WEEK -16	Lab Exercise Programs	DATE:

Java Script Programs on Using Functions

88. Write a JavaScript program to swap two numbers.
89. Write a JavaScript program to find power of given number.
90. Write a JavaScript program to find factorial of a given number.
91. Write a JavaScript program to calculate area of rectangle using function.
92. Write a JavaScript program to accept and print single dimensional array elements.
93. Write a JavaScript program to accept and print double dimensional array elements.
94. Write java script program to find addition of two matrices.
95. Write a JavaScript program to find multiplication of two matrices.

Assessment:

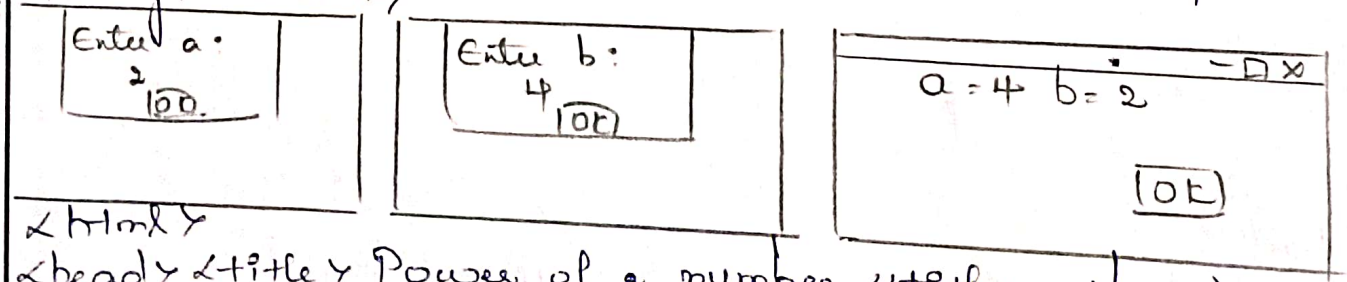
a) **Write a JavaScript program to arrange elements in sorting order.**
b) **Write a JavaScript program to find largest and smallest elements from given list of elements**

LAB FACULTY SIGN:

CLASS FACULTY SIGN:

88)
```
<html>
<head>
<title> Swap two numbers </title>
<script>
  function swap()
  { let a = parseInt(prompt("enter a:"));
    let b = parseInt(prompt("enter b:"));
    let temp; temp = a; a=b; b=temp;
    alert("a=" +a+ "b=" +b); }
</script>
</head> </body>
<input type="button" value="swap" onclick="swap()">
</body> </html>
```

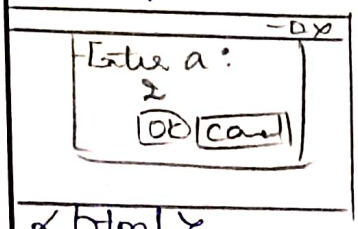
O/P:

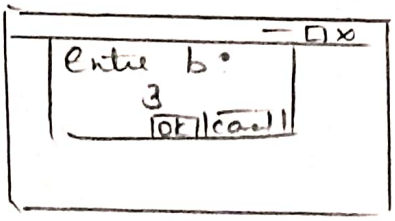


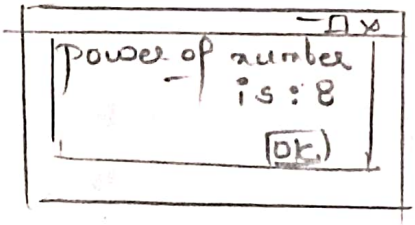
89)
```
<html>
<head> <title> Power of a number </title> </head>
<body>
<script>
  function power()
  { let a = parseInt(prompt("enter a:"));
    let b = parseInt(prompt("enter b:"));
    let result = 1;
```

```
for (i=0; i<b; i++)
{ result = result * a;
}
alert ("power of a number is : " + result);
}</script>
<input type = "button" value = "power" onclick = "power()">
</body>
</html>
```

O/p:



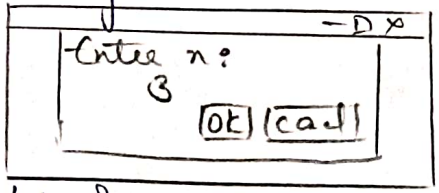


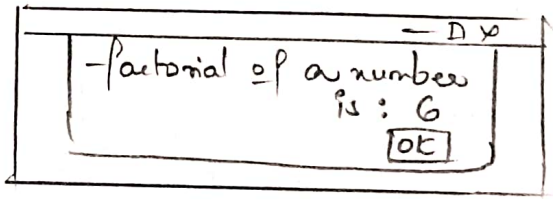


90)

```
<html>
<head>
<title> Factorial of n </title>
</head>
<body>
<script>
  function factorial ()
  { let n = parseInt(prompt("Enter n:"));
    let fact = 1;
    for(i=1 ; i<=n; i++)
    { fact *= i; }
    alert("factorial of a number is : "+fact); }
</script>
<input type = "button" value = "factorial" onclick = "factorial()">
</body> </html>
```

O/p:



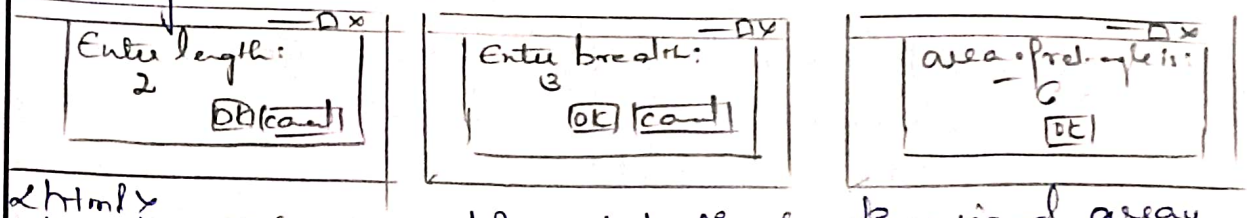


91)

```
<html>
<head>
<title> Area of a rectangle </title> </head>
<body>
<script>
  function area ()
  { let l = parseInt(prompt ("Enter length :"));
    let b = parseInt(prompt ("Enter breadth:"));
    let result = l * b;
```

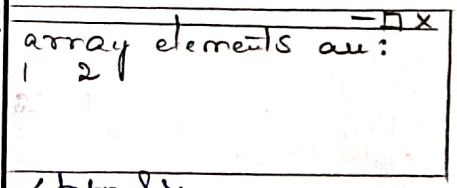
alert("area of a rectangle is :" +result); }
</script>
<input type="button" value="area" onclick="area()">
</body></html>

O/P:



92)
<html>
<head><title> accept & print single dimensional array
</title></head>
<body>
<script>
function array()
{ let n = parseInt(prompt("enter n:"));
let arr[];
for(i=0; i<n; i++)
{arr[i] = parseInt(prompt("Enter an element:"));}
document.write("array elements are:");
for(i=0; i<n; i++)
{ document.write(arr[i] +" "); } }
</script>
<input type="button" value="array" onclick="array()">
</body>
</html>

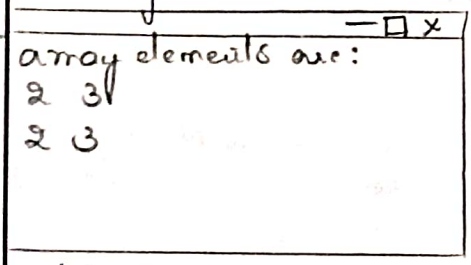
O/P:



93)
<html>
<head><title> accept & print double dimensional array</title>
</head>
<body>
<script>
function array():
{ let n = parseInt(prompt("enter n:"));
let m = parseInt(prompt("enter m:"));
let arr = [];
for(i=0; i<n; i++)
{

```
        are[i] = [];
        for(j=0; j<m; j++)
      { are[i][j] = parseInt(prompt("Enter an element:"));
      }}
      document.write("array elements are:"+"<br>");
      for(i=0; i<n; j++)
      { for(j=0; j<m; j++)
      { document.write(are[i][j]+" ");
      } document.write("<br>"); }}
</script>
<input type="button" value="array" onclick="array()">
</body></html>
```

