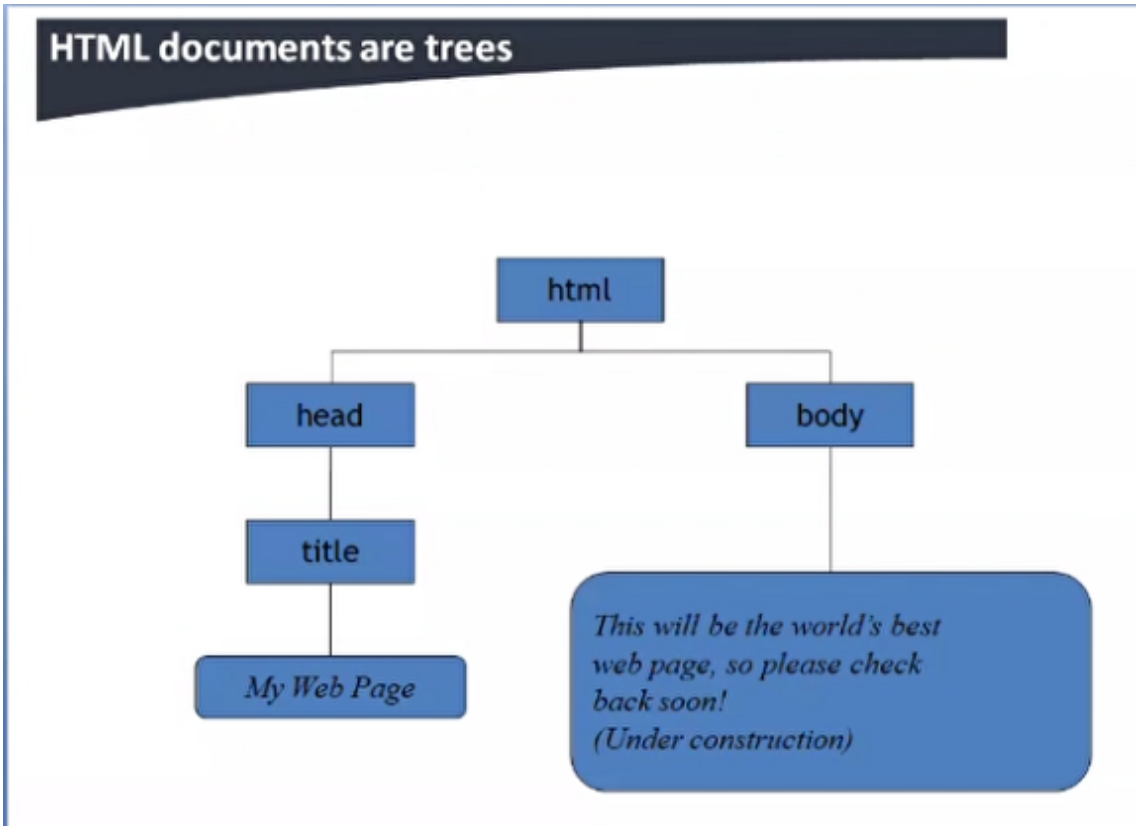
Save and Display

- Save the file as "mypage.htm".
- Start your Internet browser. Select "Open" (or "Open Page") in the File menu of your browser.
- A dialog box will appear. Select "Browse" (or "Choose File") and locate the HTML file you just created - "mypage.htm" - select it and click "Open".

HTML Structure

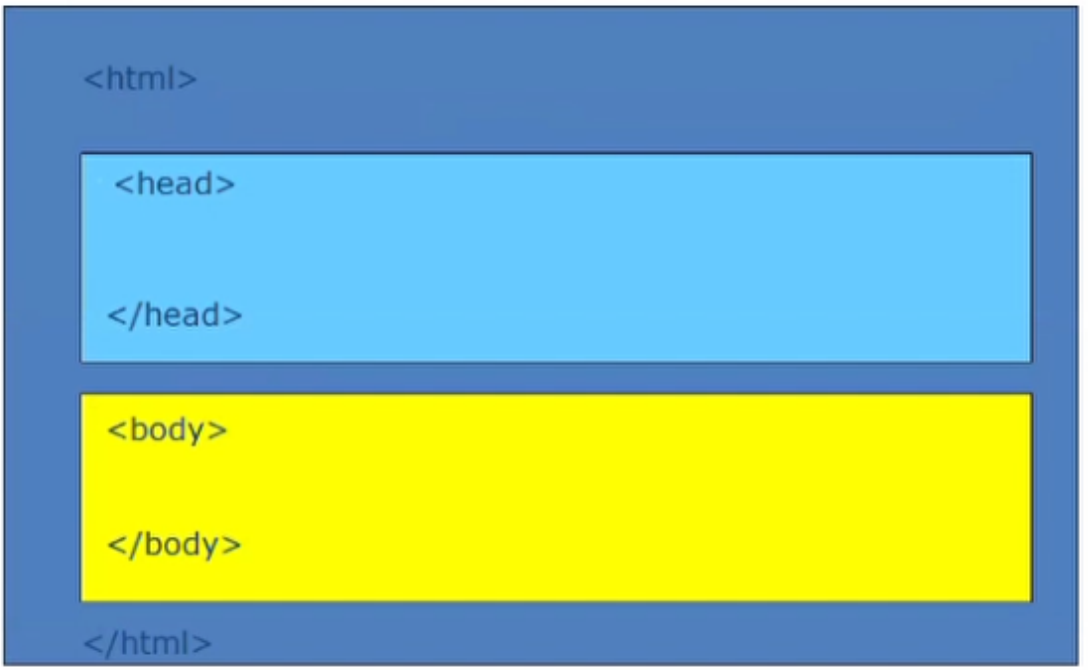
- An HTML document is contained within <html> tags.
- The <html> consists of a <head> and a <body>, in that order.
- The <head> typically contains a <title>, which is used as the title of the browser window.
- Almost all other content goes in the <body>.

