Vikash Polytechnic, Bargarh

Vikash Polytechnic
Campus: Vikash Knowledge Hub, Barahaguda Canal Chowk, NH6
PO/DIST: Bargarh-768028, Odisha

Lecture Note
on
Internet & Web Technology

Diploma 3rd Year (5th Sem)

BRANCH-CSE

Prepared by: - Ms. Monali Patel
Senior Lecture

Computer Science & Engineering

→ This [illegible]
devices like smart phone, desk top etc.

HTML (Hyper Text Mark up Language)

→ It is a language, which works with the help of tag. ↳ links that allows the Reader to jump to

→ This language is used to design a webpage

→ The Html page has 3 section

1) HTML
2) Head
3) Body

→ created by Tim - Berners Lee, Robert cailliau in 1981

→ The HTML Part is the default one for any webpage.

→ The Head part consist of the head area, title etc. The Head part is not compulsory in a page.

→ The Body part is the most essential & compulsory area in html.

→ It consist of the code which are used to design the web page.

Tag

→ Tag are the ~~Program~~ ~~coding~~ code that are used for program coding to desing a webpage

Mujha

In html there are 2 types of tags

a) Paired tag
b) Single tag

→ The paired tag are the tags which are used with pairing

eg:- <html></html>, <body></body>

→ Single tag are the tag that can be used without any paired tag.

eg:-
↳ next line

The tag has its own attribute an value. Each & every tag has diff. attribute with different value. This attribute & value can be used according to usere Requirement with in the tag

eg:- <Body bgcolore = "Blue">
↓ ↓ ↓
tag name Attribute value

Designing a web page

The html follow the syntax to write the code ~~form~~ for the

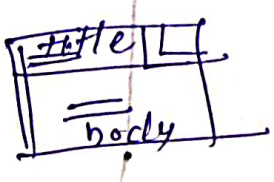
web page, the standard syntax is as follows

<html>
<head>
<Title> Name of the title </Title>

code
</head>
<Body>
code
</Body>
</html>

Hyper Text ⇒ links that allow the Reader to jump to other places.

Markup lang. → computer speak to each other to control how text is prov & presen



eg:- <html>
<head>
<Title> welcome to my page </Title>
</head>
<Body> <B> This is my 1st webpage </B>
</Body> <I> </I>
</html>

✓ <Body background = "path of the image">
This is my 1st webpage

</Body>

~~
~~ <Font type = "Monotype cursiran" size = 5>

<B> This is my web page </B>
</Font>

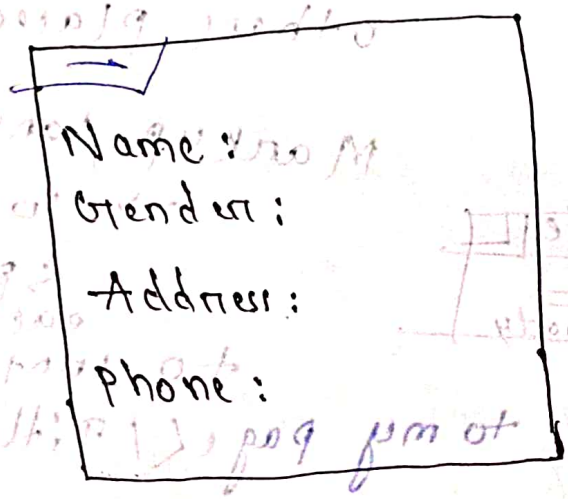
<Font size = 3> How is yours </Font>

</Body>

<Body align = "center">

</Body>

Design a web page that display youre Biodata as follows




```
<html>
<head>
<title> BIO-DATA </title> </head>
<marquee behaviour = "scroll" direction = "right">
<Font color = "yellow" Font face = "times new roman"
Font size = "+4" >
WELCOME TO MY PAGE </Font>
</marquee>
<body background = "E:\Wallpper\cma.jpg"
width = "1000">
```

<Font size = "6.5" font color = "white"
Font Face = "times new roman" width = "500"
height = "300">

NAME: Monali Patel
GENDER: FEmale
ADDRESS: JSG
PHONE: 9078165070

</Font>
</body>
</head>
</body>
</html>

Dt- 15.12.17

Formating the text

A text in a html Page can be format using the font tag.

→ The font has the following attribute
1) Type
2) size

→ The font type is the diff. type of style & the font size is form 1 to 7

→ To make a text bold we have to use <B> tag to make a font → <B> Bold </B>

Italic we have to use <I> tage → <I> Italic </I>

to make a font underline we can use <U> tage → <U> underline </U>

eg:- We can highlight a tags text by underlining the text by making its a head line. the headline text can be done by using H1 to H3 tag

eg:- <H2> This is a heading </H2>
<H3> I am also a heading </H3>

HR tag
→ Horizontal line
→ The <HR> tag insert a line to separate a section.

- Alignment
We can centrally place any object with in a html page using the <center> tag this is a paired tag & can be written as

<center> <
This is center</center>

<center> <img src: "C:\user\picture\flower.jpg">
</center>

List
There are 2 types of list in html

a) unorder list
b) order list

→ eg. • megha
• patel
• monali

→ A. socket
B. servlet
C. Mail API

<LI> → List
<UL> → unorder list
<OL> → order list

eg:- <UL type = fillround>
• <LI> Seema megha
<LI> patel
<LI> monali
</UL>

O/P
• megha
• patel
• monali

<OL type = 1 START = 5>
<LI> megha
<LI> patel
<LI> monali

<OL>

</OL>

<UL>

</UL>

<html>

~~<head>~~

<body>

<font size = "5" font face = "Times New Roman"

<center>

Vikash Institute of Technology, Bargarh

4th Semester VST Examination-2017

DATABASE SYSTEM

BRANCH(S): CSE

Time: 3 hour

Max. marks: 100

Answer question no. 1 and no. 2 which is compulsory and any four from the rest.

The figures in the right hand indicates marks.

</center>

<ol type = I>

 Answer the following questions:

</OL>

<ol type = 1>

 which of the following is not a Amstrong's Axioms?

<ol type = a>

 reflexivity
 transitivity <b rule
 pseudotransitivity rule
 Augmentation rule

</body>
~~</head>~~
</html>

Dt-16.12.17

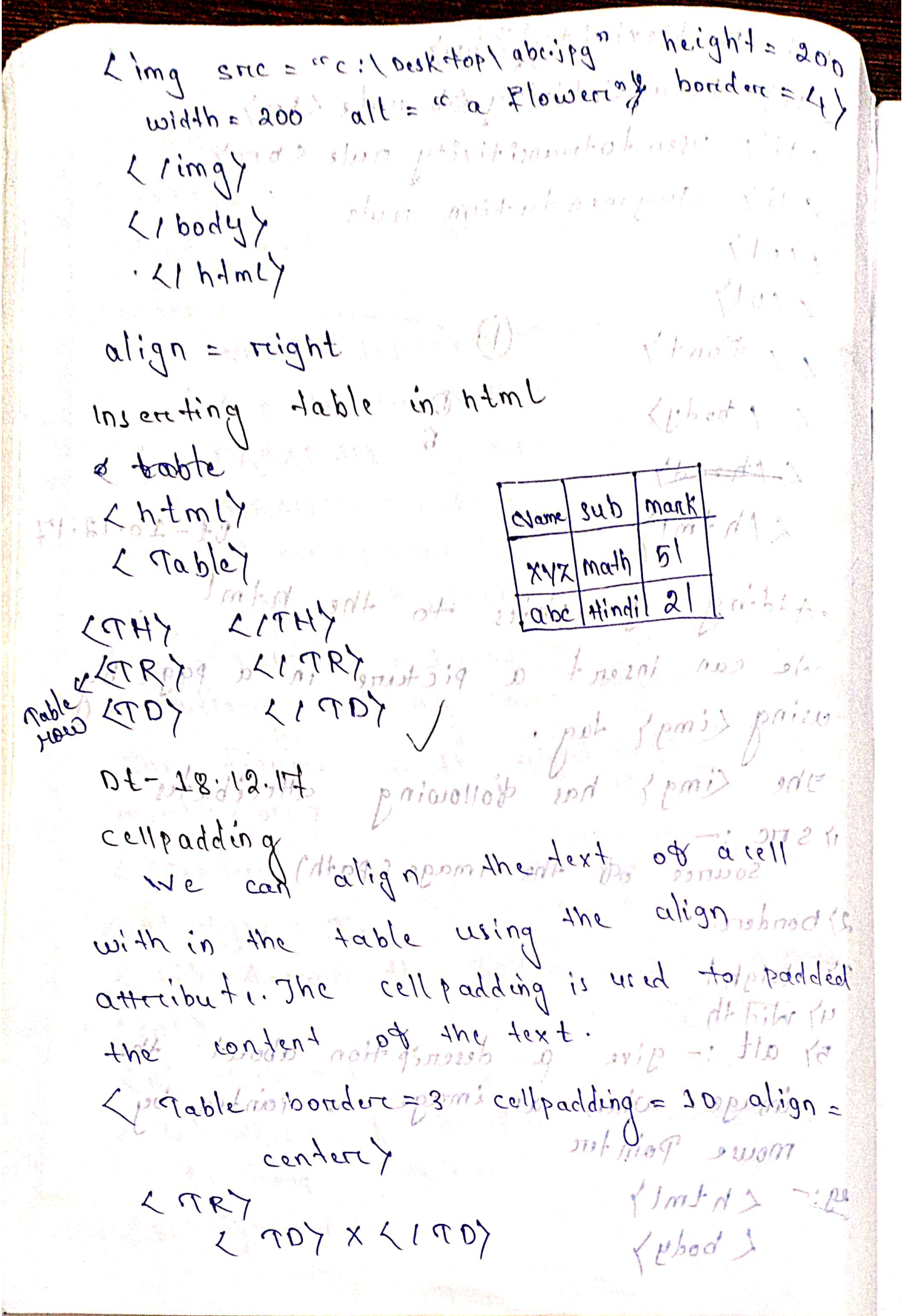
Adding graphics to the html

We can insert a picture in a page by using <img> tag.

The <img> has following attributes

1) src :- source of the image (path)
2) border
3) Height
4) Width
5) alt :- give a description about the image when an image is pointed by mouse pointer

eg:- <html>
<body>



```
<img src = "c:\desktop\abc.jpg" height = 200
  width = 200 alt = "a flower" border = 4>
</img>
</body>
</html>
```

align = right

Inserting table in html

~~table~~

```
<html>
 <Table>
```

Name	sub	mark
xyz	math	51
abc	Hindi	21

```
<TH>  </TH>
<TR>  </TR>
<TD>  </TD>
```

Table row

Dt-18.12.17

cellpadding

We can align the text of a cell with in the table using the align attribute. The cellpadding is used to padded the content of the text.

```
<Table border = 3 cellpadding = 10 align =
      center>
  <TR>
    <TD> X </TD>
```

<TD> Y </TD>

</TR>

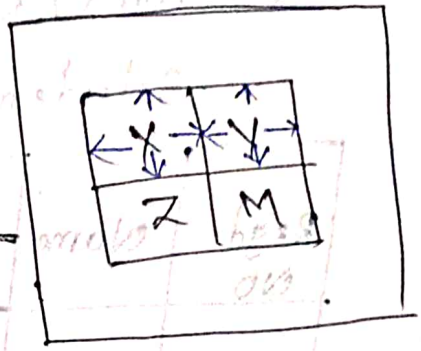
<TR>

<TD> Z </TD>

<TD> M </TD>

</TR>

</Table>



cellspacing

<Table border = 3 cellspacing = 10 align = center>

<TR>

<TD> X </TD>

<TD> Y </TD>

</TR>

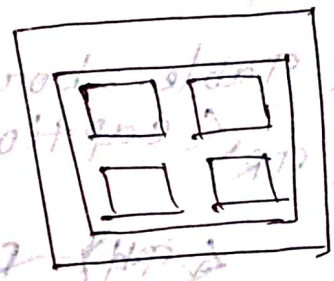
<TR>

<TD> Z </TD>

<TD> M </TD>

</TR>

</Table>



Bgcolor

<Table border = 3 cellspacing = 10 align = center

bg color = "Blue">

<TD bgcolor = red> X </TD> → To color individual cell

<TD bgcolor = blue> <Font color = red> X
</TD>

Student Details

Regd-NO	Name	Mark		
		Sem-1	Sem-2	Sem-3

colspan & Rowspan

<Table border = 3>
<caption = Student Details></caption>
<TR>
~~<TH> Col~~
<TH rowspan = 2> Regd-No. </TH>
<TH rowspan = 2> Name
<TH colspan = 3> Mark
</TR>

<TR>
<TH> Sem-1
<TH> Sem-2
<TH> Sem-3
</TR>

<TR>
<TD> 15013370 21
<TD> Monali
<TD> 21
<TD> 25
<TD> 29
</TR>

<html>
<Table border = 3>
<caption> Train Details </caption>
<TR>
<TH rowspan = 2> Name of the train
<TH rowspan = 2> place
<TH rowspane = 2> Destination
<TH colspan = 2> Time
<TH rowspan = 2> Fare
</TR>

```
<TR>
  <TH> Arrival time
    <TH> Departure
</TR>
<TR>
  <TD> Puri express
    <TD> Jsg
      <TD> BBSRC
        <TD> 6.00 am
          <TD> 6.15 am
        <TD> 50/-
</TR>
<TR>
<TD> BBSRC express
  <TD> Sbp
    <TD> Bgh
  <TD> 11.00 am
    <TD> 11.15 am
<TD> 20/-
</TR>
</table>
</html>
```

Linking Document

We can link a document or page from one html page. This is called hyperlinking. The hyperlink appears blue in color. We can make an image as hyperlink. The hyperlink text is having diffg. color. The default color is blue & visiting color is pink. To make a text link to a page the syntax is -

<A HREF = "page.html"> Text </A>

eg: <A HREF = "biodata.html"> click here to biodata </A>

<html>
<body>
<A href = "www.news.google.co.in">
<A href = "c:\Desktop\Table.html">
<img src = "c:\Flow.jpg"></img></A>
</body>
</html>

~~Property~~

 css

Frames :-

By using the frame we can split the browser screen into several section according to our requirement.