O/P:



9th)

```
<html>
<head><title>Addition of two matrices accepting values from user</title>
</head><body>
<script>
function addition()
{ let a=[]; let b=[]; let c=[];
  let row=parseInt(prompt("enter row:"));
  let col=parseInt(prompt("enter col:"));
  for(i=0;i<row;i++)
  { a[i]=[]; b[i]=[]; c[i]=[];
  for(j=0; j<col;j++)
  {
  a[i][j]=parseInt(prompt("enter a["+i+"]["+j+"]:"));
  b[i][j]=parseInt(prompt("enter b["+i+"]["+j+"]:"));
  c[i][j]=a[i][j]+b[i][j]; }}
document.write("addition of two matrices is:"+"<br>");
for(i=0; i<row; i++)
{ for(j=0; j<col; j++) {
```

```
            document.write(a[i][j]+" "); }
        document.write("<br>"); }}
    </script>
    <input type="button" value="addition" onclick="addition()">
</body></html>
```

O/P:

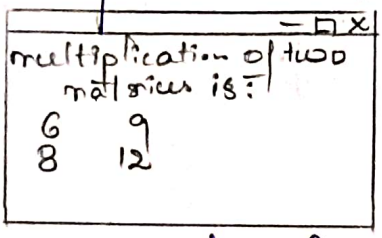
addition of two matrices:
3 5
3 5

9)

```
<html>
<head><title>Multiplication of matrices by accepting values
                from user</title></head>
<body>
  <script>
   function product()
   { let a=[]; let b=[]; let c=[];
    let row1=parseInt(prompt("enter row1:"));
    let col1=parseInt(prompt("enter col1:"));
    let row2=parseInt(prompt("enter row2:"));
    let col2=parseInt(prompt("enter col2:"));
    if(col1!=row2)
    { alert("multiplication is not possible"); }
    else
    { for(i=0;i<row1;i++)
      { a[i]=[];
       for(j=0;j<col1;j++)
       { a[i][j]=parseInt(prompt("enter a["+i+"]["+j+"]:"));
       }}
      for(i=0;i<row2;i++)
      { b[i]=[]; for(j=0;j<col2;j++) {
      b[i][j]=parseInt(prompt("enter b["+i+"]["+j+"]:"));
      }}
      for(i=0;i<row1;i++)
      {
       c[i]=[];
       for(j=0;j<col2;j++)
       {
        c[i][j]=0;
        for(k=0;k<col1;k++)
        { c[i][j]+=a[i][k]*b[k][j]; }}}
```

```
document.write("multiplication of two matrices
        is : "+"<br>");
for(i=0; i<row1; i++)
{ for(j=0; j<col2; j++)
  { document.write(c[i][j]+" "); }
 document.write("<br>"); } } }
</script>
<input type="button" value="multiplication" onclick=
                                    "product()">
</body></html>
```

Op:

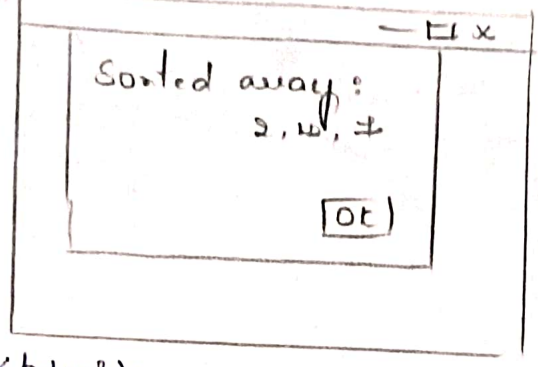


Assessment — A

→

```
<html>
<head>
<title> arrange elements in sorting order </title>
</head>
<body>
<script>
  function sort()
  { let n = parseInt(prompt("enter n:"));
    let arr = [];
   for(i=0; i<n; i++)
  { arr[i] = parseInt(prompt("enter an element :")); }
  for(let i=0; i<n; i++) {
    for(let j=0; j<n-i-1; j++) {
      if(arr[j] > arr[j+1]) {
        let temp = arr[j];
        arr[j] = arr[j+1];
        arr[j+1] = temp; } } }
      alert("sorted array :"+arr); }
  </script>
 <input type="button" value="sort" onclick="sort()">
</body>
</html>
```

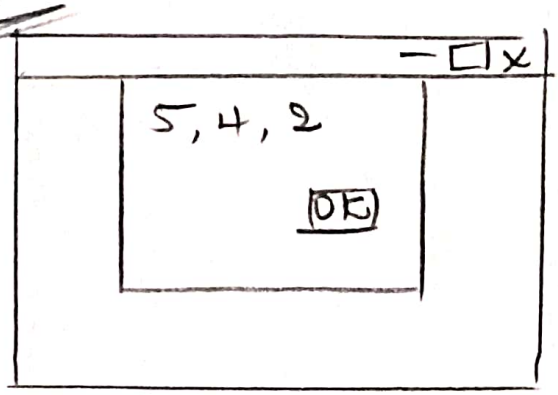
O/P:

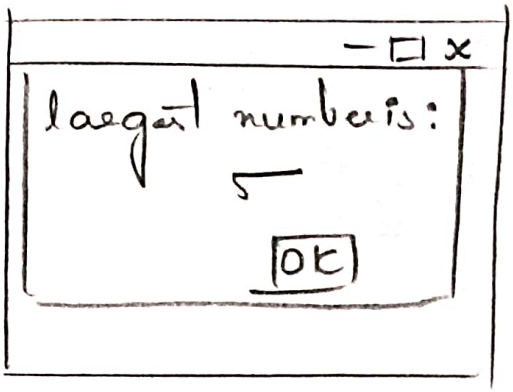


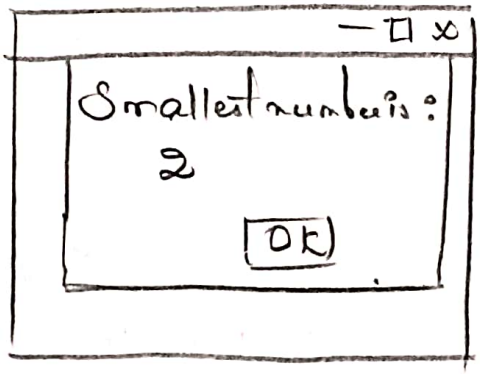
B)

```
<html>
<head>
<title>
   find largest and smallest number from given list of elements </title>
</head>
<body>
<script>
    function largest()
    { let n = parseInt(prompt("enter n:"));
      let arr=[];
      for(i=0; i<n ;i++)
      { arr[i] = parseInt(prompt("enter an element:"));}
      alert(arr);
      let max = arr[0];
      let min = arr[0];
      for(i=0; i<n; i++)
      { if (arr[i]>max)
         { max = arr[i]; }
         if (arr[i]<min)
         { min = arr[i]; } }
      alert("largest number is :"+max);
      alert("Smallest number is :"+min);
    }
    </script>
<input type="button" value="Small and biggest"
                onclick="largest()">
</body> </html>.
```

O/P :







WEEK -17 Lab Exercise Programs	DATE:
Java Script Programs on Arrays 96. Write a JavaScript program to find length of the string and reverse of the string. 97. Write a JavaScript program to perform various math objects operations. 98. Write a JavaScript program to perform string object operations. 99. Write a JavaScript program using JavaScript built in objects. 100. Write a JavaScript program on Document objects. **Assessment:** **a) Write a JavaScript program to print date and time.** **b) Write a JavaScript program to print calendar.** **c) Write a JavaScript program to print clock.**	LAB FACULTY SIGN: CLASS FACULTY SIGN:

Assessment

a)

```
<html>
<head>
<title> Javascipt program to print date & time </title>
<body>
<script>
    var date = new Date();
    var day = date.getDate();
    var month = date.getMonth() + 1;
    var year = date.getFullYear();
    var Hours = date.getHours();
    var minutes = date.getMinutes();
    var seconds = date.getseconds();
    document.write("current date is: " + day + "/" + month +
                   "/" + year + "<br>");
    document.write("current time is: " + hours + ":" + minutes +
                   ":" + seconds);
</script>
</body></html>
```

o/p:

```
current date is : 20/2/2024
current time is : 20:33:1
```

b)

```
<html>
<head>
<title> is program to print calendar </title></head>
<body>
<script>
    var date = new Date();
    var day = date.getDate();
    var month = date.get month() + 1;
```

```
var year = date.getFullYear();
var firstDay = new Date(year, month, 1);
var startingDay = firstDay.getDay();
var monthLength = new Date(year, month, 0).
                                getDate();
var monthNames = ["January","February","March",
  "April","May","June","July","August",
    "September","October","November","December"];
var dayNames = ["Sunday","Monday","Tuesday",
    "Wednesday","Thursday","Friday","Saturday"];
document.write("<table border='1'>");
document.write("<tr><th colspan='7'>" +
        monthNames[month-1] + " " + year +
        "</th></tr>");
document.write("<tr>");
for(var i=0; i<dayNames.length; i++){
  document.write("<td>" + dayNames[i] + "</td>");}
document.write("</tr>");
var day = 1;
for(var i=0; i<9; i++) {
  document.write("<tr>");
  for(var j=0; j<dayNames.length; j++) {
    if(i==0 && j<startingDay) {
      document.write("<td></td>");
    } else if(day > monthLength) {
      break;}
    else {
      document.write("<td>" + day + "</td>");
      day++;}}
  document.write("</tr>");}
document.write("</table>");
</script>
</body>
</html>
```

o/p:

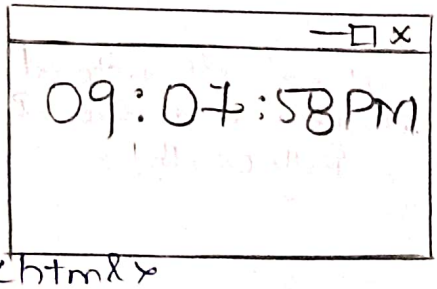
February 2025

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

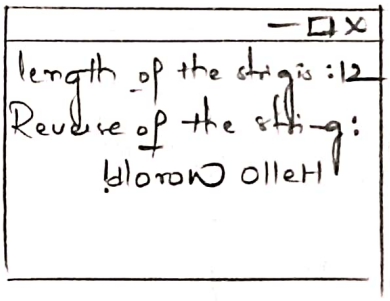
c)

```
<html>
<head>
<title> js program to print clock </title>
</head>
<body>
<div id = "clock" style = "font-size: 200px; text-align: center;
    margin-top: 20px; "> </div>
<script>
  function clock() {
    var date = new Date();
    var hours = date.getHours();
    var minutes = date.getMinutes();
    var seconds = date.getSeconds();
    var session = "AM";
    if (hours == 0) {
      hours = 12; }
    if (hours > 12) {
      hours = hours - 12;
      session = "PM"; }
  hours = (hours < 10) ? "0" + hours : hours;
  minutes = (minutes < 10) ? "0" + minutes : minutes;
  seconds = (seconds < 10) ? "0" + seconds : seconds;
  var time = hours + ":" + minutes + ":" + seconds + " "
                                    + session;
  document.getElementById("clock").innerText = time;
  document.getElementById("clock").textContent = time;
  setTimeout(clock, 1000); }
clock(); </script> </body> </html>
```

o/p:



96)
```
<html>
<head>
<title> Find length and reverse a string using Array</title>
</head>
<body>
<script type="text/javascript">
    var str = "Hello world!";
    var len = str.length;
    var arr = str.split(" ");
    var rev = arr.reverse();
    var revstr = rev.join(" ");
    document.write("Length of the string is: "+len+
                   "<br>");
    document.write("Reverse of the string is: "+revstr);
</script>
</body>
</html>
```



97)
```
<html>
<head><title> program for various math objects operations
</title></head>
<body>
  <script>
    var x = 10;
    var y = 20;
    var z = 30;
    var a = Math.max(x, y, z);
    var b = Math.min(x, y, z);
    var c = Math.sqrt(x);
    var pow = Math.pow(x,2);
    var d = Math.abs(y);
    var e = Math.random();
    var f = Math.round(5.5);
    var g = Math.ceil(5.1);
    var h = Math.floor(5.9); var exp = Math.exp(3);
```

```
var log = Math.log(2);
document.write("Maximum of x,y,z is:" +a+ "<br>");
document.write("Minimum of x,y,z is:" +b+ "<br>");
document.write("Sqruare root of x is:" +c+ "<br>");
document.write("power of a is:" +pow+ "<br>");
document.write("Absolute value of y is:" +d+ "<br>");
document.write("Random number between
        0 and 1 is:" +e+ "<br>");
document.write("Exponential of 2 is:" +exp+
        "<br>");
document.write("Logarithm of 2 is:" +log+
        "<br>");
document.write("Round of 5.5 is:" +f+ "<br>");
document.write("ceil of 5.1 is:" +g+ "<br>");
document.write("floor of 5.9 is:" +h+ "<br>");
</script></body></html>
```

output:

```
Maximum of x,y,z is:30
Minimum of x,y,z is:10
Sqruare root of x is: 3.1622776601
Power of a is:100
Absolute value of y is:20
Random number between 0 and 1 is: 0.626848
Exponential of 2 is: 7.389056
Logarithm of 2 is: 0.693147
Round of 5.5 is: 6
ceil of 5.1 is: 6
Floor of 5.9 is: 5
```

98)

```
<html>
<head>
<title> program to perform string object operations
</title></head>
<body>
<script>
    var str = "Hello world!";
    var len = str.length;
```

```
var upper = str.toUpperCase();
var lower = str.toLowerCase();
var sub = str.substring(6,11);
var subl = str.substr(6,5);
var pos = str.indexOf("World");
var posl = str.lastIndexOf("World");
var rep = str.replace("World","Universe");
var search = str.search("World");
var code = str.charCodeAt(0);
var conCal = str.concat("Welcome!");
document.write("concatenation of the string is:"
    +conCal+"<br>");
document.write("character code of the string is:"
    +code+"<br>");
document.write("sliced string is:"+str.slice(6,11)+"<br>");
document.write("search of the word 'World' is:
    +search+"<br>");
document.write("Length of the string is:"+len+
    "<br>");
document.write("Uppercase of the string is:"+upper+
    "<br>");
document.write("Lowercase of the string is:"+lower+
    "<br>");
document.write("Substring of the string is:"+sub+
    "<br>");
document.write("subslring of the string is:"+subl+
    "<br>");
document.write("position of the word 'World'
    is:"+pos+"<br>");
document.write("Last position of the world
    'World' is:"+posl+"<br>");
document.write("Replaced string is:"
    +rep+"<br>");
```

</script>
</body>
</html>

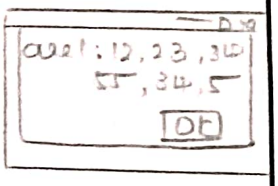
Output:

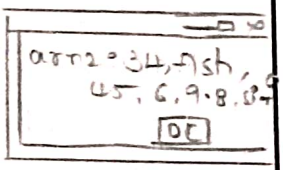
```
Concatenation of the string is : Hello World! welcome!
Character code of the string is : 72
Sliced string is : World
Search of the word 'World' is : 6
Length of the string is : 12
Uppercase of the string is : HELLO WORLD!
Lowercase of the string is : hello world!
Substring of the string is : World
Substring of the string is : World
Position of the word 'World' is : 6
Last Position of the word 'World' is : 6
Replaced string is : Hello Universe!
```

