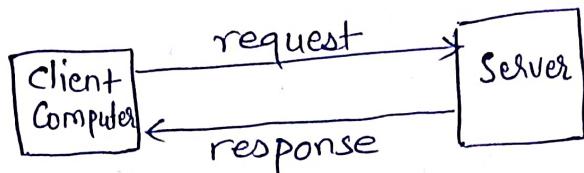


Date : 02/05/23

Web Technology-

Client : The desktop computer requesting for information is termed as client.

Server : The computer serving information from a central location is termed as server.



Role of Server

- web page management
- Accept the client request for information
- Respond to the client for required information.

How web servers respond to client's request?

→ Using some software

Internet Information Server

Apache Web Server

Net Scope Server

client

To access the information stored in the form of web pages, user must connect to the web server. Once make a connection, an interface that display the content of web pages.

- Web client run special softwares i.e. called browser that allows to
 - Connect an appropriate server
 - query the server for the information to be read.
 - Provide an interface to read the information returned from server.

`http:// www.google.com / portno / index.html`

Establish the Connection

For exchanging the information , it required to establish the TCP / IP connection.

How

Establish connection b/w Computer & google servers

IPV4 network setting

How to set IP address , DNS , gateway ?

HTML

Block level elements are used to define the groups of text for specific role.

i) Paragraph <P> --- | </P>

ii) Heading <H1> --- | </H1>

 <H2> --- | </H2>

:

 <H6> --- | </H6>

Lab

Create an HTML page

Find Largest & smallest font size as per browser.

Text level elements are for markup bit of text , including creating link , inserting things like image /sound , and changing the appearance of text .

Date : 03/05/23

Text level elements are

Bold : text

Italic : <i> text </i>

Line break :

Link anchor :

Image :

Establish the Connection

For exchanging the information , it required to establish the TCP / IP connection.

HW

Establish connection b/w Computer & google server

IPV4 network setting

How to set IP address , DNS , gateway ?

HTML

Block level elements are used to define the groups of text for specific role.

- i) Paragraph <P> —— </P>
- ii) Heading <H1> —— </H1>
 <H2> —— </H2>
 |
 <H6> —— </H6>

Lab

create an HTML page

Find Largest & smallest font size as per browser .

Text level elements are for markup bit of text , including creating link , inserting things like image /sound , and changing the appearance of text .

Date: 03/05/23

Text level elements are

Bold : text

Italic : <i> text </i>

Line break :

Link anchor : —

Image :

Comments

<!-- -->

<pre> --text-- </pre>
↳ predefined format
uses formatting (spacing, tabs, brs etc.)

<p> DUCS, University of Delhi </p>

For space:

$x^2 + y^2 = 2z$

<p> $x^{²} + y^{²} = 2z$ </p>

$x_i = f(x) + 2x^2$

<p> $x_{_i} = f(x) + 2x^{²}$ </p>

Paragraphs & Line break

Diff. b/w Paragraph & pretext formatting tag

Lists • Ordered

• Unordered

• Definition list → is the ideal way to present a glossary list of items.

<dl> → defines the list

<dt> → a term

<dd> → term definition

Date: 09/05/23
URL & Hyperlink

combination of protocol, domain & path

https://www.google.com/...
↓ ↓ ↓
protocol domain path

Hyperlink → A hypertext is a special tag that links one page to another page.

Anchor → It is a reference point, or address that will access by a link.

text

→ It represents the local link

↓
LAB - Create an HTML document for local link reference.

• Internal link vs External link

↓
Point within your specific website or domain

ex -
Department

↓
Point from one domain to an entirely separate domain or another website

ex - www.google.com

- Image - Visual representation of the external form of a person or thing.

 text

• Foreign images

Images from the external source.

Benefit: Storage

Fast loading of webpage.