→ The frames can be creating using the <Frameset> tag.

→ It is paired tag. This tag has the attribute of rows & cols.

eg:- <Frameset rows = "33%, 33%, 33%">
<Frameset cols = "50%, 50%">
</Frameset>

<Frame> tag

Frame is a tag which define each Frame on the screen.

→ It has the following attributes

1) src :-
<Frame src = "intro.html">

2) Margin width

<Frame margin height = "m">

3) <margin width = "n">

4) Name

5) noresize

6) scrolling = Y/N)

eg:-

```
<html>
<Frameset rows = "40%,*">
  <Frame src = "header.html" marginheight=0
    marginwidth = 0 name = "Frame1">
  <Frameset cols = "35%, *">
    <Frame src = "sctFamil.html"
      name = "Frame2">
  <Frame src = "desc.html" name = "Frame3">
  </Frameset>
</html>
```

heart.html

```
<html>
<body background = ".../.../image/texture1.gif">
<Font Face = "comic sans ms"><br>
 <center><H2> The Sct Family </H2></center>
</body>
</html>
```

SctFamil.html

```
<html>
<body background = ".../.../images/texture3.gif">
  <br><br>
```

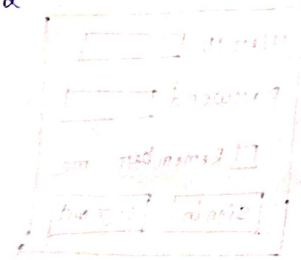
```
<center>
  <img height = 157  width = 150
  src = "SCTFAMIL.gif">
</center>
</body>
</html>
```

desc.html

```
<html>
<body background = "..../..../image/texture1.gi
<B><br><br>
<UL>
  <LI> Mr. Iran Bayross
  <LI> Mrs. Adyasha Mishra
  <LI> Monali Patel
  <LI> Payal Agrawal
  <LI> Seema Baghel
  <LI> Priyanka Sahu
</UL>
</B>
</body>
</html>
```

```
<html>
<body>
<Form>
User ID <input type = "Text" Name= Mon
Patel value = " "></br>
Password <input type = "password" Name= Pas
value = " "></br>
<input type = "check box" Name = checkbox1
value = " "> Remember
<input type = "button" ~~name = Sign in~~
Name= button1 value = "Sign in">
  <input type= "button"
~~inpu~~
Name = button2 value = "Sign out">

</Form>
</body>
</html>
```



cascading style-sheet (CSS) 01-09-18

→ Style sheets are the mechanism which makes the html page dynamic & powerful.

→ The style sheets adds style such as font, color etc.

→ The style sheet enforce standard & uniformity throughout a website & provide numerous attribute to create a dynamic effect.

→ By using the css the properties of style can be defined in a single list.

→ The advantage of style sheet includes the ability to make global changes to all document from a single location.

→ In html page the style can be defined with the tag <style>.... </style>

→ The <style> tag are written with in the <head> tag

→ Syntax:-

```
<STYLE type = "text/css">
tag{ font: ..... }
:
</STYLE>
```

Cascading Style Sheet: ⇒
(CSS)

↳ HTML creates structure of our webpage
But, CSS turns our boring looking html web pages to good looking website.

↳ CSS is optional but it is impossible to create website without using HTML.
CSS → (different icons / Navigation)

↳ Website / webpages by using only html looks messy. (But CSS work)

Version of CSS: ⇒ (Hakon Wium Lie) in 1994
- 1996 :- CSS 1
- 1998 - CSS 2
- 1998 - Started working on CSS 3 (current version)
  ↳ devide into diff. modules

CSS code: ⇒ ↳

Normal html code

```
<html>
 <head>
  <title> Different ways to apply CSS </title>
 <head>
 <body>
  <h1> Heading </h1>
</body> </html>
```

* How to write css code ?

a) inline attribute
→ using the style attribute in html elements
Apply in single tag

```
<body>
  <h1 style = "color : green;"> Heading </h1>
```

b) style tag before <body> & after head. / internal css → using <style> element in the <head> section.

```
<head>
 <title> .... </title>
 <style>
   h1{
       color : green ;
     }
 </style> </head>
<body> <h1> Heading </h1>
</body>
```

for whole same style

c) External file css code
↳ using .css file
↳ Different code file for css & html

style.css

```
h1
{
  color : green ;
}
```

~~.html~~

• html

↳ we have to link css file to html for that use <link> tag.

<head>

<link rel="stylesheet" href="style.css">

⇒ Relations ⇒ Reference link

<title> ... </title>

</head>

<body> <h1> Heading </h1>

* For all css file

↳ create new folder (css)

& store all under this folder

& give path of that folder

to href

↳ comment out

/* */

css color :-

color : rgb(_, _, _);

hexcode #ffa53d; → color picker

background-color : __ ;

font :-

body {

font-family : Arial;

}

Megha

* → We can import any font from google

↳ Select font

↳ Select style

↳ Embed

↳ link (copy)

• html

paste after link

↳ CSS Rule

paste to CSS file

font-weight

or @import

↳ under <style> tag & paste it in to CSS before body{ }

Sub/combinator Selector :-

a) Descendant Selector

b) child Selector

c) General Sibling Selector

d) Adjacent Sibling Selector

a) Descendant Selector :-

<head>

<style>

ol ↓ space li { background - color : yellow ; }
→ decendant selector
</style>
</head>
<body>

 item 1
 item 2
  sub item 1
 sub item 2
  item 3
</body>

// all are child of 'ol' type
(direct / indirect)
⇓
css apply in all

b) child selector :-

'>' ⇒ Apply only on direct child element
↳ symbol

ol > li

c) Adjacent sibling selector

~~P + h1~~ <head> <style>
→ target
P + h1 { background - color : yellow ; }
</style> </head>
<body>
<P> para 1 </P>
<h1> Heading 1 </h1>
<h2> Heading 2 </h2>
</body

+ ↳ adjacent immidiate

Meghal

d) General sibling selector

p ~ h1

CSS Basic properties :-

i) Text properties
ii) List properties
iii) Bordere properties
iv) Font properties

i) Text properties :-

property	Description	values
colore	→ Sets colore of a text	RGB, hex, keyword
line-height	→ distanie bet^n lines	no., normal, length, %
letter-spacing	→ increase/decrease spare bet^n chorarter	normal, length ~~left, Right, center~~
text-align	→ Align text element	left, right, center, justify
text-decoration	→ Add decoration	none, underline, overline, line through
text-indent	→ Indents the first line of the text	length, %
text-transform	→ controls the letters in an element	none, capitalize, uppercase, lowercase

ii) List property

property	Description	values
list-style	Sets all the properties for a list in one declaration	list-style-typ list-style-posit list-style-image
list-style-image	Specifies img as the list item make	URL, none, inherit
-position		inside, outside inherit
-type	all list item makes	

class When designing a webpage some paragraph may need to look different from other paragraph.

Q:- Think a question & answer page where question is in bold & answer is in plain text.

→ The style sheet supports class of a cls can be define to change the style in a specific way for any element it is applied to. a cls can be used to identify logical sets of style changes that might be different from any html elements.

```
<html>
 <head>
  <style>
  p { font-size: 12pt ; type : consive; face : bold }
    .question { color : brown ; font-style: italic }
    .answere { color : black }
  </style></head>
 <body>
  <p class = question> How do u feel</p>
  <p class = answer> Good</p>
  </body></html>
```

Multiple Style Sheet :⇒

⇒ If some properties have been defined for the same selectors (element) in different style sheets, the value from the last read style sheet will be used.

eg

```
h1
{
  color : Navy ;
}
```

(external style sheet)

```
h1
{
  color : orange ;
}
```

internal style sheet

order matters in multiple style sheet

Cascading order :⇒

- External
  ↳ completely separate file with a .css extension
- on page / Internal :
  <style> tags with css added to the html page within the <head> tags
- Inline
  Adding css as an attribute directly to individual tags with style = "" syntax

cascade order :⇒ 'inline' css overrides 'on page' css which in turn overrides 'External' css in the case conflicting css declarations.

* NOTE :⇒ If the link to the external style sheet is placed after the internal style sheet in html <head>. The external style sheet will override the internal ss

CIDR (classless Inter Domain Routing)

(4 comes into existance in 1993 after classfull addressing.

(45 classes (flexibility problem)

⇒ No classes

→ only blocks (x amt. of IP address)

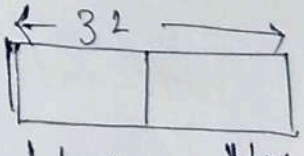
⇒ based on user demand how many blocks they wanted.

⇒ ~~in~~ ~~to~~ ~~in classful addressing~~

~~⇒~~ → If a company wanted to be connected to the internet it had to choose an IP address from the appropriate cls. For each class, different no. of octets (4 numerical block of IP address) were identified to the n/w.

⇒ Class A n/w could accomodate over 16 million hosts, but only 128 n/w are available. So on For many companies a n/w with in 254 participants was too small, but several 1000 of hosts need the fewest n/w. This ultimately led to alot of waste.

→



(n/w) → not fixed

Notation

x.y.z.w/(n) → mask (continues 1)
→ no. of bits, represents blocks/
⇒ to (no. of n/w id.

200.10.20.40/28 → n/w id

~~32-4~~ 32-28 = 4 bit (host id)
$4 \; 2^4 = 16$

Network ID :⇒ Identifies which n/w you're on

Host ID ⇒ Device that has an address on the n/w (Router,

28 → continuous 1

11111111.11111111.11111111.11110000

255.255.255.240 ⇐ Mask of the n/w

How to ~~find~~ n/w ID

200.10.20.40/28 N/w ID can't be change

200. 10. 20.
8 8 8

40 ⇒ 00 10 1000
④ ⇓

00100000 ⇒ 32

200.10.20.32/28 ⇒ n/w id

255.255.255.240
& 200.10.20.40
~~255.255~~

* No. of host ?

Network of the id address ?

Rules

→ Addresses should be contiguous

200. 10. 20. 32
33
34
35
:

→ No. of Address in a block must be in power of 2

→ First address of every block must be evenly divisible with size of blocks.

200. 10. 20. 32/28

00100000

$2^{(4)} = 16$

↓ least significant value is '0'

Isp (Internet Service provider) :⇒

Isp is a company that provides web access to both ~~we~~ business & consumers.

→ Isp may also provide other services such as email services, domain registration, web hosting & browser services.

→ Isps make it possible for their customers to surf the web, shop online (E-commerce) conduct business & connect with family & friends.

Internet facility

⇒ eg
technology
ISP :⇒ modem, dial-up, DSL, cable, broadband, wifi etc

Types of ISP

a) Tier 2 ISP :⇒ provide internet facility globally through sea link

eg :- Jio, vodaphone, Airtel etc M. Patel

b) Tier 1 ISP :⇒ ~~[illegible]~~ for all over the megha world (AT & T, VSNL, Tata)

c) Tier 3 ISP :- block, colony, etc.

How it works ?

Internet Hubs, Router, Wifi

Public wifi

cellular data

Types of int

Narrow band ⇒ Data transmission in Kbps

Broad band ⇒ multiple data send (both sends & receive) at a time

Speed → mbps, gbps

Internet connectivity

The term "internet connectivity" refers to the way people are hooked up to the internet

↳ dial up, telephone line, broadband connection, & wireless connection.

a) Dialup Connection :→

→ uses the facilities of the public PSTN.
→ establish a connection to an ~~int~~ ISP

Internet & WWW

→ Internet is the global data comm^n System.
→ WWW is a repository of common resources i.e can be accessed by internet.
→ It was started at the europian org^n for nucleare research lab., Switzerland.
→ In 1990, Lee developed all the for www. http 0.9, html, web browsers,
→ http Server & first website name is http://info.cern.ch & first webbrowser name is Mocale

Packet Switching

The Packets are no. so they can be reassemble in the correct position at the distination.
→ The Packets are transmitted over the N/W as capacity become available.
→ The Packets are routed separately & may not follow same route.
→ It is a philosophy of N/W comm^n

realme Shot by Rohit
2023/01/17 11:51

a) Dialup connection :→

→ uses the facilities of the public PSTN.
→ establish a connection to an ~~int~~ ISP

Internet & www

→ Internet is the global data comm^n system.
→ www is a repository of common resources i.e can be accessed by internet.
→ It was started at the europian org^n for nucleare research lab., Switzerland.
→ In 1990, Lee developed all the for www. http 0.9, html, web browsers,
→ http Server & first website name is http://info.cern.ch & first webbrowsure name is Mocale

Packet Switching

The packets are no. so they can be reassemble in the correct position at the distination.
→ The packets are transmitted over the n/w as capacity become available.
→ The packets are routed separately & may not follow same route.
→ It is a philosophy of n/w comm^n

Bandwidth

⇒ It is used to measure the speed of interne
i.e Kbps, Mbps, gbps.