HTML documents are trees



it is our DOM structure

HTML Structure



Tag Attributes

- Tags can have attributes. Attributes provide additional information about the HTML elements on your page.

Attributes:

1.How to write attributes

<tagname attributes > content </tagname >

2.we can write multiple attributes inside single tag.

Quote Styles, "red" or 'red'?

- Attribute values should always be enclosed in quotes. Double(“) style quotes are the most common, but single(‘) style quotes are also allowed.
- In some rare situations, like when the attribute value itself contains quotes, it is necessary to use single quotes:

  name='John "ShotGun" Nelson'

Basic HTML Tags

Tag	Description
<html>	Defines an HTML document
<body>	Defines the document's body
<h1> to <h6>	Defines header 1 to header 6
<p>	Defines a paragraph
 	Inserts a single line break
<hr>	Defines a horizontal rule
<!-->	Defines a comment

Headings

- Headings are defined with the <h1> to <h6> tags. <h1> defines the largest heading. <h6> defines the smallest heading.
- HTML automatically adds an extra blank line before and after a heading.

Paragraphs

- Paragraphs are defined with the <p> tag.
- HTML automatically adds an extra blank line before and after a paragraph.

Line Breaks

- The
 tag is used when you want to end a line, but don't want to start a new paragraph.
- The
 tag is an empty tag. It has no closing tag.

Comments in HTML

- The comment tag is used to insert a comment in the HTML source code. A comment will be ignored by the browser.

Horizontal Rule <HR>

- The <hr> element causes the browser to display a horizontal line (rule) in your document. This element does not use a closing tag,</hr>.

HTML Text Formatting

- HTML defines a lot of elements for formatting output, like bold or italic text.

Tag	Description
<b>	Defines bold text
<big>	Defines big text
<i>	Defines italic text
<small>	Defines small text
<sub>	Defines subscripted text
<sup>	Defines superscripted text
<u>	Defines a underlined text

HTML Lists

- HTML supports
  - ordered
  - unordered
  - definition lists
  - Nested lists

	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dl>	Defines a description list
<dt>	Defines a term in a description list
<dd>	Describes the term in a description list

Ordered Lists

- It is a list of items. The list items are marked with numbers.
- An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

Syntax:-

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


Attributes of ordered list

1. type=" "

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

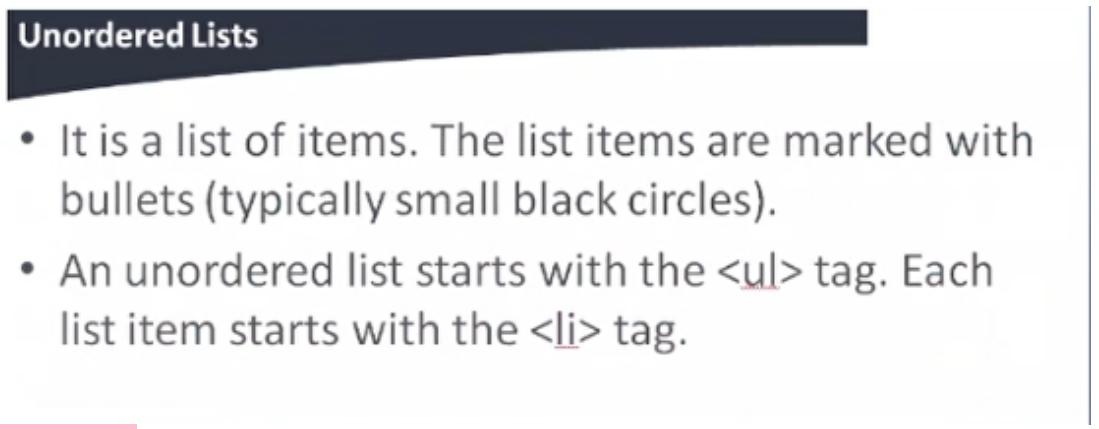
2. start=" "

start controls the list counting

by default value of start is 1

start me 5 diya to list 5 se start hogi 5 6 7 8 9 .....soon .....

type me a diya and start me 5 diya to e se start hogi list e f g h .....



