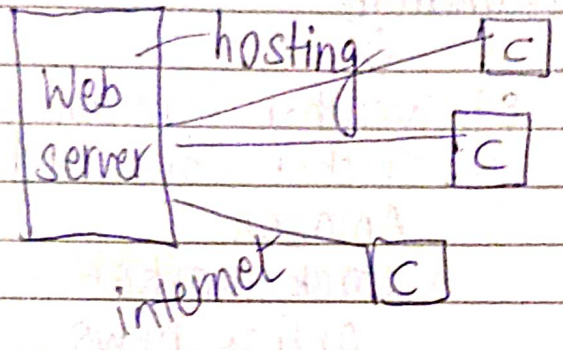
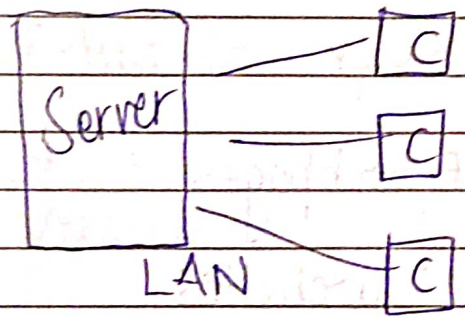
Web Apps.

C-S App





e.g. Online examination

Mobile Apps (Standalone) → 1 tier.

Dbms
- MS Access
- MySQL
- MS Server
- Oracle

- Min. 2 tier app.
- C-S has 2-tire app
- Rendering contents of webpage
  HTML page with ext. .html Browser

database
MS Access
MySQL
3rd

1st
2nd

diff. app for code & execution

VSCode
Same app. for code & execution

Web Apps

Static → HTML

Dynamic → eg. Weather forecast
cricket score card
Amazon
stock market
online news

Any scripting language for making dynamic

- Hierarchy
webpage
website - collection of webpages
webserver - collection of websites

- Tags
• <tagname>

paired → contents

unpaired → <hr> (horizontal rule)

tag
↳ Attributes
 This is a para

—	if we want	—

XAMP – Server works with all

Server to be installed using PHP { WAMP for windows, LAMP for unix

Unit 1-4

notepad → browser

- Syntax

<tagname AHtl = " " AHr2 = ... >

String

= 10 ← for numeric

- HTML

HTML
html
Html
} not case sensitive

- XHTML (Extensible Hypertext Markup Language)

- Rules are strict
- Stricter version of XHTML

- W3C – Consortium – Standard rules collection

- Extensions

- .html & .htm are widely used

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- Basic text formatting tags

, , <u>, , <sup>, <sub>, <small>, <centre>, <pre>

(sup → superscript, sub → subscript)

- All tags are paired

3 parts
- Tag
- Attribute
- Element

HTML element

- This is a para

(align → attribute)

- Bold text - Nested tags

- For e.g. $x^2 \Rightarrow$ x²

  e. $x_y \Rightarrow$ x_y

- <pre> - preformatting

e.g.
```
<html><body>
<pre>
int main() <br>
{
  for (i=0; i<10; i++)
  {
    . . .
  }
}
</pre>
</body>
</html>
```

break line tag can be used, is method but for proper indentation <pre> tag can be used for printing in proper way otherwise all is printed in one line.

- Heading tags:

<h1>
<h2>
<h3>
<h4>
<h5>
<h6>

For e.g. <h1> Heading 1 </h1>

<centre>

- <img src="a.jpg" alt="_____" />

img tag — source — Alternate Text (Text to be displayed in case img. text fails)

</centre>

- Table tags

border is the most used attribute.

- <table>

<tr> - table row
<th> - table heading
<td> - table data

Always nested in tr

child tags of tr tag

eg.

- <html><body>

```
<table border=1>
<tr><th>Subject</th></tr>
<tr><td>WT</td></tr>
</table>
```

Subject
WT

By default table doesn't have border.

