

29.12.15

unit-I

History of Internet & World Wide Web :

1. A Computer Network is an interconnection of group of computers.
2. A Internet is a world wide system of interconnected computers and networks.

History :

→ Advanced Research project Agency Network (ARPANET) is the worlds first operational network and the predecessor of the global internet in the year 1969.

→ ARPANET was developed by the US capital department of defence to survive a nuclear Attack.

→ The Internet was a result of an unsuccessfull military & academic research program.

Late 60's & 70's :

1. No personal Computers.
2. All large mainframe computers in late 60's.
3. In the middle of 1970's initial personal computer was invented.

4. Late 1970's Apple's first usable PC was invented.
5. 1972 TELNET develop as a way to connect two Remote computers.
On the same year E-mail system was introduced.
6. 1973 ARPANET Goes international.
→ 1973 file transfer Protocol (FTP) was established.

1980's :

1. 1981 IBM personal computer was invented.
2. 1984 Apple Macintosh
3. 1986 MODEM becomes optional on PC's.
4. 1984 Domain Name Servers introduced which allows naming of host and eliminates longer numeric values.

5. 1986 NSF Net (National Science Foundation Network) was created.

6

1990's : (World Wide Web).

1. In 1990 the NSF net becomes backbone of modern internet then ARPANET is decommissioned.

2. 1991 TIM BERNERS LEE released World Wide Web.

3. 1993 Mosaic (becomes netscape Navigator) designed by An university of ILLINOIS student.

→ ~~Before~~ it

→ First pointer click Browser

→ later Named as Netscape Navigator.

4. Via Internet computer can communicate with each other.

5. Public files on a computer can be read by the remote users (usually HTML).

6. URL (Universal Resource Locator) is the name of a file on a remote computer.

7. WWW uses HTTP servers also known as Web Servers.

8. Receives HTTP request and send back to the client in the form of packets.

21's Century:

1. Internet Allows sharing of simple informations.

2. With the Additional features added by WWW the internet become more powerful and interactive.

3. FTP was initial file sharing system but a bit ^{hard} ~~old~~ to use.

4. WWW advance type of information are allowed but not designed for file sharing.

5. NAPSTER, ~~KAZAA~~ and lime wire etc. all are the file sharing softwares.

HTML: (Hypertext Mark up language)

1. HTML stands for Hypertext Mark up language.
2. HTML files are basically special text files.
3. HTML files contains special control sequences or tags that controls how text is to be formatted.
4. HTML files are the source code for web browsers.
5. A browser reads the HTML file and tries to display it using the tags to control layout.
6. The HTML programs are basically done with the help of text editors like Notepad, Wordpad etc.

Simple HTML Structure:

<html> → opening tag

<head>

<title> . </title>

</head>

<body>

<form>

<input type="text" value="Name" />

</form>

</body>

</html> → closing tag

HTML tags:

All HTML commands or tags have the following form <name of

<name of the tag>... </name of tag>

The tags controls the structure, format and hyper text link are HTML pages.

All HTML tags are predefined.

No user defined tags are allowed.

HTML is not case sensitive.

The tag can be upper case or lower case even both case.

<html>

<head>

<title> Name </title>

</head>

<body>

<form name = "b">

<h1> Enter your name </h1>

<input type = "text"

name = "b" >

</input>

Name	-	0	1
Enter your name			

```

</form>
</body>
</html>

```

Write the HTML program to design user login page.

```

<html>
  <head>
    <title> user </title>
  </head>
  <Body>
    <form>
      <h1> User Name </h1>
      <h1> password </h1>
      <input type = "text" name =
        "t1">
      <input type = "password" name =
        "p1">
      <input type = "submit" name = "b1"
        value = "login">
      <input type = "cancel" name = "b2"
        value = "cancel">
    </form>
  </body>
</html>

```

Write the HTML program to design a mail system.

```

<html>
  <head>
    <title> mail </title>
  </head>
  <body>
    <form>
      <h3> To </h3>
      <input type="text" name="t1"> </input>
      <h3> Cc </h3>
      <input type="text" name="t2"> </input>
      <h3> bcc </h3>
      <input type="text" name="t3"> </input>
      <h3> Sub </h3>
      <input type="text" name="t4"> </input>
      <h3> Message </h3>
      <input type="text" name="t5"
        width="50" height="10"> </input>
      <input type="text" name="t5"
        width="50" height="10"> </input>
    </form>
  </body>
</html>

```

Write
table

```

<input type = "Attach" name = "b1"> </input>
<input type = "Send" name = "b2"> </input>
<input type = "Draft" name = "b3" value =
    "Draft"> </input>
<input type = "Cancel" name = "b4">
    </input>

```

```

</form>
</body>
</html>

```

Write a HTML program to display following table using table tag.