Syntax:-

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

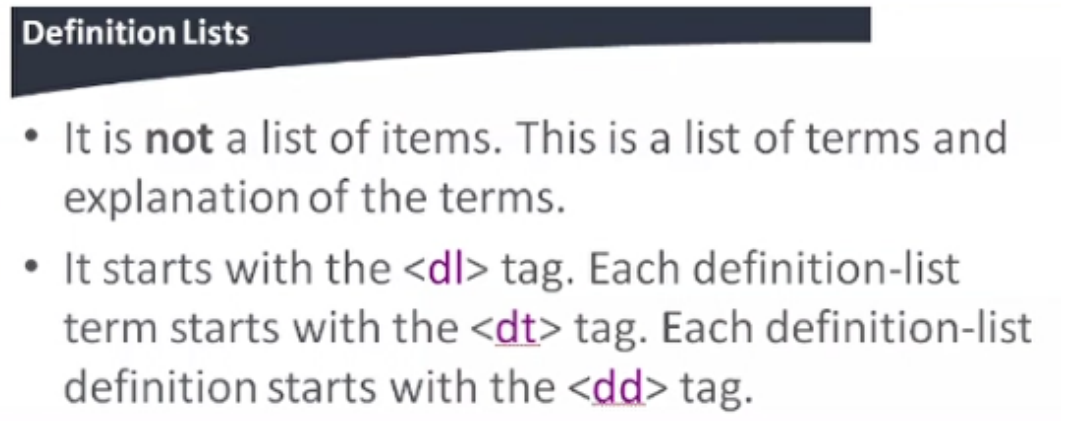
Attributes of unordered list

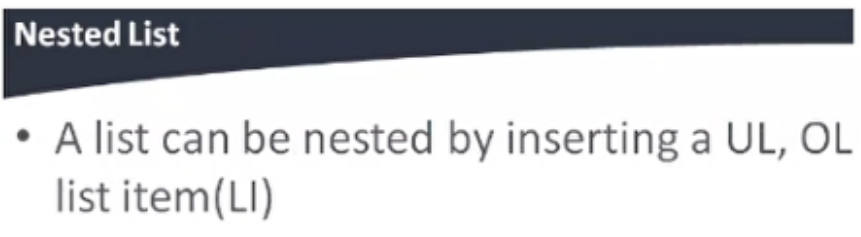
1. type=" "

   by default value of type here is **disc**: It creates a filled circle

   value of type can be -------->circle ,square ,none.

   agar leaf chahiye ya any small pic or logo so use **CSS**





Nested Unordered list :-

```
<ul>
    <li>Coffee</li>
    <li>Tea
    <ul>
        <li>Black tea</li>
        <li>Green tea</li>
   </ul>
   </li>
   <li>Milk</li>
</ul>
```

Nested Ordered list

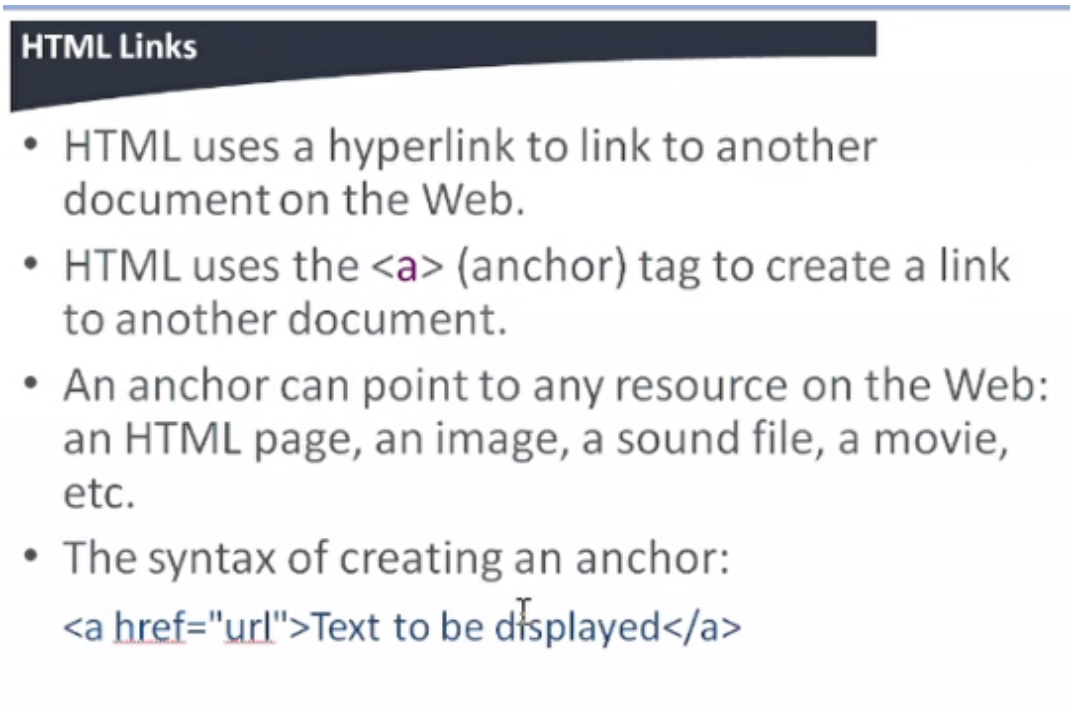
```
<ol>
      <li>Coffee</li>
      <li>Tea
      <ol>
          <li>Black tea</li>
          <li>Green tea</li>
      </ol>
      </li>
      <li>Milk</li>
</ol>
```

Chapter Summary

- Use the HTML <ul> element to define an unordered list
- Use the HTML <ol> element to define an ordered list
- Use the CSS list-style-type property to define the list item marker
- Use the HTML <li> element to define a list item
- Lists can be nested
- List items can contain other HTML elements
- Use the CSS property float:left to display a list horizontally

HTML List Tags

	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dl>	Defines a description list
<dt>	Defines a term in a description list
<dd>	Describes the term in a description list