Sub	Marks
WT	50
DS	45

- e.g. <html><body>
  <table border=1>
  <tr><th>Subject</th><th>Marks</th></tr>
  <tr><td>WT</td>
  <td>50</td></tr>
  <tr><td>DS</td>
  <td>45</td></tr>
  </table>

- Two attributes of th & td tags.
  1. rowspan=2

r_1	a	b
r_2	c	d
		e

<html><body>
<table border=1>
<tr><td>a</td><td>b</td></tr>
<tr><td rowspan=2>c</td><td>d</td></tr>
<tr><td>e</td></tr>
</table>

2. colspan=2

a	b
c	
d	e

<html><body>
<table border=1>
<tr><td>a</td><td>b</td></tr>
<tr><td colspan=2>c</td></tr>
<tr><td>d</td><td>e</td></tr>
</table>

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- Lists

i I a A 1. ← Ordered list

b B 2. Unordered list ⇒ • □ ○
• □ ○
• □ ○
↑ default for ul

c C 3. ~~Nested~~ Description list.
↓
e.g. HTML
Hypertext.....

CSS
Cascading.....

- <ol> ⇒ ordered list
<li> ⇒ list item

- e.g. <ol>
<li>Apple</li>
<li>Cherry</li>
</ol>

Basic Indexing is 1, 2, 3...

For other indexing
<ol type="a">
<li>Apple</li>
<li>Cherry</li>
</ol>

- For ~~unodrd~~ unordered list
<ul>
<li> Apple </li>
<li> Cherry </li>
</ul>

For other bullet

```
<ul type="square"/"disc">
<li> Apple </li>
<li> Cherry </li>
</ul>
```

- e.g. 1. Fruits
  - Apple
  - Cherry

  2. Vegetables
  - Potato
  - Tomato

Nested lists.

→

```
<ol>
<li> Fruits
<ul>
<li> Apple </li>
<li> Cherry </li>
</ul></li>

<li> Vegetables
<ul type="square">
<li> Potato </li>
<li> Tomato </li>
</ul></li>
</ol>
```

ol can take only li tags.

- 3 basic tags are used:

paired tags { <dl> - description list
<dt> - data/definition term
<dd> - description data.

inside dl we can have combinath of these 2 tags.

- e.g. <dl>
1st term { <dt> HTML </dt>
<dd> Hypertext..... </dd>
2nd term { <dt> CSS </dt>
<dd> cascading..... </dd>
</dl>

O/P = HTML: ← depends upon the browser
Hypertext.....
CSS:
Cascading.....

- <ol> <ul>
<li>

Directly these 2 tags only take li in nested list.

- For following

- I_1
- I_2
- I_3

Page :
Date : / /

<ul>
<li><img src=" "></li>

- Hyperlink

<a> - anchor tag

- Most used attribute is:

href - Hyperlink reference

- For e.g
<a> Google </a>

O/P = Google but will not open further.

1. google → www.google.co.in (Img) Use navigating to 3rd website or webpage.
2. Mypage → b.html (a.html)
Used for navigating to webpage for other.
3. ⋮

TOP - takes from any position in webpage to top i.e. navigating within same webpage

- e.g. <a href="https://www.google.co.in">Google</a>
<a href="b.html">Mypage</a>
↑
a.html
↳ b.html

- target attribute has 1 inbuilt value _blank which is used for opening the website on new page & for opening on same page — self is used.

<a href="b.html" target="_blank">Mypage</a>

- Image as a link

<a href "b.html"><img src="image.jpg"> </a>

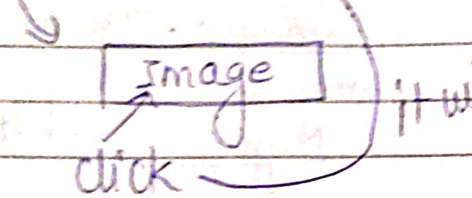

image 1 → Image

Clicking on text/link image will be opened.

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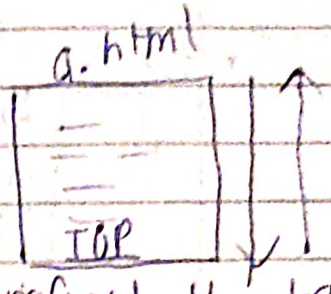
- Link - Navigating within same page



- <a>
  href = url
  a.html ✗ as we don't want to refresh the page.