Diagram illustrating the structure of the table using HTML tags:

- table**: Points to the entire table structure.
- <tr>**: Points to the first row (header).
- <td>**: Points to the first cell in the second row.

NAME	Exp	Grade
Mehar	111	B
Dipika	1111	S
Eliahi	11	A

Protocols:

1. HTTP
2. SMTP
3. MIME
4. POP3
5. IMAP

HTTP:

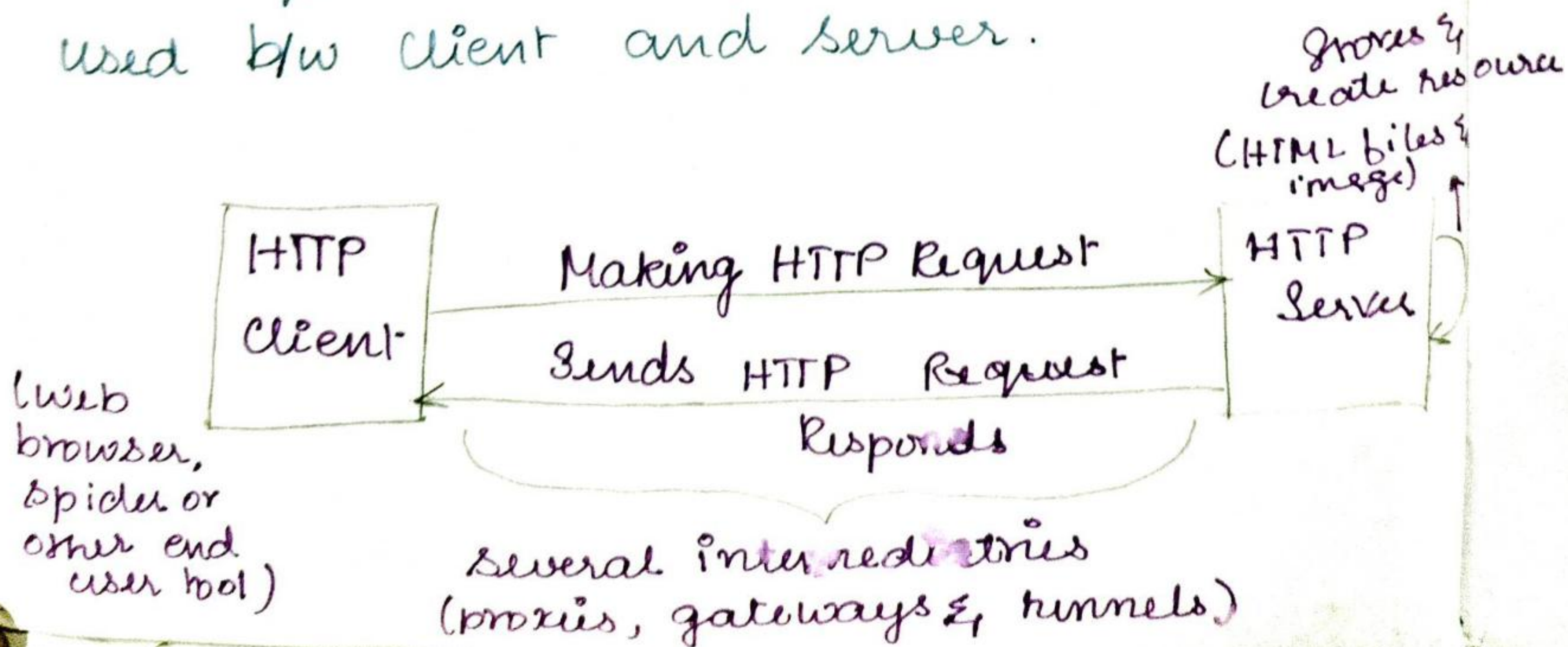
Hypertext Transfer Protocol.

A Communication protocol used to transfer information on the internet.

A purpose of HTTP is to provide a way to publish and retrieve the hyper text pages (HTML pages).

The development of HTTP was co-ordinated by the World Wide Web (WWW) and internet Engineering task force (IETF)

A Request and Response protocol is used b/w client and server.



SMTP :

Simple Mail Transfer Protocol.

It is established in the year 1982 with defacto standard for E-mail transmission across the internet.

In 2008 the protocol is extended and called as ESMTP which is relatively simple and text based protocol.