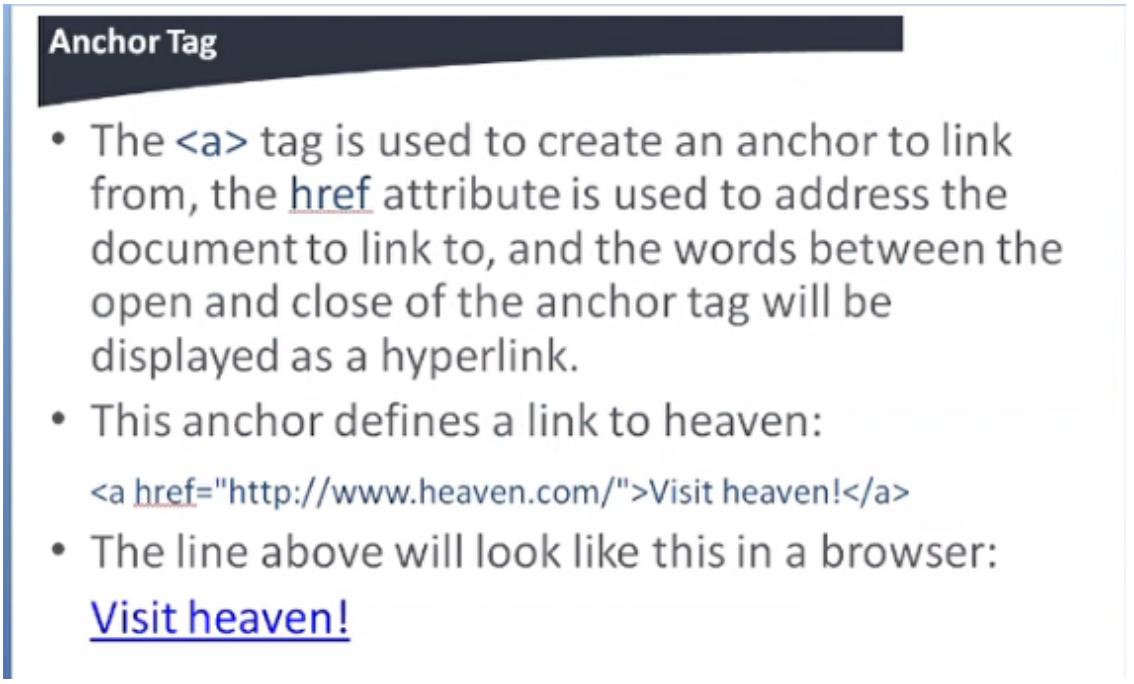


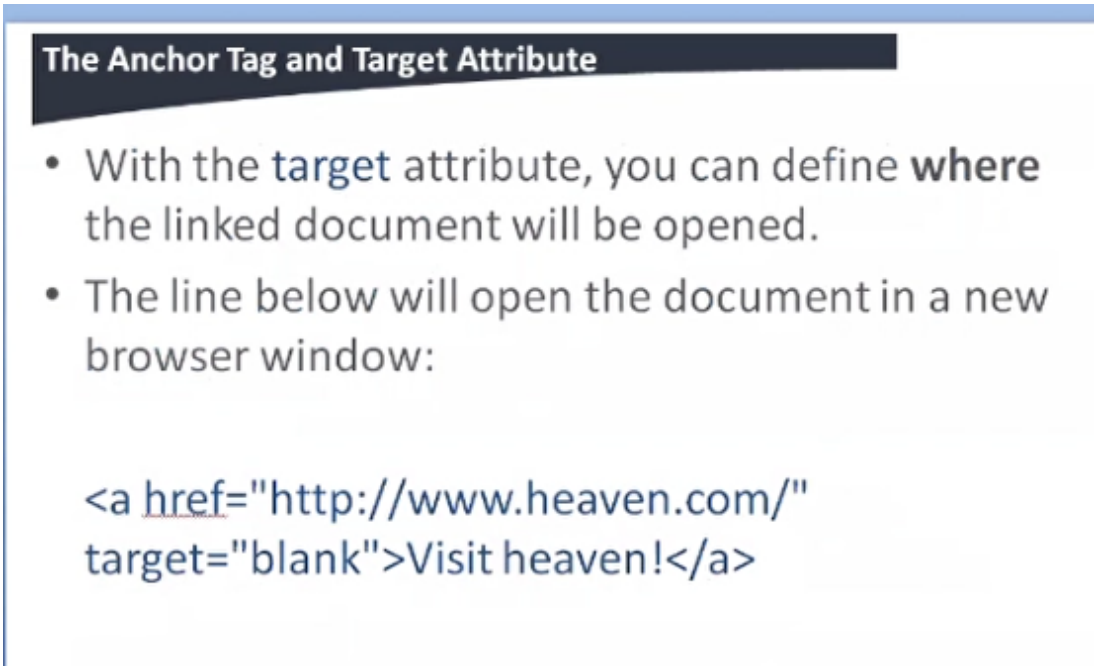
(Inter link)

 Home
 contact
 feedback
 click here to open google

similarly ,we can play or access the audio and video files
similarly we can access the image ,ek small image download karlo uski hyperlink dedo click karne pe image

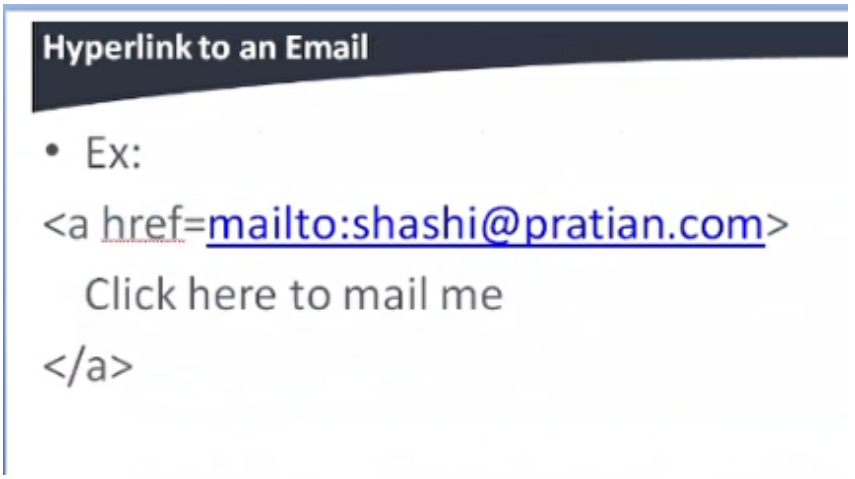
means just smaller version download karlo text ki jagah url dedo
so when you click on the image you get the image whose location you have gaved
In place of text use url