• Tables

<table> --- </table>

<tr> --- </tr> → create table row

<th> --- </th> → create a table heading

<td> --- </td> → create a table cell

<caption> --- </caption> → table name / definition

Cell padding & Cell Spacing (attributes of table)

Colspan & rowspan of table

| | | |
|---|---|---|
| | A | B |
| C | D | E |
| F | G | H |
| I | J | |

↓
rowspan

<table>
 <tr>
 <td>A</td>
 <td>B</td>
 </tr>
 <tr>
 <td>C</td>
 <td>D</td>
 <td>E</td>
 </tr>
 <tr>
 <td>F</td>
 <td>G</td>
 <td>H</td>
 </tr>
 <tr>
 <td>I</td>
 <td>J</td>
 </tr>

```

# <table>
<tr>
  <td> A </td>
  <td> B </td>
  <td> C </td>
  <td> D </td>
  <td> E </td> </tr>

```

| | | | | |
|---|---|---|---|---|
| A | B | C | D | E |
| F | G | | | I |
| J | K | H | | L |
| M | N | | | O |
| P | Q | R | S | T |

```

<tr>
  <td> F </td>
  <td> G </td>
  <td colspan="2" rowspan="3" style="text-align: center;">H
  <td> I </td> </tr>

```

```

<tr>
  <td> J </td>
  <td> K </td>
  <td> L </td> </tr>

```

```

<tr>
  <td> M </td>
  <td> N </td>
  <td> O </td> </tr>

```

```

<tr>
  <td> P </td>
  <td> Q </td>
  <td> R </td>
  <td> S </td>
  <td> T </td> </tr>

```

```

</table>

```

<table>

$\langle \tau \rangle$

$\langle +d \rangle A \langle 1+d \rangle$

$\langle +d \rangle_B < |+d\rangle$

$$\langle t_d \rangle \subset \langle 1+t_d \rangle$$

$$\langle td \rangle > \langle 1+ d \rangle$$

`<td>ows span = "2">E <1+1><1+1>`

| A | B | C | D | E |
|---|---|---|---|---|
| F | G | | | L |
| J | K | H | | N |
| O | P | Q | | R |

$\langle +r \rangle$

$\langle +d \rangle_F < |+d\rangle$

$\langle \text{fd} \rangle \cap \langle 1\text{fd} \rangle$

```
<td rowspan="3" colspan="2">H</td></tr>
```

$\langle \tau \tau \rangle$

```
<td rowspan = "2" > ] </td >
```

$$\langle \text{td} \rangle \propto \langle 1/\text{td} \rangle$$

$$\langle td \rangle \leq \langle 1+ d \rangle < \langle 1+r \rangle$$

<tr>

$\langle t_d \rangle_N > \langle l_{td} \rangle$

$\langle \text{td} \rangle \text{N} \langle \text{td} \rangle \langle \text{tr} \rangle$

$\langle tr \rangle$

$$\langle +d \rangle_0 < |+d\rangle$$

<td colspan = "2" > P </td>

$\langle \text{td} \rangle Q \langle \text{1td} \rangle$

$$\langle td \rangle \propto \langle 1+d \rangle \propto \langle 1/\tau \rangle$$

Date: 10/05/23

How to create frames?

<frameset rows = "10%, 70%, 20%">

< frame size = "path for frame 1" >

<frame size = "Path for frame 2">

<frame size = " Path for frame 3">

</frameset>

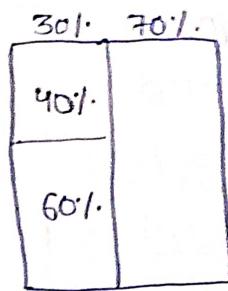
Attributes of frameset

Cds | rows , frameorder , frameSpacing

```

# <frameset cols = "30%, 70%">
  <frameset cols = "40%, 60%">
    <frame size = "path for frame1">
    <frame size = "path for frame2">
    <frame size = "path for frame3">
</frameset>
</frameset>

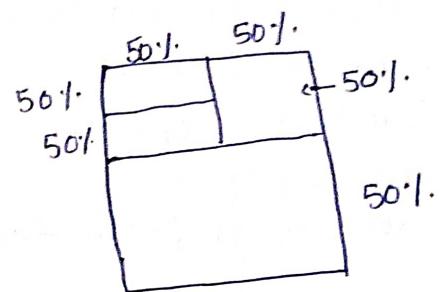
```



```

# <frameset cols = "50%, 50%">
  <frameset cols = "50%, 50%">
    <frameset rows = "50%, 50%">
      <frame src = "path">
      <frame src = "path"> </frameset>
      <frame src = "path"> </frameset>
      <frame src = "path">
    </frameset>
    <del><frameset></frameset></del>
    <del><frameset></frameset></del>