One or more clients of message are specified along with the message text and transfer message server.

SMTP clients contains user agent and transport agent.

It is secured by SSL (Secured Socket Layer) with port No. 465

Email client uses TCP connection with port No. 25 for outgoing mails along with SMTP configuration.

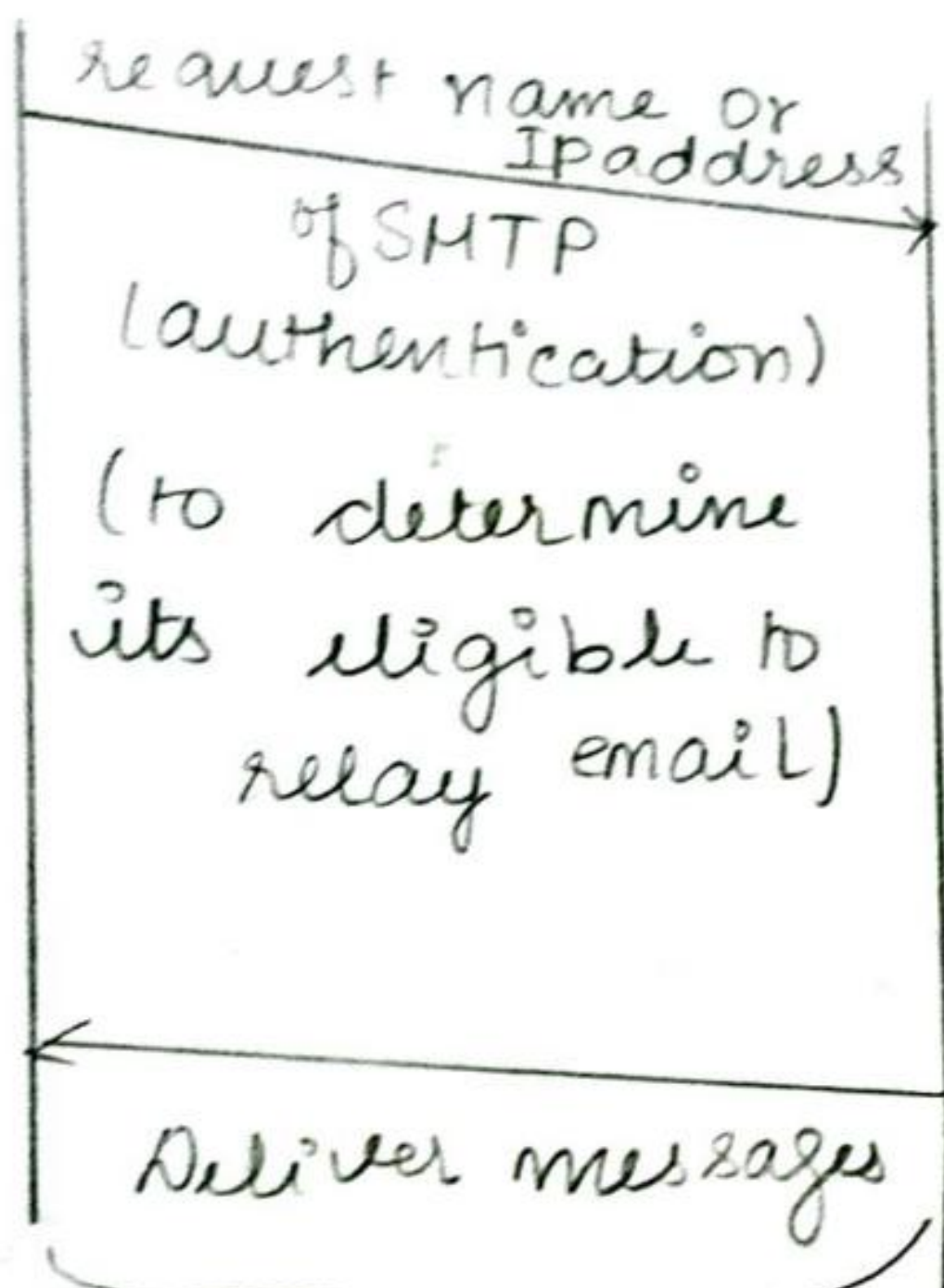
SMTP is used to push messages to remote server and which will not allow to pull the message to the server.

Popular SMTP server programs are G-mail, M~~X~~-Exchange server, NOVELL net mail, post fix, SUN Java system message server.