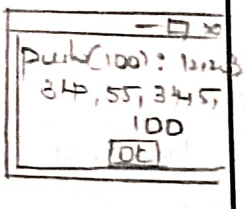
99)

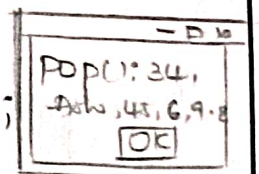
```
<html>
<head>
<title> program using javascript built away in objects
</title> </head>
<body>
<script>
    let arr = [12, 23, 34, 55, 34, 5];
    let arr2 = [34, 'Ashu', 45.6, 9.8, 'Sini'];
    alert("arr1 : " + arr);
    alert("arr2 : " + arr2); arr.push(100);
    alert("push(100) :" + arr); arr2.pop();
    alert("pop() : " + arr2); arr.shift();
    alert("shift() : " + arr); arr.unshift("Sini");
    alert("Unshift() : " + arr);
    alert("concat(arr2) : " + arr.concat(arr2));
    alert("join('@') : " + arr.join('@'));
    alert("sliced (2,5) : " + arr2.slice(2,5));
    arr.reverse(); alert("reverse. : " + arr);
</script>
</body> </html>
```

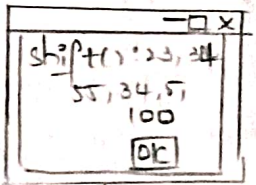
O/p:

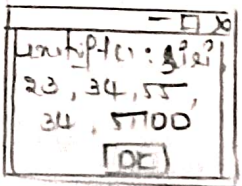


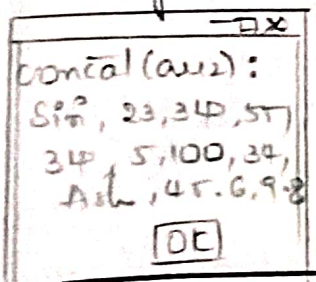


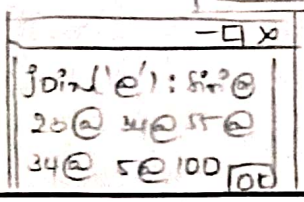


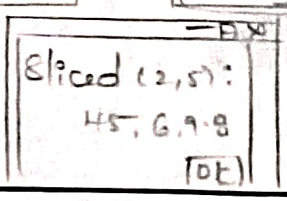


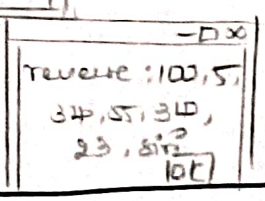












100)
```
<html>
<head>
<title> Document object Methods Demo </title> </head>
<body>
<h1 name = "heading"> Original Heading </h1>
<div id = "main"> Original Div </div>
<p> First paragraph </p> <p> Second paragraph </p>
<script>
    document.writeln ("Document Title : "+document.title
                                        + "<br>");
    document.write ("current URL : "+document.URL+"<br>");
    let mainDiv = document.getElementById("main");
    mainDiv.innerHTML = "changed using getElementById";
    let headings = document.getElementsByName("heading");
    alert(headings.length);
    for (let i=0; i< headings.length; i++) {
        headings[i].innerHTML = "changed using getElementsByName";}
    let paragraphs = document.getElementsByTagName("p");
    alert(paragraphs.length);
    for (let i=0; i< paragraphs.length; i++) {
        paragraphs[i].innerHTML = "changed using getElementBy
                                    TagName";}
    document.open();
    document.write ("<h2>New Document Content</h2>");
    document.write ("<p> This content was written
            after document.open() </p>");
    document.close();
</script>
</body>
</html>
```

Output:

Changed using getElementByName
changed using getElementById
changed using getElementsByTagName
changed using getElementsByTagName
Document Title: javascript program to print date & time
current URL: file:///D:/java/animal.html.
New Document Content—
This content was written after document.open().