How to open the link in new tab?

for this we use the target attribute
target=" _blank "

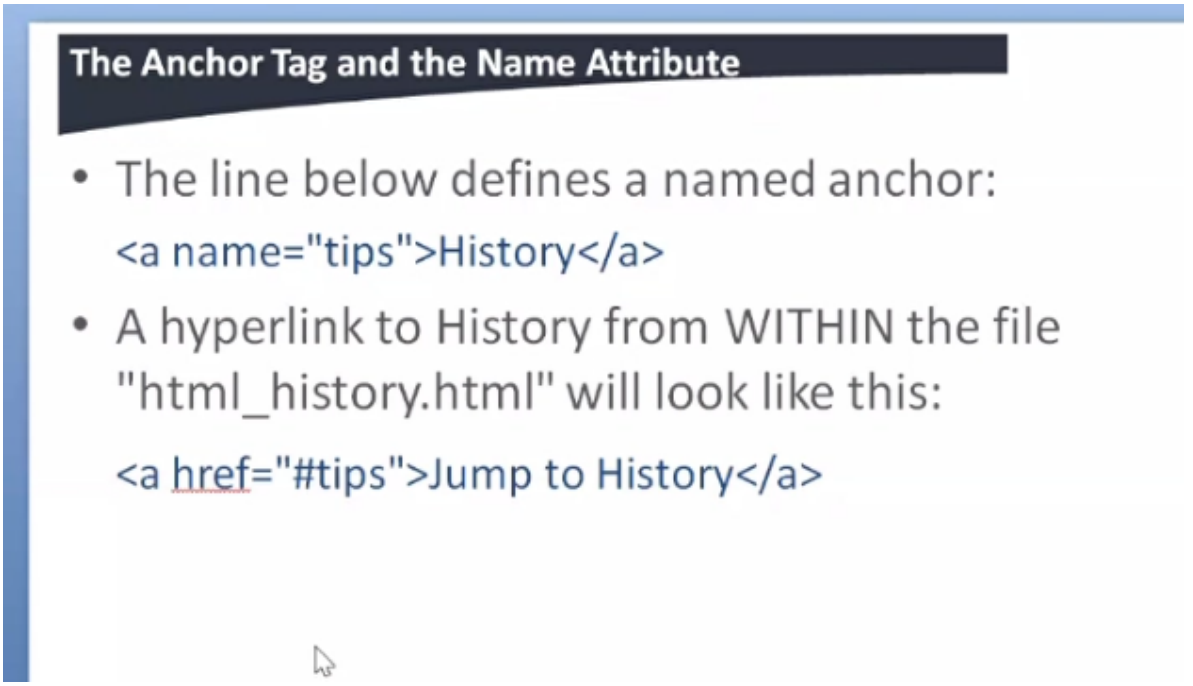


Mail id pe click kare to wo jo bhi software avilable hai (gmail or anything)usme open ho jae

f or this use **mailto:**

Email :-----------> click hereto mailme

Mobile---------> click here to contact me



How to create hyperlink for the same page
(Intra link)

jispe click karna hai usko hyperlink banado
and click karke page me jaha jana hai id bana do
id dete hai to hyperlink me #dena padta hai
Name of hyperlink & ID must be same

Top se bottom jane ke liye

```
 <h3>Index</h3>
<ul>

    <li><a href =" #HTML> HTML</a><li>
    <h4 id ="HTML">HTML</h4>
```

Bottom se top jane ke liye

```
<h2   id="top">Html tutorial</h2 >
    <p>This is inside the paragraph  </p>
 <a href=#top>click here</a>to go to top
```

Can i put a p tag(paragraph) inside h tag(heading)

yes ,but not recommended keep heading independent

Assignment : Find what are the target we can have like target="_blank"

HTML Links - The target Attribute

By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.
The target attribute specifies where to open the linked document.
The target attribute can have one of the following values:

- _self - Default. Opens the document in the same window/tab as it was clicked
- _blank - Opens the document in a new window or tab
- _parent - Opens the document in the parent frame