Outgoing mail SMTP Server :

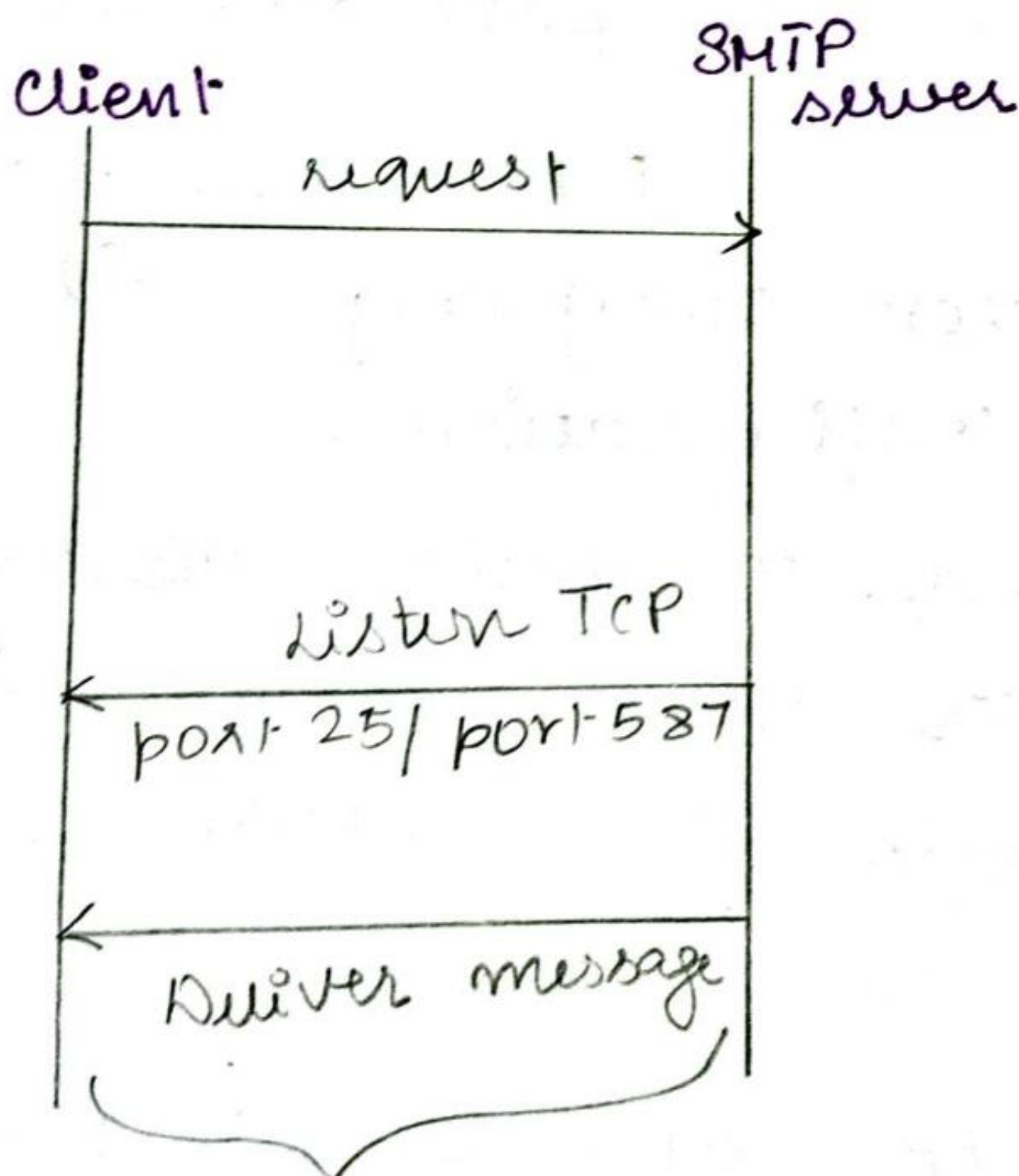
Email client

SMTP Server



Various policies & N/w designs.

(OR)



Establish by
RFC 2476

MIME:

Multipurpose Internet Mail Extension.

Extension to the format of Email over internet.