- Goto ~~lab~~ lablename
  (Similar to this) Label: - - - - - -

  name = "section name"

- Preced with #
  <a>
  href = "# section name"
  name - "section name"

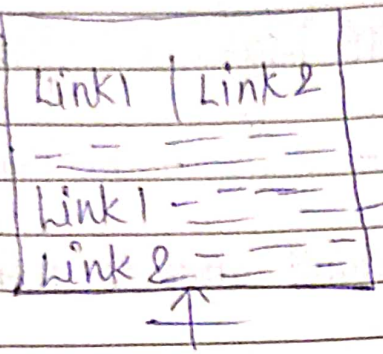
- e.g. <html>
  <head> </head>
  <body>
  <a name = "Top"></a>
  - - - - - -

  <a href = "# Top">Go To Top</a>
  - - - - - -

  </body></html>

⇒ Here, we have a long webpage then by clicking on Go To Top we directly go to top of the page.

• e.g.



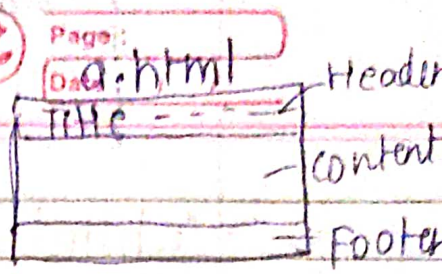

```
<html>
<head> </head>
<body>
<a href="#section1">Go to link1 </a> | <a href="#link2">Link2</a>
<a href="#link2">Go to link2 </a>

Section 1
<a name="section1"></a>

<a name="section2"></a>

</body>
</html>
```

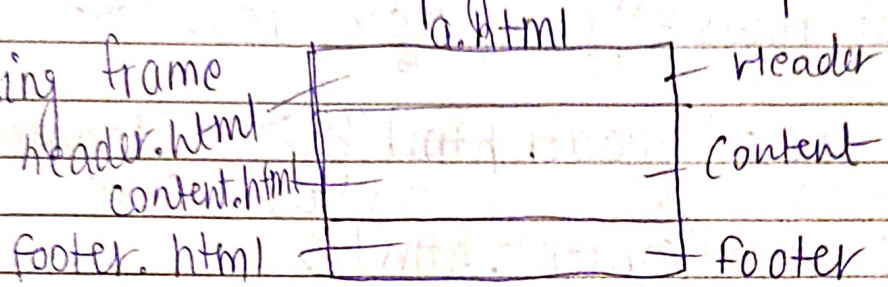
We can specify normally for separative sections



- Frames

- Use is to divide webpage into multiple sections.

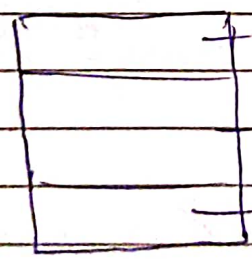
- Using frame



Total webpages = 4

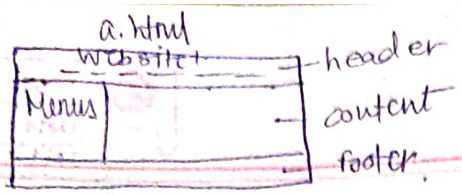
- Root tag used is <frameset>
  - cols } 2 attributes
  - rows } takes value in %, pixels
  - <frame>

- 100%



- <frame> is child tag of <frameset>
  - src = url
  (source is 1 attribute)

- <frameset> is not included in body tag & for that webpage don't specify body tag it is not required.