→ It is divided into 3 types
i) broadband ⇒ 10mbps
ii) Narrowband → 1-10mbps
iii) Midband → 1-10mbps

Webpage :- ⇒ It is a document created using html

i) Static Webpage :- pages will remain same until someone changes it manually.

eg :- About us, mission, vision etc.

ii) Dynamic Webpage :- contents of pages are different

eg calander

Hyperlink :-
Item like word or button that point to another location.

Website :⇒
Set of webpages which are related, with a common domain name & Ip address.

Webserver :⇒
A website is hosted on a machine is called web server.

→ The webpages on a website are accessed using URL.

Web appl^n :⇒

These are the appl^n s/w that are accessed via web browser usally through n/w.

eg :- Word processor, online spreadsheet & presentation tools.

HTTP :-

→ It is a protocol used to access the data on WWW.

→ HTTP is used to transfer the data, in form of plain text, hypertext, audio, video & so on.

URL

→ Resource in the web identified by an address called URL.

Internet connectivity :-

The term "Internet connectivity" refers to the way people hooked up to the internet", which may include dial-up telephone lines, broadband connection &

wireless devices.

i) Dialup connection :- *99

↳ Dial a no. & get confirmation from servers

→ uses the facilities of the public switched telephone n/w.

→ Establish a connection to an ISP by dialing a telphone no. & conventional telphone line.

→ PSTN (Public Switch telephone network)
↳ telephone lines, fibre optic, microwave transmission links, cellular n/w.

→ Dial-up requires time to establish a telphone connection cup to several sec. depending on the location

→ Perform config protocol (synchronization)

→ Slowest, can't used for media streaming.

ii) DSL (Digital Subscriber Line)

→ Transmit digital data over telphone lines (Modem). DSL is a form of broad band comm^n i.e always "on", there is no need to dial a phone no. to connect.

iii) Broad band :- High speed internet access i.e faster than traditional dialup access.

→ provided either cable or telphone companies.

iv) cables :⇒

It is a form of broadband access cables modem can provide extremely fast access to the internet.

v) Satellite connection :-

This type of connection is provided specially in rural areas where broadband connection is not yet obtained (satellite disk) VISP

vi) Wireless connection :⇒

→ doesn't use telphone lines or cables to connect to the internet.

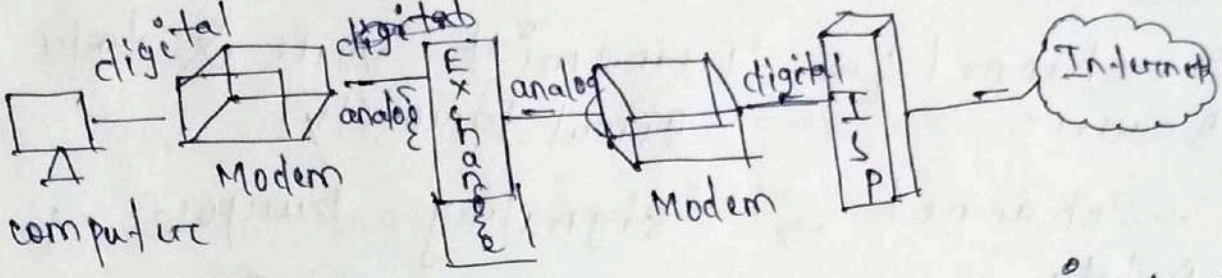
→ It uses radio frequency

→ It offers very high speed internet

→ :- wi-fi, bluetooth.

ISDN (Integrated Service Digital Network)

→ The process of connecting a home computer to ISP used to take lot of effort (usage of modulator - demodulator/ MODEM unit).

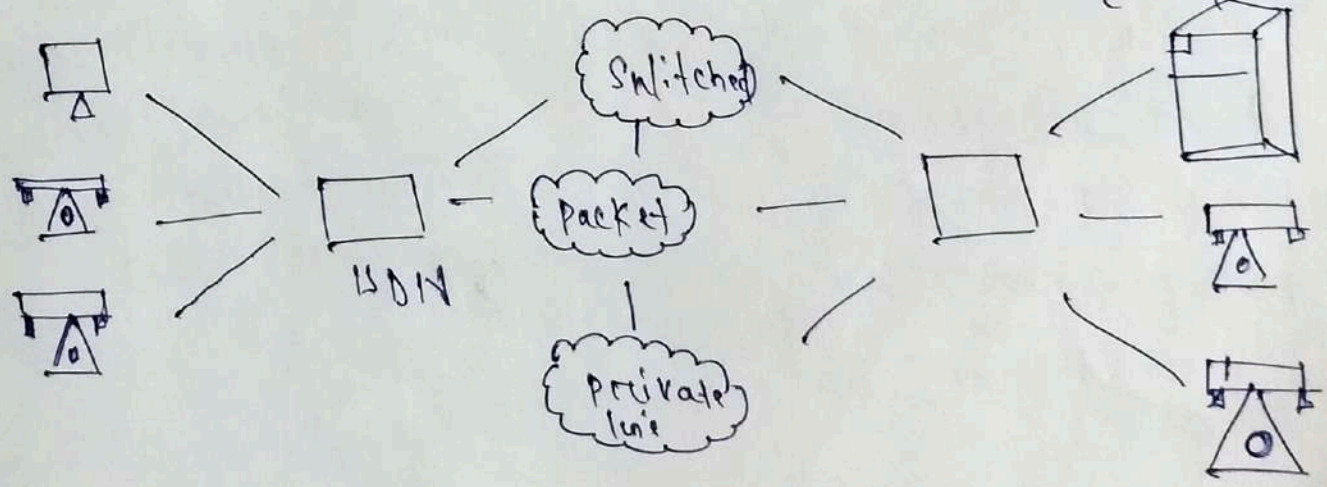


→ The above fig. shows modem required to convert digital to analog & vice versa.

→ What if the digital ~~into~~. ~~signal~~ into. at one end reaches to the other end in the same mode, without all connection (modem)? It is this basic idea that lead to the development of ISDN.

→ ISDN was 1st defined in the CCITT red book in 1988.

→ ISDN is based on telephone N/W based infrastructure that allows ~~based on~~ transmission of voice & data simultaneously at the high speed.



Services

→ voice mail, Facsimile, video text, E-mail, image & graphics exchange etc.

Types of ISDN

B-channel :→ Transmit voice & data simultaneously
Bearer

D-channel → signaling purpose → to set up comm^n
Delta

ISDN Service interface :—

i) BRI (Basic Rate Interface)

2 B-channel & 1-D channel

→ Smaller enterprise

ii) PRI (Primary RI)

↳ Requires high no. parallel calls

→ BRI helped in receiving & sending ~~data~~ from multiple user at a time.

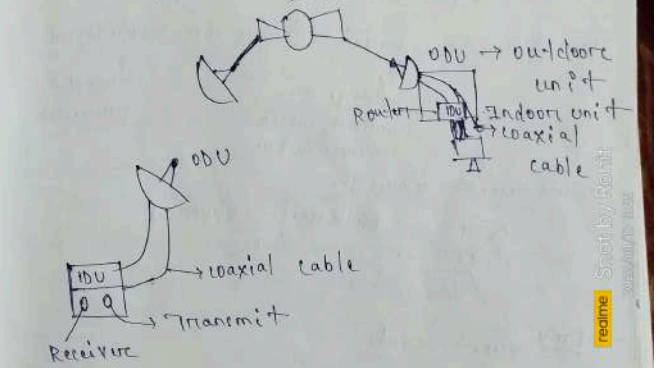
PRI

→ 23

VSAT (Very Small Aperture Terminal)

↳ It is a two-way satellite ground station with a dish antenna which is used to transmits & receive data from satellite.

→ The data can be redirected to other remote terminal or hubs around the planet.



Advant

↳ Deployment (grnd. station communicate with satellite).

Disadv.

→ Signal quality affected by the weather & other building getting in the way.

RF Link :→ Radio Frequency

→ Wireless Technology is rapidly evolving & playing an important role in our daily life throughout the world. (Mobile phone, Smart phone, Smart car / Smart remote etc

→ How wireless signall transmit through air?

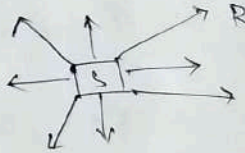
↳ Antenna
(Transmission of signal)

Transfers Electrical signals to Radio signals

⇓ voltage or current which conveys info.

⇓ Transmit or receive data

Electromagnetic waves :→



Radiosignal → Electrical

→ Emy ↳ unit ~~cycle~~

Frequency = no. of cycles per sec

Blue in color ↳ with hand link

Introduction to WWW (World Wide Web)

→ WWW is also known as web, is a collection of websites or webpages stored in webservers connected to local ~~server~~ computers through the internet.

→ These website contain text pages, digital images, audio, video etc.

or

→ It is an info. space where documents & other web resources are identified by URLs, interlinked by hypertext links

→ British computer scientist Tim Berners-Lee is the inventor of the web.

→ In simple term WWW is a way of exchanging info. betⁿ computers on the internet, tying them together into a vast collection of interactive multimedia resources.

* Internet & web is not the same thing: web uses internet to pass over the info.

Web Architecture :⇒

→ WWW follows 2 tier architecture
i) webserver (produce & deliver info.)
ii) webclient (Retrive & display info)

Internet

⇒ Internet is a massive n/w of n/w, a networking infrastructure

→ It connects million of computer forming a n/w which its any computer can communicate with other.

→ Info. that travels over the internet does so via a variety of language known as protocol (TCP/IP)

→ It does not utilize web browsers

→ Provide structure

www

→ way of accessing info. over the medium of the internet.

→ Info. sharing model i.e build on the top of internet.

→ Web uses HTTP protocol, to transmit data.

→ utilize web browser

→ Dynamic n/w via a variety of methods & protocols

Appl^n Level Protocol

There are several protocols which work for users in appl^n layer.

→ It broadly classified into 2 catagories

i) protocols which are used by users: For email.

ii) Protocol which help & support protocol used by users: DNS

i) HTTP (Hyper Text Transfer Protocol) :⇒

↳ port no 80

↳ To Transfer or fetches the webpage on www
(Access webpages to web(erver)

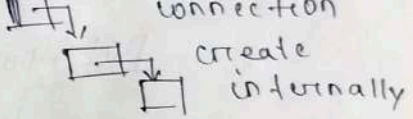
http How to request to the webpages
how to upload
into webpage

↳ Itself not reliable but use TCP to achieve

↳ In band protocol
(send commands on data in same port)

↳ Stateless (no info. is stored who/how/when
info is used)
↳ million of request

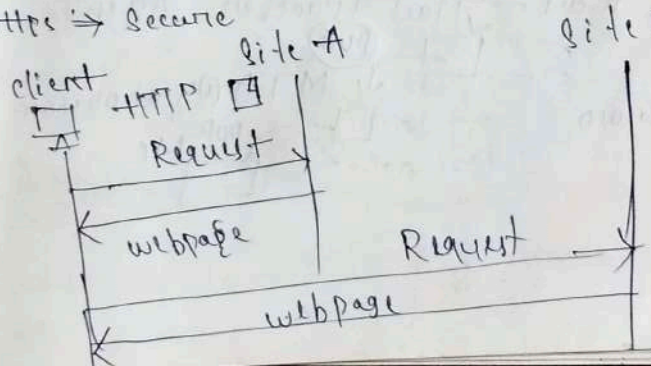
↳ cookies ⇒ Many companies
↳ HTTP 1.0 Non-persistent (connection)
variance
• online banking



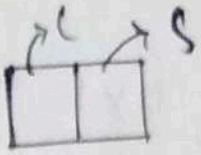
↳ HTTP 1.1 persistent (connection
(constant.) ⇒ connect
not ~~lost~~ terminate lost)

↳ commands (Head , Get, post, put, delete, connect)
↳ metadata

https ⇒ Secure



→ Remotely file Transfer



→ port no. 20(data) & 21 (control)
↳ connection

→ Not Inband

→ Data connection is non-persistent → Both active at the same time

→ control " " persistent

→ Reliable (No loss in bytes) → Synchronous

→ Stateful → Remote login

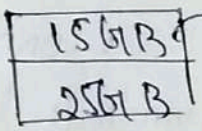
iii) SMTP & POP (Post office Protocol
↳ Simple Mail Transfer protocol)

→ Backend of mail

→ Both synchronous & asynchronous.