To support:

1. Text in character set other than ASCII.

2. Non-text attachments.

3. Multipart message bodies.

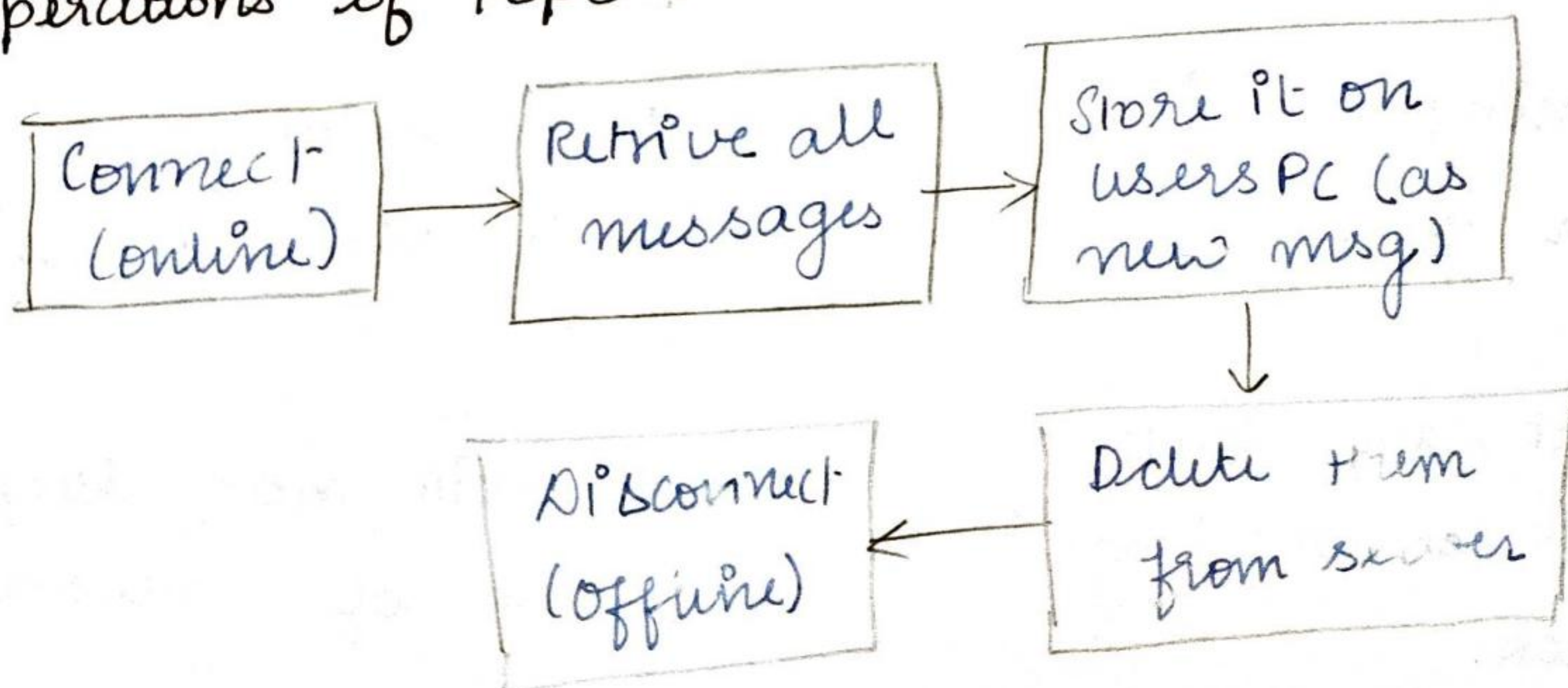
4. Header information in Non-ASCII character set.

POP3:

Post Office Protocol.

Local E-mail client uses POP3 to retrieve E-mail from the remote server over TCP/IP connection.

Operations of POP3:



IMAP4:

Internet Message Access Protocol

It supports Connected and disconnected mode of operation.

IMAP Access to Mail store.

It uses the port 143.

IMAP4

Client often stay connected as long as user interface is active and downloads the message content on demand.

Multiple clients to same mail box.

It mingles with other port.

Client can keep track of message stack.

POP3

It connects to the E-mail server as long as it takes to download new message.

One client at a time in the mail box.

It doesn't mingle with other ports.

It will not keep track of message stack.

Multiple mail box
on server.

No mail
box.

Domine Name Server:

DNS controls the domine name
Website and E-mail setting.

DNS is a hierarchically distributed
naming systems for computers, services or
any resources connected to the internet
or any private network.

DNS provides translation service
between the name and address space.

Eg: www.example.com translates
to the Address 93.184.216.119 (IPV4).

Web Server:

It is a program that acts like
a computer or virtual Machine (VM) that
host the web pages over the World
Wide Web.

Function :

1. To deliver the HTML document
to the client.
2. The HTML document may involves
text, audios, videos etc.

Features :

1. Virtual hosting.
2. Large File Supports.
3. Server Side Scripting (JSP)

Types of Server :

1. Apache Tomcat Server.
2. Microsoft IIS (Internet Information Service) Server.
3. IBM Lotus server.
4. SUN APP
5. X APP

Web Browser :

A Webbrowser is a S/W Application for retrieving, presenting & traversing information on the WWW.