No. of section defined = No. of frames have to be defined

⟹ a.html

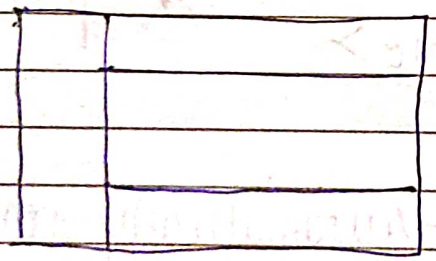
```
<html>
<head><title> Website</title></head>
<frameset rows="15%, 70%, 15%">
<frame src="header.html"/> </Frame>
<frame src="content.html"/>
<frame src="footer.html"/>
</Frameset>
</html>
```

Be specific & mainly use while writing this

use this ✗

```
<frameset cols="20%, *"><frame src="Menu.html"/>
<frame src="content.html"/>
</frameset>
```

⟹



```
<frame set cols="20%, *">
<frame src="Menu.html"/>
<frame set rows="15%, *, 15%">
<frame src="  ">
<frame src="  ">
<frame src="  ">
</frameset>
</frameset>
```

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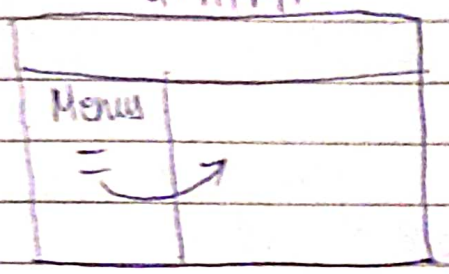
a.html



- <frameset rows.....>
  <frame src="menu.html" ~~name="menu"~~>
  <frame src="content.html" name="content">
  _ menu.html

- <a href="www.google.com">
  Google
  </a>
  Page will open here only.

- <a href="www.google.com" target="content">
  Google
  </a>
  frame is opened in desired frame.

start tag
content } element
end tag

- Html Forms

Parent tag ⇐ <form> </form>

- It contains various elements.
- Most widely used element is input element.
- Basic type is 1. text [abc] ⇒ textbox is generated.

2. password [* * *]

3. radio ⊙ Male } Used where 1 choice is to be selected
   ⊙ Female

4. checkbox [✓] } Used for single or multiple choices
   [✓] } e.g. Hobbies

5. Submit.

6. Date - e.g. calender is generated to select 1 date.

7. Number - [ ] Select or enter number

- Attribute
  text = "Defaut text"
  For empty space don't use the attri.

8. Button

form tag is included in body tag

e.g.

```
<html>
<body>
<form> Name:                text="Default text"
<input type="text"/><br>
Password: <input type="password"/><br>
Confirm password: <" " " /></br>
<input type="submit" text="signup"/>
<input type="button" text="cancel"/>
</form>
</body>     DOB: <input type="Date"/></br>
</html>
```

If it is not used then everything will be shown in one line.

Name:	Default text
Password:	
c. Password:	
Signup	Cancel

- Use of radio button

```
<input type="radio"/> Male <br>
<input type="radio"/> Female
```

We have id name attribute for input tag

```
<input type="radio" name="M"/> Male <br>
<input type="radio" name="F"/> Female <br>
```

Value attri. is used for taking the value while computation

```
<input type="radio" value= name="F"/> Female
```

Page :
Date : / /

& Hobbies <input type="checkbox" value=0 name="Reading">
Reading

• <input type="checkbox" name="c1" value="h1" hobby1 </br>
<input type="checkbox" name="c2" value="h2" hobby2 </br>
javascript req. now optional

Examples – Drop down list

• <select name="city">{∵ name is optional}
<option value="A1">Ahemdabad</option>
attri.
<option> Vadodara </option>
{Only display & no value so no process can be performed}
</select>

– Textarea

• textarea & textbox - only diff is textbox is single row but textarea has many rows & cols.

Not a part of input tag it is seperate element

• <textarea rows=5 cols=50>
This is a text
</textarea>

Page :
Date : / /

part of input element

- <input type="button" value="sum">

separate element <button> Sum </button>

Sum

- <input type="reset" - all fields are reset
  - = "cancel" - cancel the recent action
  - = "submit" - fields are submitted
  - = "button" - button is created.

They will appear as button but functioning depends on the type used.

HTML-5

- Media
  - Audio
  - Video

  Player can be created
- Canvas

- For Audio

• <audio controls="control">

attri.