→ SMTP port 25 (push the mail)

POP3 port 110 (extract the mail)
port 995 (secured)

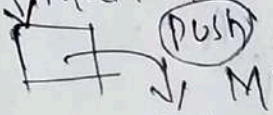


→ mail account (space) to store the data

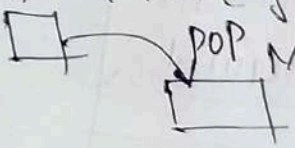
Mail client

↳ fetch mail → (push) Mail Transfer Agent

google
@gmail.com



(push) MTA@yahoo.com



POP MC

⇒ MIME (Multipurpose Internet Mail Extension)

Search Engine :-

SE is a S/W program designed to identify & respond to specific questions, called Keyword & populate the page called as SERP with relevent info. available on the Web. ⇓ Search Engine Result phase
(consisting lot of algo.)

↳ Key factors (3 stages

a) crawling ⇒ content is discovered

b) Indexing ⇒ content is analyzed & stored in a db

c) Search Results (Retrival) → user query fetched & displayed

Types

i) crawler based ⇒ google, yahoo, bing, Baidu!

ii) Hybrid search engine → googlenews

iii) Human power directories ⇒ open directory system

iv) other special search engine

↳ site owners (short description of the site)

↳ Keywords (Searchbox will match with description of site)

proxy Server :-

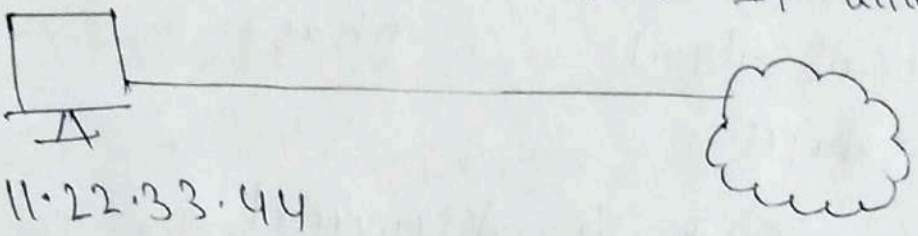
Retrives data on the internet on behalf of a user.

eg
webpage

[www.example.com]

Proxy benifits :-

↳ privacy = allows you to surf the internet anonymously.
(Hide Ip address)



11.22.33.44
(public Ip address)

* Without using a proxy, our public Ip address is visible.

Proxy Server ip address is shown

↳ speed proxy Server store cache webpage
↳ saves bandwidth
↳ Activity logging (keep records)
↳ block

⇒ A proxy Server cannot encrypt data
⇓ VPN (virtual virtual N/W)
(private + encrypt)

How to make proxy server

↳ go to browser
↳ free proxy list

↳ open site
↳ free proxy button
↳ list
↳ proxy fire (S/W)
(free)
↳ proxy server config
↳ add
address & port
↳ paste IP address =
↳ enables https
↳ OK

CGI

Parameter passing Techniques

→ Parameter passing involves passing input parameter into modules.

→ There are diff. ways in which parameter data can be passed into & out of method & funⁿ.

→ eg Let a funⁿ B() is called from another funⁿ A()

called funⁿ
callee funⁿ

callere
funⁿ.

→ The arguments which A sends to B is called actual argument & the parameter of B called formal argument.

Actual parameter

values that are passed to a funⁿ when it invoked.

eg

```
void add(int x, int y)
{
    int z = x+y;
    System.out.println(z);
}
add(2,3);
add(5,4);
```

formal

actual

Syntax :-
funⁿ name(variables)

formal parameter

→ A variable & its type as they appear in the prototype of funⁿ is called formal parameter

Syntax funⁿ name (data type variable-name)

important Method of parameter passing

1. pass BY value

~~changes made to~~

copy of actual parameter's value is made in memory. i.e the caller & callee have two independent variable with same value.

→ If the callee modifies the parameter value, the effect is not visible to the caller.

10 , 20

eg :⇒ void abc(val1, val2)

eg. void abc(num1, num2)

```
{ x = 40;
  y = 50;
}
```

```
class callbyvalue
{ public static void exp(int x, int y)
  { x++;
    y++;
  }
}
public class main{
psvm(String args[])
{ int a = 10;
  int b = 20;
  call by value ob = new callbyvalue( );
  ob.exp(a, b);
  System.out.println(a, b);
} }
```

When?

If we are building multi-thread appl^n, then we don't have to worry objects getting modified by other thread.
→ It keeps object sync.

call by Reference (aliasing):—

↳ Pass the address of an argument in the calling fun^n to the corresponding formal parameter of the called fun^n, so that copy of the address of the actual memory
→ caller & callee use same variable
(callee modifies visible to caller)

```
class callbyR
{ int a,b;
  callbR (int x, int y)
   { a = x;
     b = y;
   }
Void change value( callbyR obj)
 { ob.a += 10;
   ob.b += 20;
 }
}
public class main
 { psvm(...)
   callbyR ob= new R(10, 20);
```

common gateway Interface (CGI):-

→ The CGI is a standard way for a web server to pass a web user's request to an appl^n program & to receive data back to forward to the user.

→ When a user requests a webpage, the server sends back the requested page. ~~However, when a~~

→ Whenever a user fills out a form on a webpage & sends it in, it usually needs to be processed by an appl^n program. (The web server typically passes the form info. to a small appl^n program that process the data & may send back a confirmation msg).

→ This method or convention for passing data back & forth between the server & appl^n is called CGI.

< Form method = post action = = >

URI (Uniform Resource Identifier)

URI ⇒ URL + URN ⇒ (name of the URL)
⇒ (location)

URL → address of the resource on the location internet.

→ URI is a sequence of characters that identifies a web resource by location, name

or both available on the internet.

→ URL is the ~~only~~ sequence of characters that only identifies the location of a resource available on the internet.

URI : URI http://www.abc.com

eg :- URN
:- ISBN 0-486-35557-4

Syntax of URI

URI = a) Scheme : [// authority] path [? Query] [# fragment]

non-empty component followed by (:)

(•), (-) (+),

Http, ftp etc

b) authority :⇒ username & pswd (optional)

IP address or registered name

c) path

d) Query query of the string

e) fragment → direction to the secondary resource

→ http://orcid.org/0000-002-1825-0097

URN

eg www.guruqq.com

what-is-sap.html

* orcid (open research & contributor ID)

website & services to look up author & their bibliography

Advantages

i) Essential to the Semantic Web because it prevent ambiguity.

ii) Search the name as well as the location, which is in info. format.

Dreamweaver

⇒ It is a GUI program for designing web pages, essentially a more fully featured HTML web & programming editor.

⇒ It provides WYSIWYG (What You See Is What You get) interface to create & edit web pages.

→ It support many markup lang. XML, HTML, CSS, Javascript. (It also support human language)

→ It was originally developed and published by Macromedia in 1997. Later Adobe purchased macromedia in 2005 & continued the development of the program.

→ It is the Licensed based (with subscription)

Introduction to Security

Security

When we create a systems that store & retrieve data, it is import to protect the data from unauthorized use, disclosure, modification & or destruction.

⇒ When a system has no security, then it is open to malicious or unmalicious unauthorized access.

Goals

⇒ CIA triad refers to an info security model which is consist of 3 things

a) confidentiality :⇒

→ It means data is only available to authorized parties. When info. has been kept confidential it means i.e that it has not been compromised by other parties.

→ confidential data are not disclosed to people who should not have access to them.

b) Integrity :⇒

Data is not tempered with or degraded during or after submission.

→ The data has not been subject to unauthorized modification, either intentional or unintentional.

c) Availability :⇒

Info. is available to authorized users when it is needed.

~~Types of Security~~ :⇒

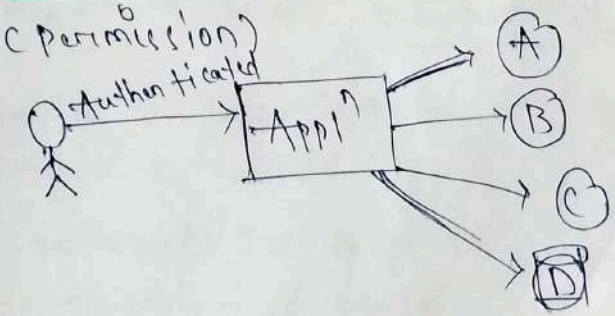
~~Authentication & Authorization~~

~~Authentication~~ :— It is about validating your credentials like username & pswd to verify your identity.

Eg :⇒ Entry ticket

~~Authorization~~ :— It is the process to determine whether the authenticated user has access to the particular resources.

→ It checks your rights to grant you access to resources such as info, db, files etc.



Authentication vs Authorization

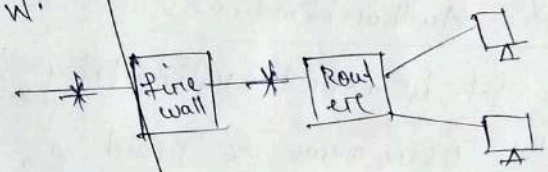
→ verification → permission

→ who → what

→ ~~win~~

Firewall :→

→ It is a system that is designed to prevent unauthorized access from entering a private n/w.



→ creates a safety ~~rp~~ barrier betn a private n/w & the public ~~rnd~~ internet

→ firewall is especially import to ~~large or~~ Large org

Firewall Rules

permission	IP address	protocol	Destinat	Por
A	=	TCP	any	80
	=			

~~ORCID (Open Research & Contributor ID)~~

Types of Security:-

Security refers to protection of devices, process & infrastructure & Assets of an org^n from attacks, data threats, unauthorized access etc.

TYPES

a) Appl^ Security

It measures the ~~vulnerability~~ vulnerability & modification attacks, that arises in the development stages of appl^ such as development, deployment & maintenance & upgrade

= Parameter validation (automated) Session Management User Authentication

⇒ Appl^ Security is the process of developing, adding, & testing security features within appl^ to prevent security vulnerability (being exposed) against threats such as unauthorized access & modification.

i) Parameter validation :⇒ Automated processing, in a module to validate the spelling or accuracy of parameters passed to that modules.

ii) Session Mgt. ⇒ process of securely handling multiple requests to a web-based appl^ or serve from single user.

b) Info. Security

Protection info. & data from threft, threat, access access denied, Breaches etc. to ~~prevent~~ to provide privacy.

c) Disaster Recovery

involves planning & startegy to set of policie tools & procedures to enables the recovery or continuation of vital technology.

Risk Assessment → Risk Analysis → priority

d) Network Security

Monitoring & preventing of ~~un~~authorised access & explotion of internal n/w.

→ Access denied

IPS, VPN, Firewall

e) Website Security

- website Scanning & malware removal

→ website appⁿ firewal,

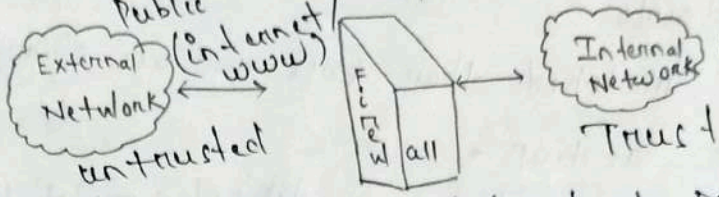
→ Appⁿ Security testing

f) Endpoint Security

~~Security~~ Securing end point or entry points of end users device such as desktop / laptops & mobile from being exploited by malicious actors

eg Antivirus -

Firewall (Network Security) ⇒ tell the incoming n/w data is secure or not.



⇒ It is a system i.e designed to prevent unauthorized access to & from entering a private (to & from internal n/w)

→ It is a n/w security device that monitors incoming & outgoing network traffic & decides whether to allow or block specific traffic based on a defined set of security rule.

⇒ Acts like a barrier.

⇒ Host based and N/w based firewall.

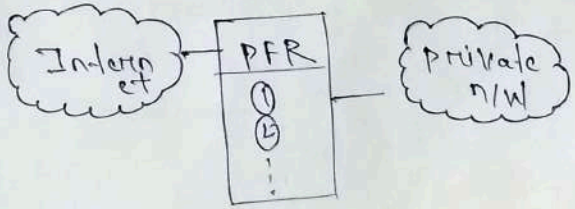
- Software based
- Scan whole n/w
- dedicated hardware based (Servers)

Types of Firewall

i) Packet Filtering firewall (Layer-4)

P, D, N, T

⇒



→ Set of rules

⇓

Source Address, Destination address, port no., protocols.

→ If rule matched than forward or discard

→ Default action.

(if no. rules is defined / matched then it automatically discard.

→ Data / payload ⊗

↳ (It only check, sa, da, port & no. proto. but data can't b check so it is less secure (data may b mallicious).