The resource information is identified URI (Uniform Resource Identifier).

Eg :

Google Chrome, Mozilla Firefox, Mosaic, Internet Explorer, Opera, Android Browser, Safari, Next gap navigator

Dynamic HTML :

DHTML is the combination of HTML, java script and CSS (Cascading ^{style} sheet).

Cascading Style sheet :

The CSS describes how the document to be presented on screen, it formulates the HTML document content.

CSS provides Easy and effective alternatives to specify various attributes for the HTML tags.

Using CSS we can change the properties for a given HTML element.

Each property has a name & a value separated by colon.

Eg: Color: Red

Each property declaration is separated by semicolon.

Eg: CSS;

```

<!DOCTYPE html>
<html>
<head>
<title> HTML Tag </title>
</head>
<body>
<p><font color="green" size="5">
Hello World! </font>
</body>
</html>

```

It can be re-write as: (css)

```

<!DOCTYPE html>
<html>
<head>
<title> HTML CSS </title>
</head> <body>
<p style="color: green; font-size: 24px;">
Hello World! </p>
</body>
</html>

```

Types :

CSS can be used in the HTML document in following 3 ways

1. External Style Sheet
2. Internal Style Sheet
3. Inline Style Sheet.

External Style Sheet :

Define the style sheet rules in the separate .css file and then include that file in the HTML document using HTML link tag.

Eg :

class
red {

color : red; }

thick {

font-size : 20px; }

green {

color : green; }

Thickgreen {

color : green;

font-size : 20px; }

Save it as style.css

<!DOCTYPE html>

<html>

<head><title>HTML

external CSS</title>

<link rel = "style sheet" type =
"text/css"

href = "/html / style . CSS ">

```

<p class = "red" > This is red </p>
<p class = "thick" > This is thick </p>
<p class = "green" > This is Green </p>
<p class = "thick green" > This is Thick and green </p>
</body>
</html>

```

Internal Style Sheet:

It defines the style sheet rule in the header section of HTML document using style tag. <style>

Eg:

```

<!DOCTYPE html>
<html>
  <head> <title> HTML
    Internal CSS </title>
  <style type = "text/css">
    red {
      color: red; }
    thick {
      font-size: 20px; }
    green {
      color: green; }
  </style>

```

thickgreen {

color: green;

font-size: 20px; }

</style>

</head>

<body>

<p class="red"> This is red </p>

<p class="thick"> This is thick </p>

<p class="green"> This is green </p>

<p class="Thickgreen"> This is thick and
green </p>

</body>

</html>

Inline Style Sheet:

It defines style sheet rule directly along with the HTML element using style attribute.

Eg:

<!DOCTYPE html>

<html>

<head>

<title> HTML Inline CSS </title>

</head>

<body>

```
<P style="color: red;"> This is red </P>  
<P style="font-size: 20px;"> This is thick </P>  
<P style="color: green;"> This is green </P>  
<P style="color: green; font-size: 20px;">  
    this is thick and green </P>  
  
</body>  
</html>
```

Client Side programming:

Java script is a light weight interpreted programming language.

It is integrated with HTML.

It is open and platform independent.

Definition:

Java script is a dynamic computer programming language, It is light weight and most commonly used as a part of web pages.

It Allows client side script to interact with the user & next dynamic pages.

It is an interpreted programming language with object oriented capabilities.

Java script can be implemented using java script statements that are placed within script tag. `<script>`

Eg: `<script>`
 java script code
`</script>`

The `<script>` tag has 2 important attributes

1. language

2. Type

That can be ~~return~~ written as

`<Script language = "javaScript"`
`type = "text/javascript">`

code

`</script>`

Different ways of using the java script in HTML program:

1. Internal javascript (In head section).

2. Inline java script (In Body section).

3. External java script (External JS file & SRC in head section)

Internal java Script :

<html>

<head><title> Sum of 2 nos </title>

<script language = "javaScript" type = "text
javaScript">

function sum()

{

var a = 10;

var b = 20;

var c;

c = a + b;

document.write(c);

}

</script>

</head>

<body>

Simple a & b example

<input type = "button" value = "sum"
onclick = "sum()">

</body>

</html>

-	0	x
30		

Sum of 2 nos	-	0	x
Simple a & b eg			
Sum			

Inline java script :

```
<html>
```

```
<head><title>Sum of 2 nos</title>
```

```
</head>
```

```
<body>
```

```
<Script language = "java script" type =  
"text/javascript">
```

```
function sum()
```

```
{
```

```
var a = 10;
```

```
var b = 20;
```

```
var c;
```

```
c = a + b;
```

```
document.write(c);
```

```
}
```

```
</script>
```

simple a & b Ex

```
<input type = "button" value =
```

```
"Sum" onclick = "sum()">
```

```
</body>
```

```
</html>
```