• If we don't specify this then by default we get only play & stop.

<source src="a.mp3" type="audio/mp3">

Sub tag

attri.

type of audio file

</audio>

- For Video

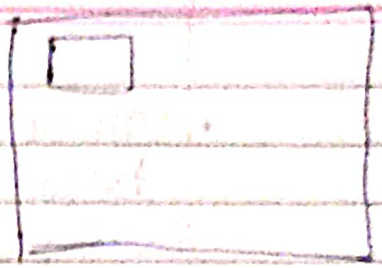
Occupy specific size/or portion of webpage to be occupied

<video controls="control" height=200 width=200>

<source src="a.mp4" type="video/mp4">

</video>

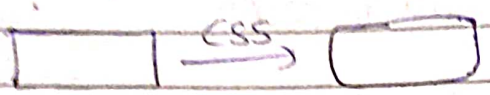
- Canvas tag



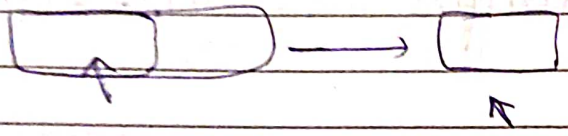
<canvas height=200 width=200/>

- Used for creating drawing space on webpage.
- All these require javascript.
- Only this much code if we write then also we will not get the border of area.
- If need CSS for specifying the borders & highlighting.

CSS (Cascading Style Sheets)

- can be used for changing the border, text colour, bgcolour, etc.
- e.g. 

- Versions
  - CSS - 4 selectors
  - CSS2 - 9 selectors
  - CSS 3 - transformation of elements can be done
    Transition



- Selector (On which element to apply)

Selector : property name - value
(what you want to apply)

- 4 types of selector:

Selector:

1) Element - p (All p tags on webpage the style specified will be applied to all)

2) ID - When we want to apply style to only 1 element or highlight only 1 element

ID · para < p, p1-ID > Create class

3) class selector

- class can be prepared from multiple elements.
- e.g. <p> <a> } Multiple elements falling under same class

<p class="c1">
<a class="c1">

- We can have diff. elements under same class.

4) Group selector

- Grouping of selectors & then apply the style.
- p, c1, #id
- comma is used as seperator

CSS

3 types of CSS

inline	internal	external
- inside tag itself style is specified	- {style sheet code} tag is specified in html file	- create a diff. CSS file & then add it in html file.

- e.g.

```
<html>
<head><style>
h1 { text_align: 'center' ; color: 'Blue' }
</style></head>
<body>
<h1> This is a header </h1>
</body></html>
```

1 property value pair

Text appears centre aligned & blue coloured.

Seperator & then add another property value pair.

For next lec.
Ways for specifying colours

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Eg. of also Element Selector

Note:
- Value is specified using (:)
- Each property value pair is seperated by (;)

Style can be applied to multiple tags simultaneously.
Limitation: Same webpage can only have the style

- Internal CSS (Resuability-Least / Almost not)

```
<html><head>
<style>
  h1 { color: red;
       Font-size : 15 px;
       Text-align: center;
  }
</style></head><body>
<h1> Heading 1</h1></body></html>
```

Limited to only that tag

- Inline CSS (Moderate Resuability)

```
<html><body>
<h1 style="colour: Red; Font-size: 15px: Text align: centre;">
  Heading 1 </h1>
</body></html>
```

Has highest scope as can be applied to multiple webpages

- External CSS (Resuability- Highest)

```
a.css
h1 { color: Red;
     Font-size: 15 px;
  }
```

relation while linking

```
<html><head>
<link rel="stylesheet" type="text /css" href="a.css">
<body>
<h1>Heading 1 </h1></body></html>
```

p#p1

No meaning in specifying as id is unique

ID selector use

3rd

```
<body>
<p> This is a para</p>
<p id="p1"> This is para1 </p>
<p class="classp"> This is para</p>
<h1> Heading1</h1>
<h1 class="classp"> Heading2</h1>
</body>
```

1st

```
<html><head>
<style>
h1 { color: Red;
     Font-size : 15px;
     Text-align: center;
   }
#p1 { Font-size: 12px; Text-align: Justify; }
.classp { color: Blue; }
```

element selector

id selector

class selector

- id selector is preceded with '#'
- class selector is preceded with '.'
- element.class can be applied for applying style to specific element.
- Elements are seperated by ';'.

then continue with body

2nd

```
p, h1.classp
{ Text align : Justify; }
</style></head>
```

Group selector

1st → 2nd → 3rd while prac.