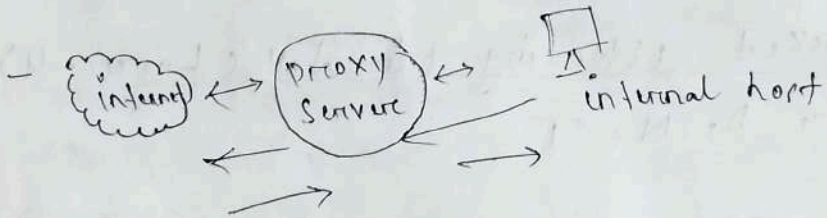
ii) Appl^n Level Gateway:-

(proxy server)

→ More secure

→ processing overhead

→ check data / payload



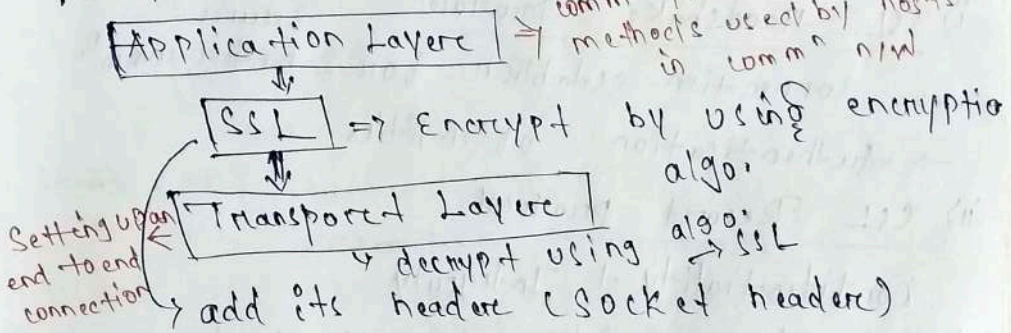
SSL (Security Socket Layer)

→ If two entities try to communicate with each other / transfer data among them they want Security which is done by SSL.

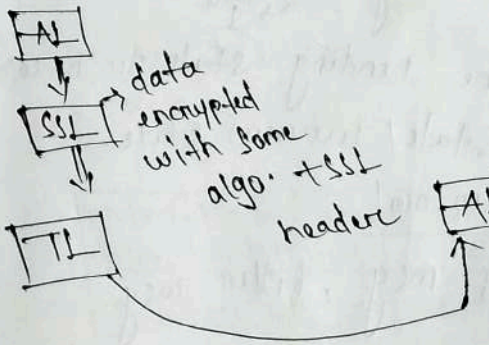
→ Security bet^n of transferring data bet^n client & server.

Goals
i) Integrity
ii) Authentication
iii) confidentiality

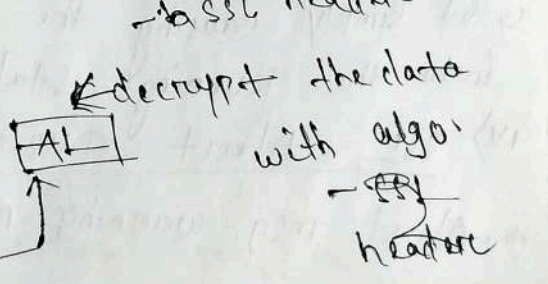
position of SSL

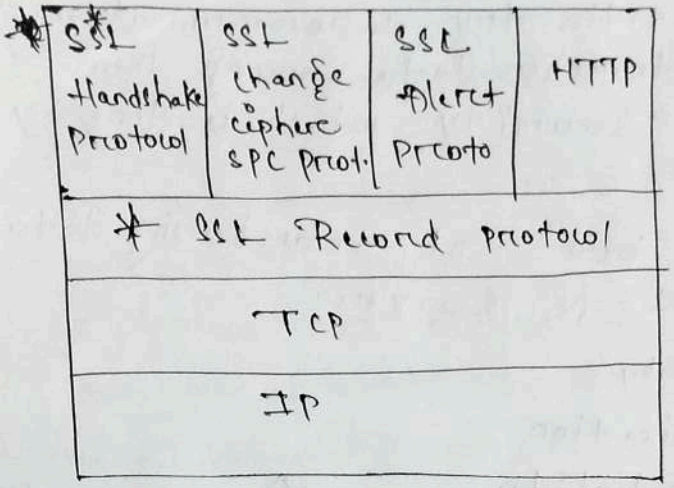


Sender



Receiver





SSL Protocol stack

i) SSL Handshake protocol

→ connection establish for Secure ~~better~~ comm^n.

→ Authentication of entities

ii) SSL Record protocol

Confidentiality + Integrity

iii) SSL change cipher spec protocol

consist of 1 single msg (1 byte) value 1

↳ It simply causing the pending state to be copied into the Running State/ current state

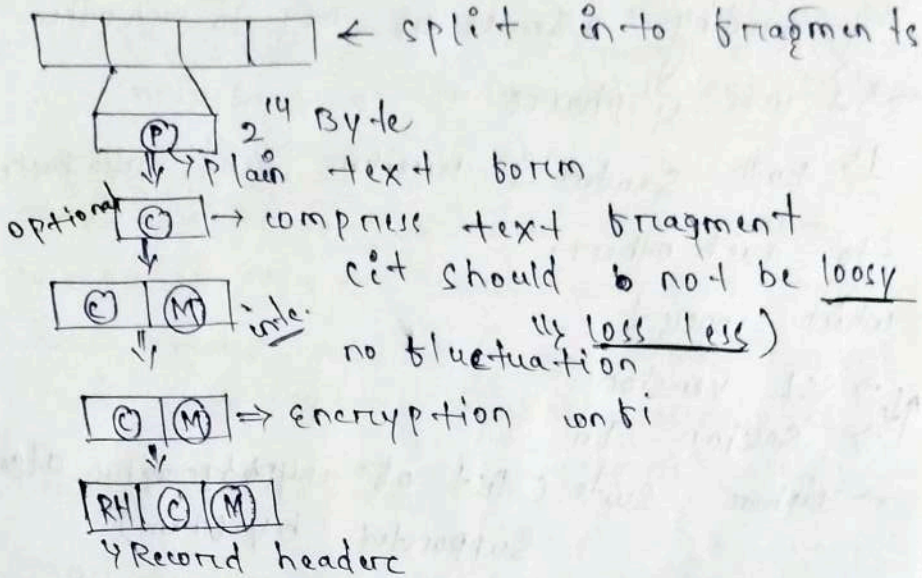
iv) SSL Alert protocol

→ Alert msg, warning msg, filler msg

a) SSL Record protocol

⇒ confidentiality + Integrity

(Encryption algo.) (Msg Authentication code)



MAC (Msg Authentication code) :-

we use Secret key to generate a small fixed size of data called MAC.

$$MAC = C(K, M)$$

K → key (common key)

M → msg

C → mac funⁿ

↳ Short piece of info. used to authenticate a msg.

content type	Major version	minor version	compressed length
Pointer or compressed data			
MAC			

} Encrypted

b) Handshake Protocol

It is used to establish sessions. This allows the client & Servers to authenticate each other by sending a series of msg to each other

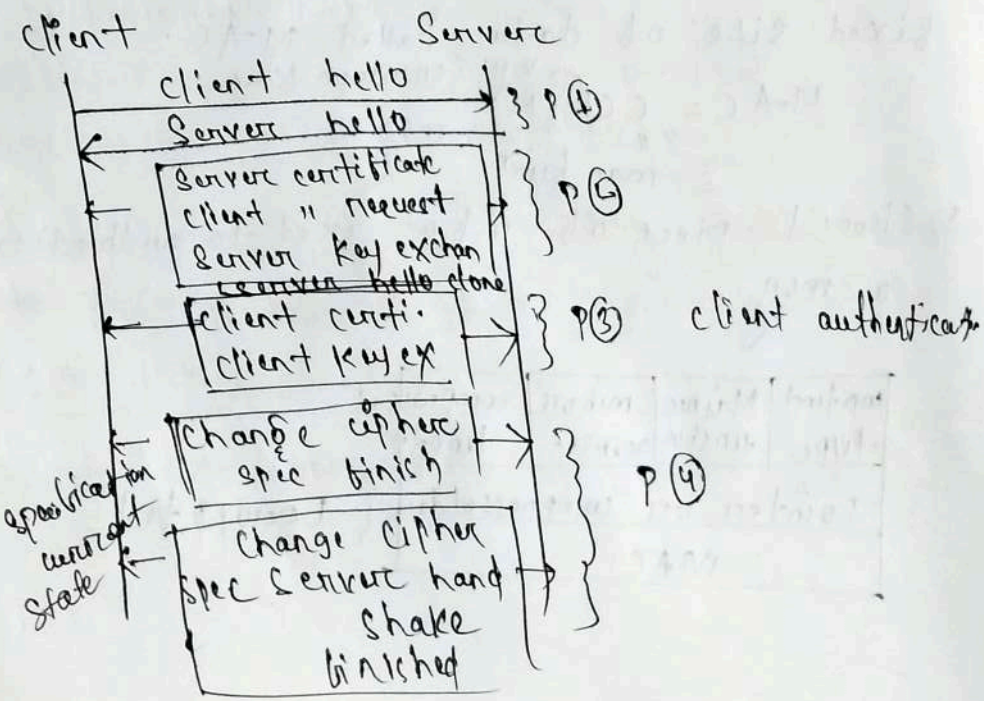
→ It uses 4 phases

1) Both Senders & receivers send hello packets to each others.

which consist

→ SSL version
→ Session Id
→ Cipher Suite (list of cryptographic algo supported by client)
→ compression method (encryption algo.)
(Logical connection)

2)



c) Alert protocol

1B	1B
Level	Alert

(contains code that indicate specific alert)

→ Types of alert

Warning Fatal

(alert has no impact on the connection betn sender & Receiver)

↳ (Break connection betn sender & Receiver)

Types of alert

- close-notify ⇒ No more msg sender
- unexpected msg → Incorrect msg received
- Bad-record-mac → wrong mac received
- Bad-certificate → Received corrupted certificate
- certificate expired

CPE

E-mail & E-mail protocol

Internet Access Msg protocol

↳ used betn client

SMTP → used betn Server

POP3 → IMAP
SMTP → ESMTP

(push)

↳ return receipt functionality

POP msg not in Server (pull protocol)

↳ IMAP

google storage.

TelNet

↳ Teletype Network

→ 1969, officially March 1973

→ Network protocol which virtually connect the computers (Remote login)

eg Teamviewer, anydesk

Remote Access use telnet ⇒ cable internet

→ not use currently

⇒ E-commerce games

↳ proper command

userid = No. security

psuld = (Not encrypted)

SSH (Security shell) protocol

① Start ⇓ remote desktop setting ⇓ Enable

google psuld

② Start ⇓ Remote desktop ⇓ connection ⇓ name

→ additional option

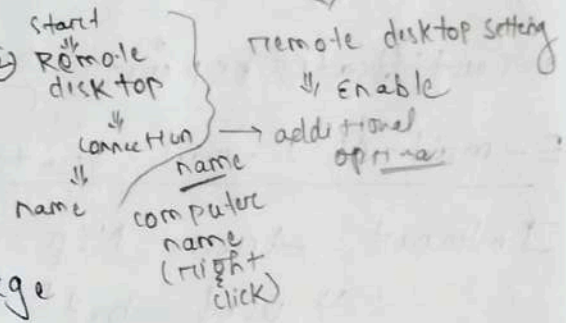
name computer name (right click)

Telnet cmd :⇒

#i

install telnet packge

telnet



NewsGroups ⇒ chart room / club

→ Blog

→ A new grp or form like a community

→ Subscription

→ Particular room discuss with a same topic & conclude.

→ 1992

→ Group of people.
→ communicity

eg → Alt. tennis
→ Alt. astrology
→ Alt. physics
→ politics
→ computer language etc...

HTML → Subscribe

Steps :⇒ → computer help

yahoo! groups.yahoo.com usenet.Farm / .org
google Groups.
⇓
html.4.you

eg binsearch.info

→ Set of rules designed to connect electronic device & exchange info. betn them

E-Mail & E-mail protocol

↳ It is info stored on a computer i.e exchanged between two users over telecommn.
↳ E-mail is a msg that may contain text files, images or other attachment sent through a n/w to a specified individual or grp of individuals.

Polymorphism :⇒

more form

1 objects do/act like more form.

⇒ It allows us to perform single action in different ways.

⇒ Same object having diff. behaviours

Packages :⇒

What is package :⇒

→ A package arrange no. of classes, interface & sub-package of same type into a particular group.

Note Folders in windows (Store related data)

Types

a) Predefined ⇒ Java developer

b) User defined

P (By default lang. supported) U

→ java.lang

→ java.util (DS)

→ java.awt (web)

→ java.io (File handling)

→ java.applet (Animation)

→ java.SQL (db)

JDBC

→ package P1

→ package add

→ package mypack

(keyword)

(for personal use)

Access Modifier in Java.

AM	With in cls	With in packge	outside packgeby Sub-cls	outside packge.
Private	✓	×	×	×
Default	✓	✓	×	×
protected(inheri)	✓	✓	✓	×
Public	✓	✓	✓	✓

Advantage :⇒

① Reusability (BY importing)
② Security (Security by modifiers)
③ Naming conflicting P1 A P2 A
④ Fast Searching (package concept)
↳ all library in one package.
⑤ Hiding (Encapsulation)

Dis we can't pass parameter to package.

Types

① What is user defined Package.

The package which are created by java programmer or user for their own use are called ud package.

Syntax Packagename packagename;

= coding

Rule

i) package statement must be 1st line

ii) Way of compilation of class file.

eg javac -d . classname.java

Foldername (package)

Foldername

javac Filename.java

java ~~geeks~~ Filename

IWT

~~chart room~~
~~A room~~ on a ships where charts can be con

chat room :→

A site/location on the internet, or another computer n/w, where ~~to~~ users can post msg & read msg posted by other users

eg Wire club ~~Anti~~chat
PalTalk ICQ
chatspin

Internet Application :—

— a) Internet Surffing :— Moving on internet from 1 website to another, to search info

b) E-mail (Sending & Receiving msg)

c) E-banking / Financial transactions.

d) E-Shopping

e) Playing games

f) ~~Video~~ Social Networking

Internet Relay chat (IRC) :—

chatting :→ Real time comm^n over internet
↳ (one to one response)

→ A phn call is a voice based chat while online chat is textual conversation

Not → E-mail

chat program

→ A s/w which is required for chatting

e.g :- Facebook, google, WP etc...