External java script :

Save as sum.js

```
function sum()
```

```
{
```

```
    var a = 10;
```

```
    var b = 20;
```

```
    var c;
```

```
    c = a + b;
```

```
    document.write(c);
```

```
}
```

```
<html>
```

```
<head>
```

```
<title> sum of 2 nos </title>
```

```
<script language = "JavaScript" type =
```

```
    "text/javascript" src = "sum.js">
```

```
</script>
```

```
</head>
```

```
<body>
```

```
    Sum of a+b elements
```

```
<input type = "button" value = "sum"
```

```
    onclick = "sum()">
```

```
</body>
```

```
</html>
```

Data types :

1. Numbers

Eg: 1, 2, 3, 2.5 etc

Syntax :

Where Var variable name as number

2. String :

Eg: Text, Hello etc

Syntax :

Var varname as string

3. Boolean :

True or False

Variables:

Variables are declare with Var keyword.

We can declare & also initialize.

Eg:

Var Money as number.

Var Money as 100.

operators:

1. Arithmetic (+, -, *, /)
2. Logical (AND, OR, NOT)
3. Bitwise (&, |, ^, ~, <<, >>)
4. Comparison(=, >, <, >=, <=)
5. Conditional(?, :)
6. Assignment(=)

Java Script Statement:

1. Decision-Making statements

if, if-else, if-else-if, ^{also} switch

2.

Write a java script program to add two number get the input from the HTML page.

```
<html>
```

```
<head>
```

```
<title> Calc numbers </title>
```

```
<script language = "javascript" type = "text/
    javascript" src = "calc.js">
```

```
</script>
```

```
</head>
```

```
<body>
```

```
<body><form name = "f">
```

```
    enter first number = <input type = "
        number" name = "t1">
```

```
    enter second number = <input type =
        "number" name = "t2">
```

```
    <input type = "button" name = "b1"
        value = "add" onclick =
            "calc()">
```

```
</form>
```

```
</body>
```

```
</html>
```

Calc.js

function Calc

var a, b, c; number

a = document.f.t1.value;

b = document.f.t2.value;

var c;

c = a + b;

document.write(c);

}

Design a web page using HTML to get 3 nos. and find the greatest of those number using java script.

<html>

<head>

<title> Greatest of 3 nos </title>

<script language = "javascript" src =
type = "text/javascript" "Great.js">

</script>

</head>

<body>

<form name = "f">

enter first number = <input type =
"number" name = "t1">

enter second number = <input type =
"number" name = "t2">

```
    even third number: <input type = "number"
                                name = "t3" >
```

```
<input type = "Button" name = "b1" Value = "add"
                                onclick = "great();" >
```

```
</form>
```

```
</body>
```

```
</html>
```

```
Great.js
```

```
function great()
```

```
{
```

```
    var a, b, c as number;
```

```
    a = document . f . t1 . value();
```

```
    b = document . f . t2 . value();
```

```
    c = document . f . t3 . value();
```

```
    if ((a > b) && (a > c))
```

```
        document . write (a + " is greater");
```

```
    else if (b > c)
```

```
        document . write (b + " is greater");
```

```
    else
```

```
        document . write (c + " is greater");
```

```
}
```

Looping Statement :

While loop , do-while , for

Break Statement :

Continuous Statement :

Function :

A function is a group of reusable code which can be called anywhere in the program.

Syntax :

```
Function Function name (parameters)
```

```
{
```

```
}
```

Event :

Java script interaction with HTML is handled through events that occurs when the user or the browser manipulates the page.

Eg: Events/ onclick , onsubmit ,
onmouseover , onmouseout etc .

Objects :

Objects are also variables,
Objects can contain many
values with property name.

Var Car = {type: "Fiat", model: "500",
color: "white"};

Accessing a object:

Objectname . propertyname ex: car.type

or

Object name ["propertyname"] ex:
car[type]

Array:

An Array is a special variable
which can hold more than one value
at a time.

Syntax:

Var arrayname = [item1, item2, ..., itemN];

or

Var arrayname = new Array ("item1", "item2",
"item3");

Eg:

Var Car = [Alto, Aadi, Maruthi]

Build in Object java script :

1. Date : `var myDate = new Date();`
2. Array : `var arr = new Array(3);`
3. Boolean : `var myval = new Boolean();`
4. Math : Math functions

`Math.E`

`Math.PI`

`Math.SQRT2`, etc.