```



`<iframes>` consists of internal frames that will contain the `src` attribute to include the frame that is internal to a particular region.

`<iframe height = "", width = "", src = "path"> Name </if`

Attributes

Align , frameborder = 1/0 , marginheight , marginwidth ,
 Name , scrolling , Noresize , src
 >, right
 ft, bottom

Date : 22/05/23

JavaScript - It is an interpreted language having features like object based, scripting, Polymorphism, inheritance etc.

- Easy to learn
- Embedded within HTML
- Minimal Syntax
- Quick development
- Easy debugging
- Platform independent



• JS script embedded within b/w `<script>` --- `</script>`
These tags are embedded within `<head>` --- `</head>` or
`<body>` --- `</body>`.

Variables in JS

`var`, `let`, `const`

```
Var myVar = 50;  
----- = "Delhi";  
----- = "20.5";
```

Incorporating Variables in JS

```
<script language = "JavaScript">  
    document.write <H2> Hello </H2>
```

+ name + Smthng

```
</script>
```

```
Console.log("Hello")  
      ↑      ↑      ↑  
Object  method  parameter
```

User defined objects

```
Var Student = { name: "ABC", Roll: 123, Course: "MCA",
    Sem: "II" }
```

Student.name

Arrays in JS (System defined object)

```
Array-name = new Array( Array length );
myArray = [1, 2, 3, True, "Delhi", undefined] ← dynamic
                                                    ↳ It is a list
```

Console.log (myArray[4]) → Delhi

How to insert an element in array?

myArray.push("MCA");

Date : 29/05/23

Javascript

```
myArray = newArray(50);
console.log ( myArray[0] ) → undefined
```

→ In array, its elements can be manipulated.

i) join() → Returns all the elements of the array joined together as a single string. Join uses a comma space as a separator.

friends.join();

O/P: Ram, Rahim, Gurnet, Amant, Amar

ii) Reverse array in JS

friends.reverse();

iii) sort the array

friends.sort();

array in JS

JS does not place any restriction on values defined / assigned to the elements of an array. These values could be different type or could be refer to the array or object.

Ex - `multiArray = new Array("Hi", "Hello", 1, 2, True, False, null, new Array(3,4)) ;`

2D Array

representation of matrix

why matrix come in picture?

In real life problem are in form of linear eqns.

```
JSMARKS = [ ["RAM", 70, 30, "O"],  
            [ "RAHIM", 60, 35, "A+" ],  
            [ "ANAN", 40, 40, "B" ],  
            [ "Gurmeet", 50, 40, "B+" ],  
            [ "Amar", 70, 28, "A+" ]];  
  
console.log (JSMARKS)
```

Insert a new student entry in 2D Array.

```
JSMARKS.push([ "ABC", 30, 20, "D" ]);
```

→ unshift()

```
JSMARKS.unshift([ "ABC", 30, 20, "D" ]);
```

b) Insert the data in first row of matrix

ASSIGNMENT

How to insert the student details at given location

like row no K.