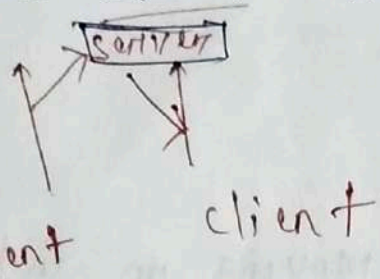
IRC

Protocol used for chatting.

→ It is based on client / Servere model.

→ IRC client - IRC Server.

WP



End to end encryption

Video conferencing

⇒ conduct a conference bet^n two or more Participants at diff. sites by using computer. n/w to transmit audio & video data.

→ Multiple videocon. allows two or 3 or more Participants to sit in virtual conference room & communicates as they were sitting right next to each other.

components

→ H/W

→ intervening n/w that carries signal

→ conference Environment

How to get free SSL :⇒

① create an account on a website on "cloudflare".
↳ It gives us Free SSL

② cloudflare.com
⇓
sign up
⇓
add site

③ Add website name (your website
⇓ Next
⇓
free plan
⇓ confirm
⇓ continue

④ change your Name Servers
⇓ I need help changing my nameservers
godaddy (next website)
⇓ sign in / sign up..
⇓ click DNS
⇓ Name Servers
⇓ change
⇓ custom

→ Name Server

1st value
2nd value
⇓ save

→ cloudflare
⇓
continue

Recheck
⇓
Refresh

(4) Install the cloudflare plugin in wordpress

(5) Plug in
⇓
Add new
⇓
Flexible SSL
⇓ install & activate

(5) Enable SSL

⇒ cloudflare

Enable Always use https — on

Video conferencing ⇒ components

1) The Hardware

2) The intervening n/w that carries the signals betⁿ sites

3) The conference environment or room

a) Hardware

→ Camera

→ Microphone

→ video conference unit :⇒ coder / decoder accepts vision & sound signal & processes them into suitable format.

→ Display unit :- Projector / TV,

→ Audio system → good audio system, speakers.

b) Network

→ IP, ISDN

c) Environment

→ lighting is an easy to improve picture quality.

Benifits

→ Sharing Presentation

→ 2 way commⁿ

→ Greater access to experts / specalisits

→ Productive use of time (reduce travel time)

→ disad

→ lacking of self discipline / Lazyness

→ lack of Interpersonal relationship

→ image ~~momen~~ movement is jerky

E-commerce → electronic media / gadget

→ Electronic Marketing

→ Buying & Selling goods & Services over an electronic System such as internet.

→ E-commerce is Purchasing, Selling & exchanging goods & Services over computer N/W or internet through which transactions or terms of Sale are Performed electronically.

Flipcart, Amazon

E-commerce	E-business
→ customers	→ customers + employee + Suppliers
→ Exchange	→

Process

→ Consumer uses web browser to connect to the home page of a merchant's website on the internet → (google chrome) → (website's URL)

→ consumer browses the catalog of products features on the site & Selects items to Purchase. The Selected items are placed in the electr. equivalent of a shopping cart.

→ When the consumer is ready to complete the Purchase of Selected items, She/he provides a bill-to-and ship-to address for Purchase & delivery.

Types :⇒

i) B2B (E-commerce bet^n companies)

eg Intel selling microprocess to Dell
Heinz selling ketchup to MC Donalds

wholesalers

ii) B2C (bet^n companies & consumers)

eg :- Amazon
Dell selling me ~~to~~ a laptop

iii) B2G (companies & Public Sector)

eg Be pay taxes, file report.

iv) C2C (Private individuals or consumers)

eg = OLX, Second hand Product.

v) G2C (e-goverrence)

→ Services Provided to users/consumers through website. etc.

Web Site :⇒

⇒ A website is a collection of webpages.
→ To access website, we need web browsers.
⇒ Every website has an URL (is an address using which we can access website on web servers.

Types

Static website

→ content & layout is fixed.
→ No db & no users interaction
→ No Servers Side appl^n Program
→ Easy to create & low Price
→ Direct comm^n bet^n webservers & users.

DY

→ Require only html ← same
eg :→ tutorials point (content)

Dynamic website

→ content & layout is not fixed (Diff. for diff. users).
→ Presence of db
→ HTML Page depends on user's input.
→ costly & difficult to create.
→ Need a lot of knowledge of PL, db skills.

eg Amazon (cart)
:→

WebPortal customized website

→ website having login details for accessing content. →(daily update)
→ used for Private content

eg :→ google, yahoo, youtube etc

Public Job Portal govt. Portal, educational Portal

Vertical → only one topic
eg business

horizontal → diff. topic

Knowledge → info. Provide
Enterprise → org^n related / Employee's Service
Market Place Portal → Amazon

Social Networking Sites :→

Helps us to connect with people from all over the world.

→ We can communicate with our near & dear ones anytime & anywhere. grow business &
→ It helps the people to establish & a relationship with people from all over the world through social networking.
→ Many social networking sites like Facebook, Instagram, Twitter. whatsapp etc managed to bring the world closer & helped many people to connect & expand their business globally.
→ Social networking can be classified in to blogging, broadcasting, online community etc

RSS Feed (Real Simple Syndication)

→ Move 1 content to other.
→ Keep track of diff. in real time
→ Feed readers are programs which display Rss feeds websites. that you subscribe.
→ Help you to stay up-to-date with ur. fav. newscast, blogs .. etc. instead of visiting sides to find new posts. are
→ Way for website authors to publish notifications of new content on their website.

How RSS

1) open a web browser & go to a web page
2) Right click on the web page & choose view page source.
3) Select setting > find
4) Type RSS & press enter.
5) The instance of RSS are highlighted in the page source.
6) Right click the RSS feed URL & Select copy link address.
7) Use this URL to subscribe to the RSS feed in an RSS reader.

HTML: Defines the content of web pages
CSS: Specify the layout of web pages
Javascript: program the behaviour of web pages

PL ⇒ Set of code / to tell computers what to do & how to do.

(through SW) java, C, C++ etc

SL : → connect 1 language to another

Php & html (no standlone)

→ instruction * (NO compilation)

Markup langu ⇒ look, structure ↳ Quick used in website

CSS + HTML

Types of scripting Language :⇒

a) Server - side scripting

run on a web servers, when a client sends a request, the servers responds by sending content via http. beni ⇒ They are not viewable by the public like client-side script.

b) client - side scripting

run on the client end - on there web browsers.

benifits

→ They can reduce demand on the server side script, allowing web pages to load faster.

99 :⇒ client - side script focused on faster Processing, UI, & functionality.

→ Server-side focuses on faster Processing, access to data, resolving errors etc

Java Script

→ The client is the computere systemcinduding tablets, & mobile devices) which is running the web browser.

→ client side scripting (→ controlling) can be used to make webpages changes after they arrive at the web browser.

→ client side scripts can also be used to perform validation of data entered into forms, either using Javascript or some new features of HTML5.

→ Java Script is the main client side scripting language that can be used to create, delete, & manipulate HTMC document.

imp * Java Script is a Dynamic PL (allows you to implement ~~in~~ dynamic feature on web)

→ Java Script (→ object oriented) embedded into a html ~~document~~ program with the help of <script> tag

→ It is a paired tag. Embedded with in the <head> or <body> tag of the html

Syntax :→ <script languag = "Javascript">

≡ </script>

eg php, Asp.net, node.js, Java, Ruby, perl,
server side → web appl^n → window linux
python
(server-side)

HTML, CSS, Javascript
(client side

Pros :⇒

i) No requirements to compile,

ii) Scripting lang. make webpages look awsome.

iii) Easier to learn & write.

iv) Scripting can be used as a Prototype for Programs, saving time on test project

v) ~~Plat~~ performance.

Declaring variables :⇒

⇒ Variables are containers for storing data

Syntax var variablename = value;

eg var a = 5;

Rules :⇒

i) Name start with a letter (a to z) or A to Z), underscore (-), or dollar $ sign.

ii) After first letter we can use digits

Valid ✓ 123 ✗

3) Javascript variables are case sensitive

eg x & X

```
<script>
  var x = 10;
  var y = 20;
  var z = x+y;
  document.write(z);
</script>.
```

Built-in Function

Fun^n :⇒ Reusable block that will be executed when it is called.

→ great time saver

→ Provides no. of built in fun^n

```
fun^n()
{ ≡ code
}
```

Fun^n	Description
isNan() ↳ Not a no.	Return true if the object is not a no.

parseFloat(String)

String(object)

eval

User-Defined fun^n :⇒

⇒ It is written in bet^n the <head> section of the html block & call on event on a particular body

Syntax :⇒ function add()
{
var a, b;
var sum = 0;
document.write("Addition : +" sum);
}

eg :

```
<html>
<head>
<script ~~type~~ Language = JavaScript>
function add()
{ var a = 10, b = 20;
  var c = a + b;
  document.write(c);
}
</script> </head>
<body>
<input type = "button" onclick = "add()"
                value = "click" >
</body> </html>
```

Array in Javascript :⇒

Arrays are Javascript object that are capable of storing a sequence of value.

→ This value are stored in index location with "0"

Syntax :⇒

```
var arr = [10, 20, 30, 40];
document.write(arr[]);
```

class A
& a
at a:16

arr[0]; A ob = new A();

Dense array :⇒ with specific value of array

Creating objects in Javascript :-

```
var a = {};          // object Literals
a['Rahul'] = 200;
a[p = 200]
```

b) Object Literal Declare & Initial

abc : = ;

```
var a = { Rahul : 200, };
```

c) object constructor

```
var a = new object();
```

d) Factory fun^

~~e) Function a()~~

```
{
    return
    { Rahul : 200;
    }
}
```

e) constructor Function

```
function A()
{
this.Rahul = 200;
  this.Sonam = 300;
}
```

(11)

Conditional Statement in ~~loop~~ JS

⇒ Very often when we write code, we want to perform different actions for different decisions. for that Scenario we use conditional Statement.

→ In JS we have the following conditional Statement

a) use <u>if</u> to specify a block of code to be executed, if a specified condition is true.

b) use <u>else</u> to specify a block of code to be executed, if the same condition is false.

c) use <u>else if</u> to specify a new condition to test, if the 1st condition is false

d) use <u>switch</u> to specify many alternative blocks of code to be executed.

a) The if Statement:

Executed if a condition is true

<u>Syntax</u>: if (condition)
{
code to be executed if cond^n is true;
}

<u>eg</u>:-
```
if( 5 > 3)
{
  greeting = "Hello";
}
```

```
<script>
var a = 10;
if (a > 5)
{
  document.write("Hello"); </script>
```

b) The if else statement

→ If evaluate the content whether cond^n is true or false

→ The else statement to specify block of code to be executed if the condition is false.

Syntax

```
if (condition)
{
  b if the cond^n is true;
}
else
{
  condition is false;
}
```

```
<script>
var a=20;
if(a%.2==0)
{ document.write("a is a even number");
}
else
{
  document.write("a is odd number");
}
</script>
```

c) The else if statement:

Use the else if statement to specify a new condition if the first condition is false

Syntax

```
if (cond^n 1)
{
  condition 1 is true;
}
```

```
else if (condition2)
{
   condition 2 is true;
 }
 else
   {
     cond^n 2 is false;
   }
```

eg

```
<script>
var a=20;
if (a==10)
{
 document.write("a is equal to 10");
}
else if (a==20)
{
 document.write("a is equal to 20");
}
else
  {
   document.write("None of the above");
  }
```

4) The Switch Statement

It is used to perform different actions based on different conditions

Syntax:

```
Switch (expression)
{
  case x:
   // code
  break;
  case y:
    // code
   break;
  default:
    // code
}
```

→ The switch expression is evaluated once
→ The value of the expression is compared with the value of each case.
→ If there is a match, the associated block of code is executed.
→ If there is no match the default code block is executed.

Eg: <Script>

```
var number = 10;
Switch (number)
{
  case 10:
  document.writeC "The value is 10");
  break;
 case 20:
  document.write ("The value is 20");
   break;
  default:
     document.write ("None");
}
```

Loops in JS :-

Javascript loops are used to iterate the piece of code using for, while, do while loop.

Types of Loop

1. For Loop
2. do while Loop
3. while loop

(5)

1) For Loop:

The JS for loop iterates the elements for the fixed number of times.

→ It should be used if number of iteration is known.

Syntax

```
for(initialization ; condition ; increment)
{
  code to be executed
}
```

Eg

```
<script>
for( i = 1 ; i<=5 ; i++)
{
 document.write(i + "<br/>")
}
</script>
```

2) JS while Loop

The JS while loop iterates the elements for the infinite no. of times.

→ It should be used if no. of iteration is not known.

Syntax

```
while (condition)
{
  code to be executed
}
```

Eg

```
<script>
var i = 11 ;
while (i<=15)
{
```

```
    document.write(i + "<br/>");
    i++;
  }
</script>
```

3) JS do while Loop

The JS do while loop iterates the elements for the infinite no. of times like while loop.