- _top - Opens the document in the full body of the window

Assignment : We have headings in the form of unordered list like

Index

- **HTML**
- **HelloWorld using Html**
- **Prerequisits**

we have asssociated paragraph to this

HTML

dsdsdsdsdsdsdsd

dsdsd sds s

ddddddddddddd

ddddddddddddds

ddddddddddddddddds

d ddddddddddddddddddddd

Helloworld using html

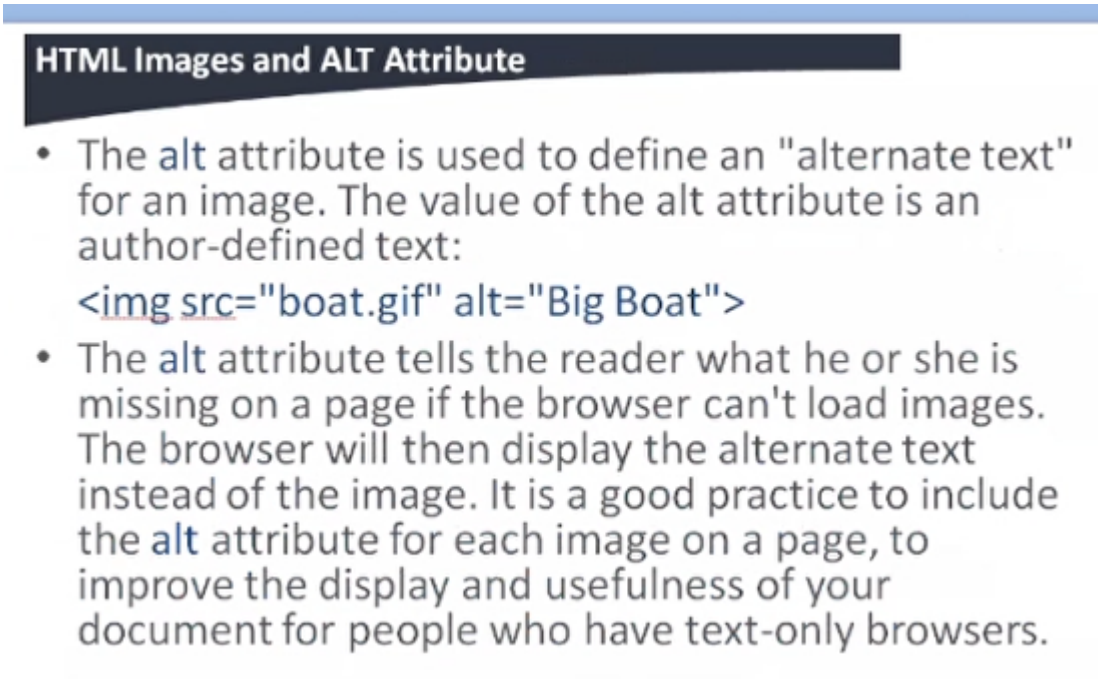
dsdsdsdsds dsdsds d sds ds dsds

d sdsdsdsdsdsd s

sdsdsdsds

So when we click on them we have to move down /up to the associated para

Images



Attributes:-

1. **src = " "**

   The required src attribute specifies the path (URL) to the image.

- There can be 4 ways to specify path to the image
    1. C:\Users\dborb\OneDrive\Pictures\Screenshots

ye ki poora path hi copy kar diya **but it is not recomended**
jaruri thodi hai ki jisko aap folder de rahe ho wo bhi c drive me hi save karke rakhe

2. jab aapki image or .html file dono same folder me ho tab
directly file ka name src (source) me daal do for example:- myimage.jpg

3. jab aapki image doosri kisi inner folder me ho and aapki .html file same folder me ho
in this case path dedo for example :- foldername/imagename.jpg

4. jab aapki .html file bhi kisi dusre folder me ho and image kisi doosre folder me ho
in this case 1st aapko aapki .html file ko pehle folder ke bahar lana hoga and for this you need **../** then give the image file path
for examlpe :- ../foldername/image.jpg

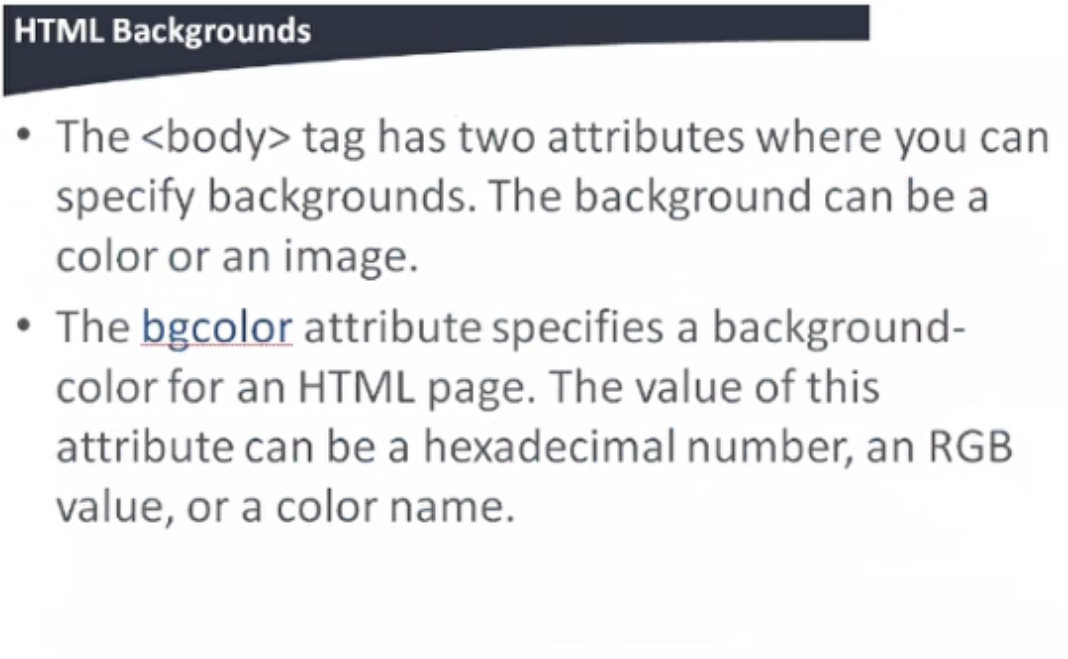
2. **alt=" "**
agar jo path hamne diya hai waha image avilable nahi hai to alt image ki jagah wo print karega jo hamne alt me likha hai
3. **title=" " it is called tool tip text**
when you move your cursor on the image jab hover karenge to title me likha hoga wo show hoga

4. **width =" "**
5. **height=" "**

we can use both width and height together you can handel it using HTML but try using css
dont use width and height together yaa to width de do ya height
images what we use will gone to run different aspect ratios (ratio in what the imzges are taken)
your engine or browser is smart enough to know that I have to adjust the height based on the width you are giving