For id selector in external CSS.

a.CSS

```
h1 { color: Red;
     font-size: 15px;
     Text-align: center;
     }
#p1 {font-size: 12px, Text-align: Justify; }
.classp { color: Blue; }
p, h1, classp
  { Text align: Justify; }
```

a.html

```
<html>
<head>
<link ref="stylesheet" Type="Text/CSS" hrefr="a.CSS">
</head>

<body>
```

same as this.

- Ways of specifying color

1. Color name
   e.g. color: Red;
2. Hexcode
   e.g. color: #FF0000;
3. RGB
   e.g. Color: RGB(255,0,0)
   % can also be specified RGB(75,0,0) or RGB(123,0,0)

- Background Properties

Limitation of inserting image using only html

1. Title the image on webpage
2. Transperancy cannot be changed
3. Repeatation of image either horizontal or vertical cannot be used or done using only html we require CSS.

- <html>
  <body background="a.jpg">
  </body>
  </html>

  Normal way of inserting background image using only

- Using CSS:
  <body>
  <background-image: Url("a.jpg");
  background-repeat: repeat-x;
  -y;
  No repeat

- repeat-x will repeat image horizontally
  " y " " vertically

Next lec. Txt formatting styles

background-position: right bottom;

Used if image is required at specific position on webpage & not whole webpage.

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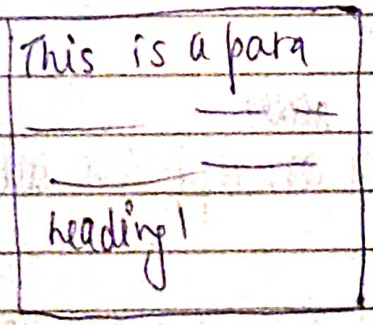
Text formatting Styles

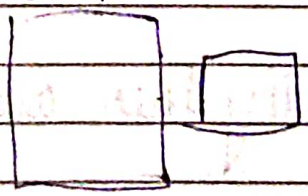
- forecolor → Color of text
  Backcolor → Background color
- Line height - Space betw^n lines
- Text decoration - B, I
- Text transform - Uppercase, lowercase
- Text decoration - By default in link we get underline but by specifying none no underline is shown

line through
~~abc~~

- Shorthand property & Specific properties.
  - Σ of all specific properties
  - Individual property name need not be remembered
  - But order is to be remembered
  - Targeting one specific style

- 

maximum



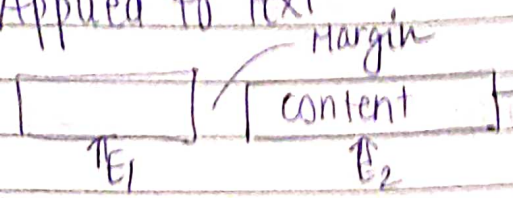
Font-size: 10px

Italic & Oblique

px, em, %
which is absolute & relative.

Box Properties

- Applied to text



- Specific properties of each & every side

  Padding - spacing is seen betw^n border & content

- Border is shorhand property.

  Using this we can specific rest all styles

- 3 specific propertres are

  Remember color style width

- border
  - border - bottom
  - left
  - right
  - top

  } all are shorthand

- border & value specify then all 4 sides are applied with that style.

- One specific side you want the style to be applied then used specific border.

Page :
Date : / /

- border-style : solid — 4 sides
  - color & width
  - : solid dashed — left right
    top bottom
  - : Solid dashed dotted
    top left, right bottom
  - : Solid dashed dotted double
    top right bottom left

- Only border shorthandproperty
- One manadory property is style.