Splice() method

```
array.splice(start-position, 0, new-element);
```

Operators in JS

$$17/.8 = 2$$

$$17/3 = 5.66$$

$$x = 6$$

$$x++; 6$$

$$--x; 6$$

$$x; 6$$

$$++x; 7$$

$$x--; 7$$

$$x++; 6$$

$= = \leftarrow$ Data type of values should be same

$a = 5, b = "5"$

$a == b \rightarrow \text{True}$

$a === b \rightarrow \text{False}$

$$\text{Var A} = 10 + 20 + 30 = 60$$

$$\text{Var B} = "10" + "20" + "30" = 102030$$

$$\text{Var C} = "10" + "20" + 30 + 40 + 50 = 1020304050$$

$$\text{Var D} = 10 + 20 + 30 + "40" + "50"; = 604050$$

Date : 05/06/23

JavaScript events

Events: An event occurs when something happens in a browser window. The kinds of events that might occur are due to

- A document loading
- clicking a mouse button
- Browser changing the screen size

JS has important event handlers

| Event | event handler | occurs when |
|---------------|---------------|---|
| i) Blur | onblur | A form element loses the focus |
| ii) Focus | onfocus | window, frame receives focus or from element receives input focus |
| iii) Select | onselect | The user selects a part of text within the text area |
| iv) click | onclick | An object on the form changes when click the object |
| v) change | onchange | |
| vi) Mouseover | onmouseover | |
| vii) load | onload | |
| viii) submit | onsubmit | |

Blur event : When the blur event occurs, the input field gets the focus. A function is triggered which changes the background color.

```
<html>
  <body>
    Enter name : <input type="text" id="fname"
      value="" onblur="MyFun(this)">
    <script>
      function MyFun(x)
      {
        x.style.background = "yellow";
      }
    </script>
  </body>
</html>
```

Select event :

```
<html>
  <body>
    Select some text :
    <input type="text" value="Hello" onSelect="fun()"/>
    <script>
      function fun()
      {
        alert("you selected some text");
      }
    </script>
  </body>
</html>
```

Click event: It occurs when a button, checkbox, radio button, reset or submit type ^{form} object is clicked. This event controlled by the onclick event handler.

```
<html>
<head>
    <title> HTML Forms </title>
<script>
    function getcube(num):
    {
        var d = num * num * num;
        console.log(d);
    }
</script>
<head>
<body>
    <input type="button" value="cube" onclick="getcube(u)">
</body>
</html>
```

change event: occurs when a select text or text area type field loses the focus and content is changed.

```
<html>
<body>
    Enter your name: <input type="text" name="fnam" value="Hello" onchange="myFun(this)">
<script>
    function myFun(v)
    {
        alert("Value has changed. New value is: " + v);
    }
</script>
</body>
</html>
```

Mouseover event : Belongs to the link object . Whenever mouse cursor passes over the link the onmouse event handler is activated if it was specified.

```
<html>
  <body>
    <img onmouseover = "bigImg(this)" onmouseout = "normalImg(this)"
         border = "0" src = "smile.jpg" alt = "smile" width = 30px
         height = 20px>
    <p onmouseover = function3(this) > text --- </p>
  <script>
    function bigImg(x)
    {
      x.style.height = 40px;
      x.style.width = 40px;
    }
    function normalImg(x)
    {
      x.style.height = 30px;
      x.style.width = 30px;
    }
    function function3(x)
    {
      x.style.color = "black";
      x.style.fontSize = "10";
    }
  </script>
  </body>
</html>
```

Load event :

```
<script>
  function fun()
  {
    alert ("Page loaded");
  }
</script>
</head>
<body onload = "fun()">
  <p> --- </p>
</body>
</html>
```

Diff b/w break & continue

*
* * print
* * *
* * *

exam for-in loop in JS

field1 [] field2 [] field3 []
[Sum] [multiply]

Result : []

<body>
<form name="calculus">
field1: <input type="text" name="field1" value="" size=10 maxlength=10>
field2: <----- name="field2" ----->
field3: <----- name="field3" ----->
<input type="button" value="sum" onclick="sum()">
<input type="button" value="multiply" onclick="mult()">
Result: <input type="text" name="field4" size=10>

</body>

<html>
<head>
<script>
function sum ()
{
 a = eval (document.calculus.field1.value)
 b = eval (----- .field2.value)
 c = eval (----- .field3.value)
 let d = a+b+c;
 document.calculus.field4.value = d;
}

</script>

</head>