Java Script Debuggers :

Searching for errors in programming code is called code debugging.

Debugging is not easy but fortunately all modern browsers have a build in Debugger.

F12 key is active debugging.

The `console.log()` to display the java script errors.

By the use of debugger key we can stop the execution of java script.

Regular Expression :

It is the sequence of characters that forms a search pattern, it can be used to perform all type of text search & text replace operation.

Syntax:

/pattern/modifiers;

Ex:

Var pat = /w3 schools/i;

/w3schools/i - is a regular expression

w3school is a pattern (used for search)

i is a modifier (case-insensitive)

They are two methods:

1. Search()

2. Replace()

HTML & Java script with prompt & alert

<html>

<head> <title> First & Last Name </title>

</head>

<body>

<script>

Var fn, ln

fn = prompt ("Enter your First Name:");

ln = prompt ("Enter your second Name:");

alert ("your Full Name is : " + fn + " " + ln);

</script>

</body>

</html>

Write a JS prog to find the area of circle
get the i/p radius using prompt & display
the o/p using alert)

```
<html>
<head><title>Area of circle</title>
</head>
<body>
  <script>
    var r, A
    r = prompt('Enter value of r:');
    A = 3.14 * r * r;
    alert('The Area of circle is ' + A);
  </script>
</body>
</html>
```

Write a java script to print 500 times I
will not throw paper.

```
<html>
<head>
<title> Simple </title>
</head>
<body>
<script language = "java script" type =
"text / javascript" src =
"simple.js">
</script>
</head>
<body> <form name = "b1">
Enter the sentence < input type = "text",
name = "t1" >
</form>
</body>
</html>
Simple.js
```

```
function simple()
```

```
{
```

```
var n as text text number
```

```
n = document.f1.t1.value();
```

for (i=1; i⁵⁰⁰ ≤ n; i++)

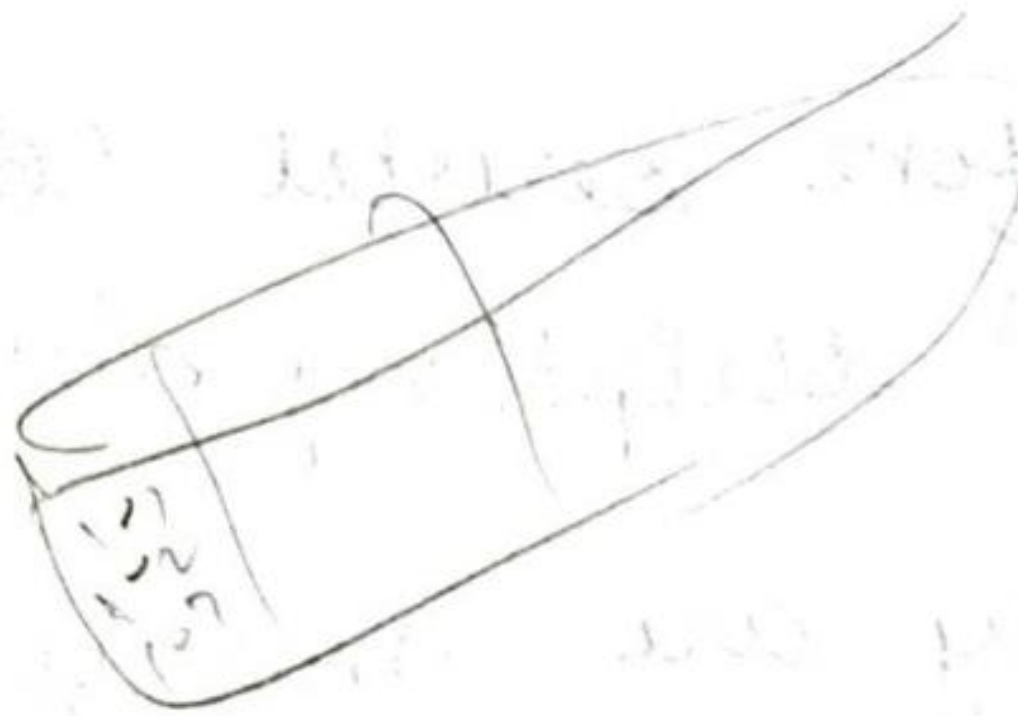
{

document.write(n)

}

}

1



10¹
10⁰
10⁰

10³

10¹

15

15

45

15

15

15