Assignment:- what is the different between .png and .jpeg

Answer:- In .png the background will always be transparent



it is not recommended to use a back ground

but if you want to use then

1. if you want to change the whole background then use bgcolor attribute inside body

   <body bgcolor="red"></body >

   try to do some crazy things with it give different colors like - orange

   so, either you can write human readable all 15 colors white, blue, green, orange.....

   or you can use color codes like **#000000** So, first 2 00 is for red then green then blue

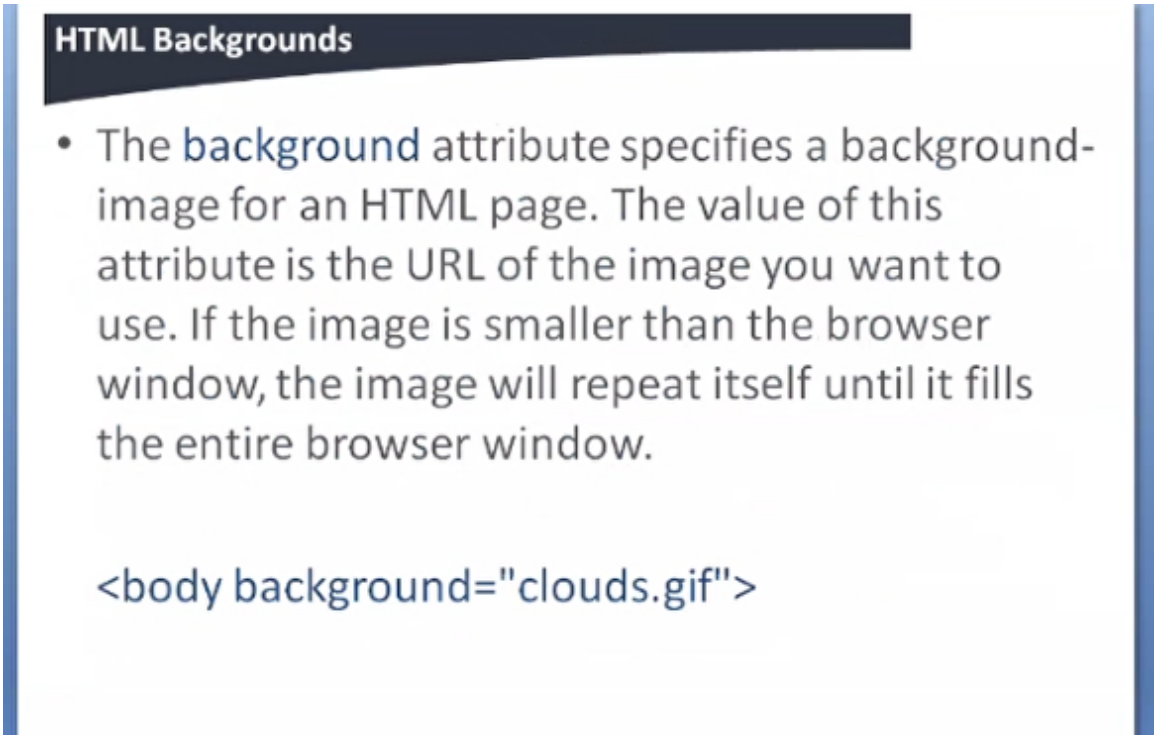
   so if we put all to 000000 then we get black color and if we want completely blue color so we specifiy

   #0000**ff** So it goes from Zero to f It is a Hexadecimal value

   you can also write #00f it is as equivalent as me saying #0000ff

#0ff means red 0 green max blue max

so write six digit number and it will give you some color



2. if you want to change the background image then use

<body background="image location or url ">

but ese karne se if you have a bigger screen so photo repeat hogi so we need to avoid that

that's a reason we not work with backgrounds

if you use background so what we usually do is, we will have a div which will cover the entire part and then we play with the transparency of it

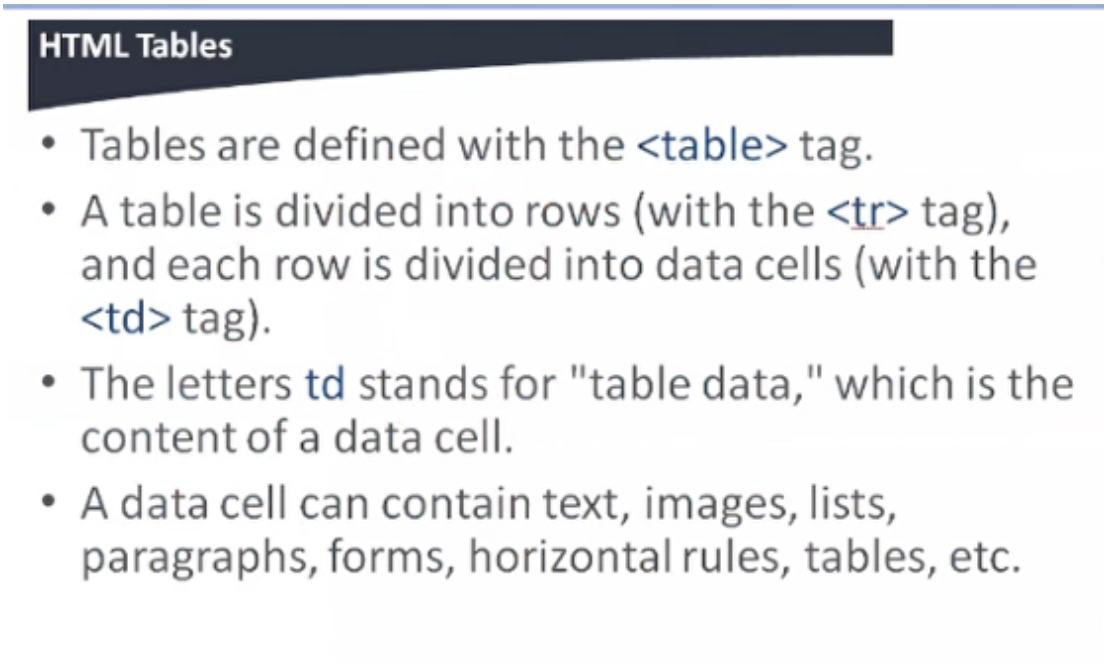
To get border outside the border use the border attribute of table