* But, code is executed at least once whether cond^ is true or false

Syntax

```
do
{
  code to be executed
}while(cond^);
```

```
<script>
var i = 21;
do
{
  document.write(i + "<br/>");
  i++;
}while (i<=25);
</script>
```

Document Object Model (DOM):

④ JavaScript Array;

It is an object that represents a collection of similare type of elements.

→ There are 3 ways to construct array in JS

1. By Array literals
2. By creating new instance of array directly (using new keyword)
3. By using an array constructor (using new keyword)

1) JS Array Literals

The syntax of creating array using array literal is given below -

```
var arrayname = [value1, value2 ... valueN];
```

eg

```
<Script>
var name = ["Ram", "Hari", "Sita"];
For(i=0; i<name.length; i++)
{
  document.write(name[i] + "<br/>");
}
</Script>
```

2) JS Array directly (New keyword)

```
var arrayname = new Array();
```

↳ Create instance of array

```
<Script>
Var i;
Var name = new Array();
```

```
name[0] = "Ram"
name[1] = "Hari"
name[2] = "Sita"
for(i=0; i<name.length; i++)
{
  document.write(name[i] + "<br/>");
}
</script>
```

5) JS Array constructor (new keyword)

You need to create instance of array by passing arguments in constructor so that we don't have to provide value explicitly.

```
<script>
var name = new Array("Ram", "Hari", "Sita");
for(i=0; i<name.length; i++)
{
  document.write(name[i] + "<br/>");
}
</script>
```

JavaScript objects

JS object is an entity having state & behaviour (properties & method)

eg car, pen, bike, chair, glass etc

→ JS is an object based language. Everything is an object in JS

③ → We don't create class to get the object. But we directly create objects.

There are 3 ways to create objects

1. By object Literals
2. By creating instance of object directly (using new keyword)
3. By using object constructor (using new keyword)

1. Is object by object Literals

The syntax of creating object using object literal is given below:

```
object = { property : val1 , property2 : val2 , ... }
```

```
<Script>
emp = { id : 102, name : "Monali", Branch = "CSE" }.
document.write(emp.id + " " + emp.name + " " emp.
                                        Branch);
</Script>
```

2) By creating instance of object:

The syntax of creating object directly is given below:

```
var objectname = new object();
```

```
<Script>
Var emp = new object();
emp.id = 101;
emp.name = "Monali";
emp.Branch = "CSE";
document.write(emp.id + " " + emp.name. + " " emp.Branch);
</Script>
```

5) By using object constructor

Here, we need to create function with arguments.

→ Each argument value can be assigned in the current object by using this keyword

→ The this keyword refers to the current object.

eg <script>

```
function emp(id, name, branch)
{
  this.id = id;
  this.name = name;
  this.branch = branch;
}
e = new emp(103, "Monali", "CSE");
document.write(e.id + " " + e.name + " " + e.branch);
```

</script>

Dt - 03.01.22

Event Handling in JS

↳ The changes in the states of an object

Events :⇒ Events are the actions that can be detected by Javascript

eg ⇒
- When a user click the Mouse
- When a web page has loaded
- Image has been loaded
- Mouse Moves over an element.
- Input field changed
- HTML form is submitted
- User stroke a key

→ Sometimes we wants to execute a JS when an event occurs, such as when a user clicks a button.

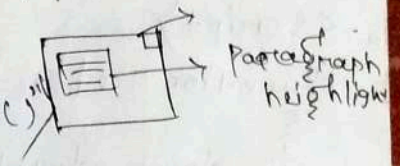
→ Events ⇒ fun" ✱

✱ **Binding**

→ What Event you want to Perform?

→ Which HTML Element?

→ JS function.



→ event attribute

<P onmouseover = "function()"

≡ </P>

Event attributes :⇒

- onload :→ A page/img is finished loading
- onunload → The user exits the page
- onblur → An element loses focus
- onchange → The content of a field changes
- onclick → Mouse clicks an object
- ondblclick → Mouse double click on object

- onfocus
- onselect → Sel text is selected
- onkeydown → A keyboard is Pressed
- onkeypress → A key is Pressed or held down
- on keyrelease → The keyboard key is released
- onmousedown → Mouse is Pressed
- onmousemove → mouse is moved
- onmouseout → The mouse is moved off an element
- onmouseover → The mouse is moved over an element
- onmouseup → mouse button is released

```
<html>
 <head> </head>
 <body>
  <h1> Welcome to My Page </h1>
  <p>  this is my 1st
```

```
<html>
<head>
<script>
function effect()
  {
var x = document.getElementById("para1");
   x.style.backgroundColor = "lightblue";
  }
</script>
<body>
<h1> Welcome </h1>
<p  id = "para1" onmouseover = "effect()">
  This is my 1st para page </p>
  </body>
  </html>
```

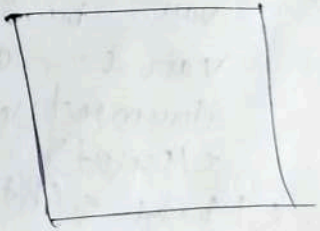
document object

open(), close(), write(), getElementById()
writeln(), getElementByName()
objectname.propertyName — tagName

cookie
domain
lastmodified
documentmode
readyState
referrer
title
URL

clickEvent:-

```
<html>
<head> Javascript Events </head>
<body>
<script language="Javascript" type="text/Javascript">
<!--
Function clickevent()
{
    document.write("This is Javapoint");
}  // -->
</script> <form>
<input type="button" onclick="clickevent()"
    value="who's this">
</form>
</body> </html>
```



Embedding Javascript with HTML

You can embed the Javascript code directly within your webpages by placing it bet^n the <script> & </script>

* indicates the browser that the contained statements are to be interpreted as executable script & not html.

eg :—

```
~~text~~
<script type = "text / javascript">
    ≡ code.
</script>
<html>
<head> <script>
    document.write("Hello");
    document.write ("<br/>");
    var msg = "R ufine";
    document.write (msg);
</script>
<body>
<script>
    var a = 10;
    var b = 20;
    var c = a+b;
    document.write ("Result : +c);
</script>
</body> </html>
```

ii) calling an External Javascript file :⇒

• js file

→ You can also place our javascript code into a separate file with .js & call that file in ur document through the src attribute

<Script src = "js/hello.js"></Script>

a.js

eg: var str = "Hello"
document.write(str);

<html>
<head> external </head>
<Script src = "../a.js"></Script>
<body></body></html>

bold :- as a string

document.write("" + f + "");
"style='color:red"

cookies ⇒ Small file, (username, pswd), often including unique identifiers that web servers send to browsers. (stored in cache)

→ These cookies than can be sent back to the servers each time your browsers request a new page.

→ It's a way of website to remember you, your preferences & your habits online

→ when u visit a website that uses cookies, a file is saved to your PC, Mac, phone or tablet

↳ if u go back to that website again, the website knows you've already been there before.

How to create cookies :→ 3rd party cookie dangereous

syntax :→

i) document.cookie = "name = value";

ii) document.cookie = "name = value"; expires = date; domain = domain; path = path; secure";

iii) max-age = in second
(not all browser support

eg :→

i) document.cookie = username = "geeky"
= Emailid (etc)

ii) document.cookie = username = ... ; expires = Mon ; 3-Sep-2022 09:00:00 UTC;

iii) max-age = "+60*60*24*10"
→sec →min →Hour →day
24 10 day

Note

Name-value Pair must not contain any whitespace chracters, commas, or semicolons

Monali Patel

ii) optional cookies Attribute → current page path

Max-age, expires, domain, path, secure

(Files automatically with reasonable defaults)

Step :⇒ * block 3rd party cookies

* Ask permission

open chrome

↳ Settings

↳ Advanced

↳ privacy & security

↳ content settings

↳ cookies

↳ Allowed

See all datas

```
<html>
<head><title> cookies </title> </head>
<body> <h1> cookies </h1>
<script>
    document.cookie = username = megha";
    alert(document.cookie);
</script> </body> </html>
```

connecting database using Javascript in HTML

page :⇒

```
<html>
<head> <title> Database </title></head>
<link rel = "stylesheet" href = "style.css" />
</head>

<body>
```

~~<table>~~
~~<tr>~~
~~<td> <form> <div>~~
~~<label> Full Name </label>~~
<input type =

~~connecting db using Javascript in HTML~~

Server Site Scripting:-

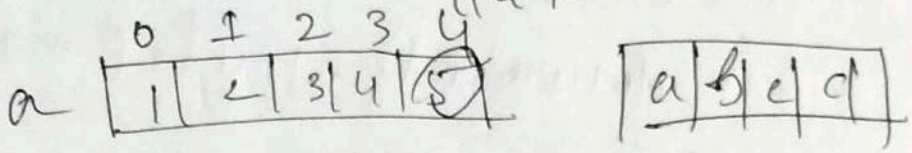
→ It is basically used to create dynamic pages.
(Web Servers are used to execute SSS)

→ CSS	SSS
→ Source code is visible to user.	→ Source code is not visible to user (o/p of Server side is a HTML page)
→ Depends on browser & version	→ Any server side technology is used
→ It runs on user computer	→ It runs on web server
→ doesn't provide Security	→ Security for data.
→ HTML, CSS, JS	→ PHP, Python, Java, ruby etc are used

MP

[ ]

* Array ; → contigious memory location with same type of data

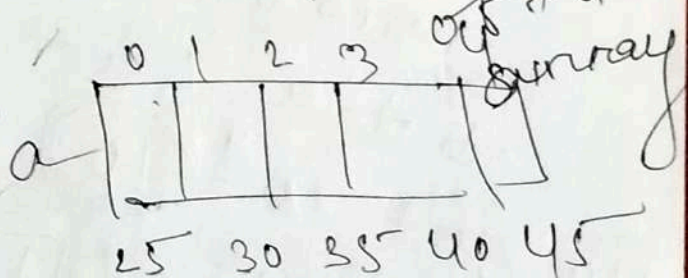


a[4]

int a[5]; → bcz memory alloc

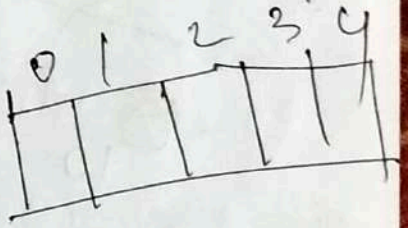
If a = new a[5]; → size

a[5];



of the array

a[0] = 25;
a[1] = 30;
a[2] = 35;
a[3] = 40;
a[4] = 45;



int a = 10;
int b = 20;

if-else

if (a > b) → true
{
printf("a is greater");
}
else
{ printf("b is greater");

```
varc day = sunday;
if(day == sunday).
{ document.write("It's weekend")
}
else
{ document.write("Working day");
```

unary on

++a / a++

~~int~~ a = 10

++a = 11

a++

10 (11)

Syntax to write PHP :-

The Php parsing engine need a way to differentiate PHP code from other element in page, this mechanism is called Escaping to PHP

→ There are 4 ways to write PHP

i) Canonical PHP tag : <?php ?>
ii) Short-open php tag : < ?...?>
iii) ASP-style tag <%....%>
iv) html script tag

<script language = "php"> ... </script>

code <!DOCTYPE html> abc.php

```
<html>
<body>
<?php
    echo "PHP Example";
?>
</body>
</html>
```

run/check :⇒

localhost/code
↑ your created foldere (inside the xampp)
name

Comment Line in php :⇒

A comment in PHP code is a line i.e not executed as a part of program. Its only purpose to be read by someone who's looking at the code.

inshort i) Let others understand your code
ii) Remind yourself of what you did

→ There are 2 ~~ways~~ commenting format i.e used in php.

a) Single Line comment :⇒

We can give single line comment by writing the # or // symbol

syntax

```
<!DOCTYPE html>
<html>
<body>
```

```
<?php
  echo "Single Line comment";
  // This is Single line comment
?> </body> </html>
```

b) Multiline comment

The multiline comments can be inserted in the code by using /* .... */

Syntax :⇒

```
<?php
  echo "Multiline comment"
  /*
    Multiline
    Hello.
  */
?>
```

PHP Variable Tag :⇒

→ Variables in PHP are declared as

$variablename

eg $a = 10;
~~ta~~ echo $a;

Rules for Naming variable

1. variable name must begins with a letters or underscore character.

~~2.~~ a. $a1 ✓ ~~$01~~ $1

(You can not use character like +, -, %, (,), & ... etc)

PHP

→ PHP is a Serverscripting language, & a powerful tool for making dynamic & interactive webpages.
→ It was created by Rasmus Lerdorf in 1994 but appeared in 1995. 28 Nov.

Notes

→ PHP stands for Hyperctext Preprocessor
→ PHP is an interpreted language i.e there is no need for compilation.
→ PHP is a Server Side Scripting language, which is used to manage the dynamic content of the website.
→ PHP is an object-oriented language.

Why?

→ It handles dynamic content, db as well as Session tracking for the website.
→ We can create Session in PHP.
→ It can access cookies variable & also set cookies.
→ It helps to encrypt the data & apply validation.
→ PHP can handle the forms Such as- collect the data from users using forms, Save it into the db & return useful info. to the user
eg Registration form

Features

Performance:

PHP uses its own memory, So the Server workload & loading time is automatically reduced which

results in faster processing speed & better performance.

Open Source :-

PHP source code & sql are freely available on the web.

Familiarity with syntax

PHP has easily understandable syntax. Programmers are comfortable coding with it.

Embedded

PHP code can be easily embedded within HTML tages & script.

Platform Independent

PHP is available for windows, MAC, LINUX & unix OS.

Database Support

PHP supports all the leading db such as MYSQL, SQLite, ODBC etc

Error Reporting :-

PHP has predefined error reporting constants to generate an error notice or warning at runtime,

eg E_ERROR, E_WARNING, E_STRICT, E_PARSE

How to Run PHP Program

PHP

- XAMPP Server

→ Install XAMPP Server

Project Location

xampp \ htdocs \ foldername \ filename.php

Open browser

localhost / foldername /

Add 2 Numbers

```
<!DOCTYPE html>
<html>
<body>
<?php
$a = 10;
$b = 20;
echo $a + $b;
?> </body> </html>
```

Datatype in PHP

PHP support 8 datatypes which we can use to construct our variables.

a) Integer :→

syntax
```
$variablename = value;
```

```
<?php
$x = 10;
var_dump($x);
?>
```
↳ Return the datatype & variable

b) Float / Double

syntax
```
<?php
$a = 10.20;
var_dump($a);
```

c) Boolean

A boolean represents two possible states.

TRUE / FALSE.

```
$x = true;
$y = false;
```
→ It is often used in conditional testing

d) String

→ A string is a sequence of characters like "Hello".

→ a string can be any text inside quotes (single quotes / double quotes).

```
<?php
$x = "Hello world";
$y = 'Hello!';
echo $x;
echo "<br>"; → Next Line
echo $y;
?>
```

e) Null

→ Null is a special datatype which can have only one value: NULL.

→ A variable of data type Null is a variable that has no value assigned to it

* If a variable is created without a value, it is automatically assigned a value of NULL.

```
<?php
$x = "Hello world!";
$x = NULL;
var_dump($x);
?>
```

f) Array :→

An array store multiple value in one single variable.

```
$cars = array("Volvo", "BMW", "Toyota");
```

3) Comparision operators

↳ It is used to compare 2 values (no. or string)

operators	Name	Example	description
==	equal	$x == $y	Return true if $x = to $y
===	identical	$x === $y	Return true if $x == $y & they are of same t/p
!=	Notequal	$x != $y	
<>	Notequal	$x <> $y	
!==	Not identical	$x !== y	
>	Greater than	$x > $y	
<	less than	$x < $y	
>=	greater than	$x >= $y	
<=	less than	$x <= $y	

4) Increment / Decrement :⇒

↳ It is used to increment / decrement a variable's value

operators	Name
++$x	pre increment
$x++	post "
--$x	pre decrement
$x--	post decrement

g) object

h) Resources → Storing references to fun^.

Operators

1) Arithmatic operators

The PHP arithmatic operators are used with numeric values to perform common arithmatic operations, such as addition, sub etc.

$x = 4,
$y = 2

operators	Name	example
+	Addition	$x + $y
-	Subtraction	$x - $y
*	Multiplication	$x * $y
/	Division	$x / $y
%	Modulus	$x % $y
**	Exponentiation	$x ** $y

2) Assignment operators: →

→ It is used with numeric values to write a value to a variable.

→ The basic assignment operators in PHP is '=' (left operand gets set to the value of the assignment expression on the right).

Assignment	Same as
x = y	x = y
x += y	x = x + y
x -= y	x = x - y
x *= y	x = x * y
x /= y	x = x / y
x %= y	x = x % y

Conditional statement :⇒

↳ It is used to perform different actions for different conditions.

→ In PHP we have the following conditional statement

a) if statement :- Executes some code if cond^ is true

Syntax :⇒

```
if (condition)
{
  //code;
}
```

```
<?php
$t = date("H");
if ($t < "20")
{ echo "Have a good day";
}
```

b) if .... else statement :-

↳ cond^ is true ↳ cond^ is false

Extra point

Note :⇒

Syntax.

```
if (cond^)
{
  code
}
else
{
  code
}
```

date() :⇒ It specifies how to format the date (or time)

Some characters i.e used for date().

d → Represents the day of month (01 to 31)

m - Represents a month (01 to 12)

Y - Represent a year (in 4 digits)

L - Represents the day of the week

→ Other character "/", ", " or "-"

5) Logical operators

↳ It is used to combine conditional statement

operators	Name	Example	Description
and	And	$x and $y	True if both x & y are true
or	OR	$x OR $y	True if either x or y is true
xor	XOR	$x xor $y	True if either $x or $y is true but not both
&&	And	$x && $y	
||	OR	$x || $y	
!	Not	!$x	

6) String operators :-

↳ PHP has two operators specially designed for string

i) . → concatenation $t1 . $t2

ii) .= → " assignment $t1 .= $t2 (append)

7) Array operators

↳ It is used to compare array

+ → union $x + $y union of $x and $y

8) conditional operators : ⇒

?: → Ternary $x = exp1 ? exp2 : exp3 (exp2 → true, exp3 → false)

```
<?php
echo "Today is ". date("Y/m/d") . "<br>";
echo "Today is ". date("Y.m.d"). "<br>";
echo "Today is". date("Y-m-d"). "<br>";
echo  Today is". date("l");
?>
```

c) else-if ladder

```
if (cond^n)
{ code to be executed;
}
else if( cond^n)
{ code ( if first  cond^n is false);
}
else
  { code(if all cond^n is false;
  }
```

Loops

If you want the same block of code to run over & over again a certain no. of time. In that case we can use Loop.

a) While Loop

Loops through a block of code as long as the specified cond^n is true.

Syntax :-

```
while (condition)
{
  code;
}
```

```
$x = 1;
while( $x <= 5)
{
echo "The no. is ". $x "<br>";
 $x++;
}
```

b) do...while

Loop will always executes the block of code once, it will then check the cond^n, and repeat the loop while the specified cond^n is true.

Syntax :→

```
do
{
  code to be executed;
} while (cond^n is true);
```

```
$x = 1;
do
{
echo "The no. is :. $x" <br>
$x++;
} while( $x<=5);
```

c) for loop :-

It is used when you know in advance how many times the script/ code should run.

```
for( init counter; cond^n; increment/decrement)
{
  code;
}
```

```
// for(in $i = 0; i<=5; i++)
{
  ≡
}
```

Array :→

An array stores multiple values in 1 single variable.

Syntax :-

```
$arrayname = array( ... );
```

eg :- $n = array(1, 2, 3, 4);

Print 1 to 5

```
$n = array = (1, 2, 3, 4, 5);
$leng = count($n);
for( $i = 0; $i < $leng; $i++)
{
    echo $n[i] . "\n";
}
```

↳ return the length of the element

→ In PHP there are 3 types of arrays

a) indexed arrays → Array with numeric index

b) Associative arrays
↳ arrays with named keys

c) Multidimensional arrays → containing one or more array.

a) Index Arrays:—

There are 2 ways to represent index array (index can be assigned automatically)

i) $cars = array("valvo", "BMW");

~~$cars~~

ii) Index can be assigned manually

~~$a[0] = 1~~; $cars[0] = "valvo";

$cars[1] = "BMW";

Array index always start from 0;

b) Associative Array:—

Array that use named keys that you assign to them.

i) 1 way $age = array("Ram" => "35", "Hari" => "40");

or

ii) $age['Ram'] = "35";

~~$Hari~~ $age['Hari'] = "40";

Eg
```
<? php
$age = array("Ram" => "35", "Hari" => "40");
echo "Ram is ". age["Ram"]. "years old";
?>
```

c) Multidimensional Array :-

Array containing one or more arrays

Name	Stock	Sold
volvo	22	18
BMW	15	13

```
$cars = array(
        array("volvo", 22, 18),
        array("BMW", 15, 13));
echo $cars[0][0]. " : In Stock :
```

Sorting Array :-

~~Sort()~~

Sort() - Sort array in Ascending order

rsort() - " " in descending "

asort() → Sort associative array in ascending order (acc. to values)

Ksort() → " " " " (acc. to key)

arsort() → " " " " in descending order

Krsort() → " " " " (acc. to key)

Post & Get method in PHP :-

Post is used to send data to a server to create/update a resource)

(It not shows in Httpheaders of the website)

→ Post requests are never cached
→ post " do not remain in browser history / can not be bookmarked

→ no Reload

Get

→ It is used to request data from a specified resource.

→ Reload (share link)

Database

→ go to browser

↳ localhost/

↳ phpmyadmin

↳ ~~database~~

→ database name (create)

→ Name No. of columns: 4

Get & post Methods in PHP :⇒

PHP Provides two methods through which a client (browser) can send info. to the Server. These methods are given below

1. Get method
2. post method

→ Get & post methods are the http request methods used inside the <form> tag to send from data to the server.

→ Browser (client)

↳ appl^n running on a computer

computer is Servers.

Get method :⇒

→ Get is used to submit the html form data.

→ The data is collected by the predefined $_GET variable form processing.

→ The info. sent from an HTML form using GET method is visible to everyone in the browser's address bar, (all the variable names & their values will be displayed in the URL).

→ Get is not secured to send sensitive info.

eg:- localhost/getest.php?username=XYZ&bloodgroup=A1+

```
<html>
<body>
<form action="getest.php" method="GET">
username: <input type="text" name="username"><br>
Blood Group: <input type="text" name="bloodgroup"><br>
<input type="submit" />
</form>
</body></html>
```

Advantages :⇒

→ You can bookmark the page with the specific query string becoz the data sent by the get is displayed in URL.

→ Get request can be cached

→ Get requests are always remained in the browser history.

Post method :→

→ The info. sent from an html form using the post method is not visible to anyone.

→ $_post

eg localhost/posttest.php

Get method	post method
<html>	
<body>	
<?php	
echo $_GET["username"]; 	$_post
Your bloodgroup is:	
echo $_GET["bloodgroup"];	
?> </body> </html>	

PHP

get & post method

Megha patel

Agent :⇒

An agent can be anything that perceiveis environment through sensors & act upon that environment through actuators.

→ An agent runs in the cycle of perceiving, thinking & an agent can be.

i) Human agent :⇒

Sensor ⇒ eyes, ears & other organs

Actuator ⇒ Hands, legs, vocal tract.

ii) Robotic agent :-

Sensor ⇒ cameras, infrared range finders, NLP

Actuator ⇒ motors

iii) Software agent :⇒

Byte Stream: ⇒ (take input from the collections, Array or I/O channel)

↳ It can read or write files containing Ascii characters that ranges from 0 to 255.

↳ Byte stream can copy the file containing English letters only but not of other languages.

↳ We can store video, audio, characters etc.

Character Stream: ⇒

↳ Java supports unicode characters, byte stream fails to do the job, to overcome this character stream comes into existance.

↳ It operates on unicode characters.

- Byte Stream
  - input Stream (Read mode)
  - output Stream (Write Mode)
- character Stream
  - Reader cls
  - Writer cls

output Stream class:-

Exception (Run time error)

10/5; = 2

10/0; = ∞ Run time error

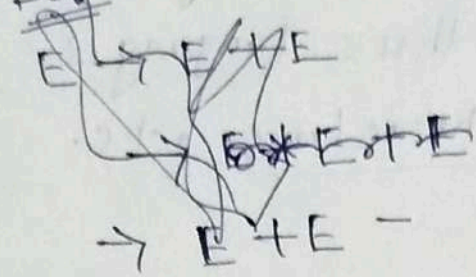
55

$E \to E+E$

$E \to E*E$

$E \to id$ $\quad id+id*id$

Left



$E \to E*E$

Left

$E \to E*E$

$\to E+E*E$

$\to id+id*id$

Right

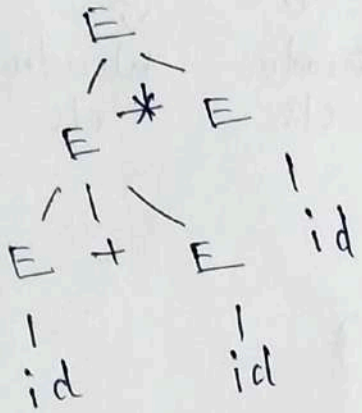
$E \to E+E$

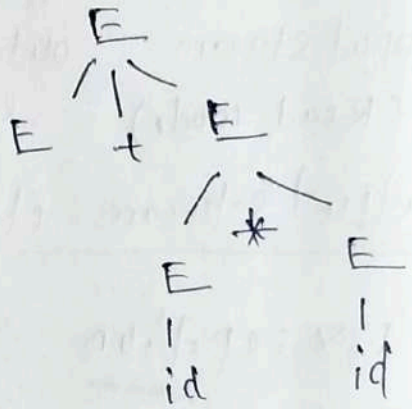
$E \to E+E*E$

$\to id+E+E*id$

$\to E+id*id$

$\to id+id*id$





. $S \to aAS \mid a$

$A \to SbA \mid SS \mid ba$ $\quad aabbaa$

$S \to aAS$

$\to aSbAS$

$\to aabAS$

$\to aabSbAS$

$\to aabbaS$

$aabbaa$