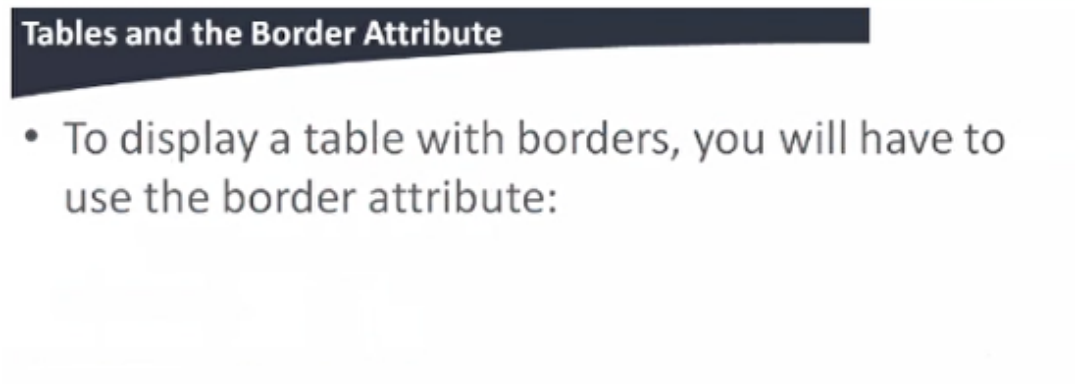
<table border="1">

we can gave value of border as 1 ,2 ,3 ,4 ,.....soon.....

To merge colons we use (colspan =number of colo to merge) attribute where?

<th colspan =" 2 "> </th>





Headings in a Table

- Headings in a table are defined with the <th> tag.

```
<table border="1">
   <tr>
        <th>Heading</th>
        <th>Another Heading</th>
   </tr>
   <tr> <td>row 1, cell 1</td> <td>row 1,
        cell 2</td> </tr>
   <tr> <td>row 2, cell 1</td> <td>row 2, cell 2</td>
   </tr>
</table>
```

Tables and colspan Attribute

- colspan attribute is used to define table cells that span more than one column

```
<table>
     <tr>
          <td>Name</td>
          <td colspan="2">Telephone No</td>
     </tr>
     <tr>
          <td>Bill Gates</td>
          <td>74548292</td>
          <td>63739101</td>
     </tr>
 <table>
```

Tables and rowspan Attribute

- rowspan attribute is used to define table cells that span more than one column

```
<table>
    <tr>
        <td>First Name</td>
        <td>Bill Gates</td>
    </tr>
    <tr>
        <th rowspan="2">Telephone No:</th>
        <td>3344 113 121</td>
    </tr>
    <tr>
        <td>1212 323 556</td>
    </tr></table>
```

More Table Attributes

- cellspacing – represents the space between cells and is specified in pixels.
- cellpadding – is the space between the cell border and the cell contents and is specified in pixels.
- align – cell data can have left,right or center alignment.
- valign – cell data can have top, middle or bottom alignment.
- width – to specify the width as an absolute no of pixels or a percentage of the document width.
- height – to specify the height as an absolute no of pixels or a percentage of the document height.

HTML Forms and Input

- A form is an area that can contain form elements.
- Form elements are elements that allow the user to enter information (like text fields, textarea fields, drop-down menus, radio buttons, checkboxes, etc.) in a form.
- A form is defined with the <form> tag.

```
<form>
  <input>
  <input>
</form>
```

Radio Buttons

- Radio Buttons are used when you want the user to select one of a limited number of choices.

```
<form>
<input type="radio" name="gender" value="male">
Male <br> <input type="radio" name="gender"
  value="female"> Female
</form>
```

Radio Buttons

- Radio Buttons are used when you want the user to select one of a limited number of choices.

```
<form>
<input type="radio" name="gender" value="male">
Male <br> <input type="radio" name="gender"
  value="female"> Female
</form>
```

Checkboxes

- Checkboxes are used when you want the user to select one or more options of a limited number of choices.

```
<form>
<input type="checkbox" name="bike"> I have a
  bike <br>
<input type="checkbox" name="car"> I have a car
</form>
```

Some more Input Attributes and TextArea

- Password – Used to allow entry of passwords
  <input type="password">
- File Upload – Used to upload file to web server.
  <input type="file">
- Reset – Used to clear all the input in the form.
  <input type="reset">
- Text Area – Used for free form text entry.
  <textarea></textarea>

Select Tag

- Select is used to create a drop down list

```
<select>
  <option value ="volvo">Volvo</option>
  <option value ="saab">Saab</option>
  <option value ="opel">Opel</option>
  <option value ="audi">Audi</option>
</select>
```

The Form's Action Attribute and the Submit Button

- When the user clicks on the "Submit" button, the content of the form is sent to another file.
- The form's action attribute defines the name of the file to send the content to.
- The file defined in the action attribute usually does something with the received input.

The Form's Action Attribute and the Submit Button

```
<form name="input"
  action="html_form_action.asp"  method="get">
Username: <input type="text" name="user">
<input type="submit" value="Submit">
</form>
```