WEEK -18 Lab Exercise Programs	DATE:
101. Write a JavaScript program to change colours of form using button clicks. 102. Write a JavaScript program on onload, onmouseover event, onmouseout event. Onfocus, onblur, onsubmit, onreset event. 103. Write a JavaScript program on keypress event. 104. Write a JavaScript programs using any 5 events. 105. Write a HTML program to create login form and verify username and password. **Assessment:**	LAB FACULTY SIGN: CLASS FACULTY SIGN:

Prime Number Generator

Start	1
End	20
Prime Number	2,3,5,7,11,13,17,19
	Generate

Mark-Sheet Calculator

Hindi	50 (Max : 100)
English	60 (Max : 100)
Maths	50 (Max : 100)
Science	(Max : 100)
Art	(Max : 100)
Computer	(Max : 100)
Total	
Percentage	
Grade	Fail
	Calculate

101)

```
<html>
<head><title>color of form</title></head>
<style>
form { width: 300px;
       height: 350px; }
</style>
</head>
<body>
```

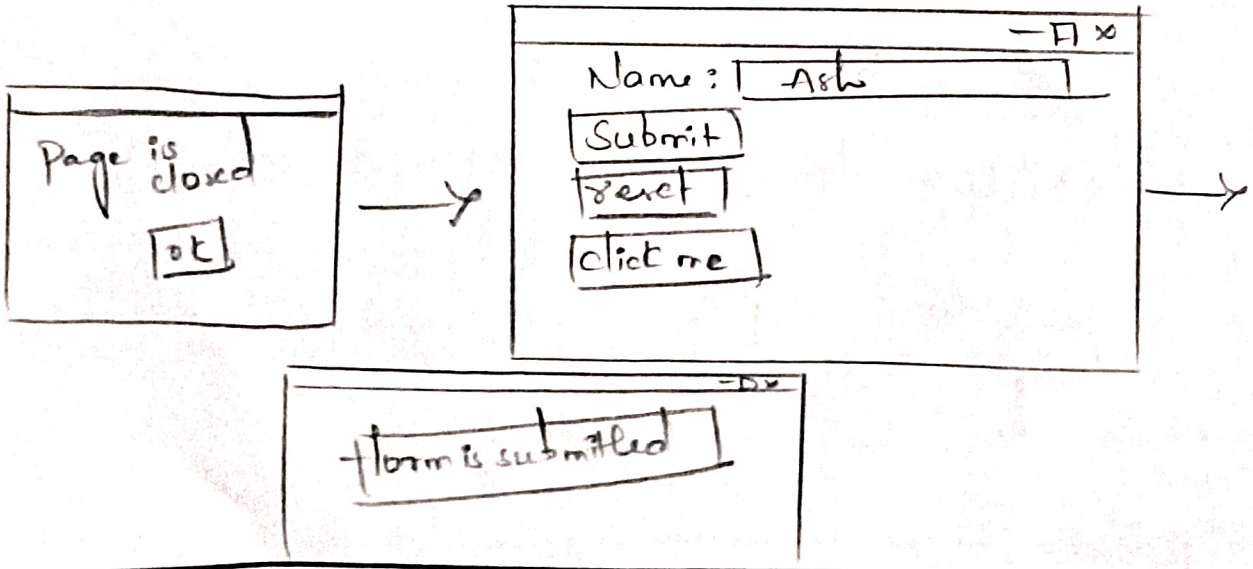
Output:

red green blue

```
<form id = "form1" style = "background-color : #fafafa; ">
<input type : "button" value : "red" onclick : "document.
getElementById ("form1"). style . background Color : "red";">
<input type = "button" value = "Green" onclick : "document.
getElementById ("form1"). style . background color : 'green';>
<input type : "button" value = "Blue" onclick : "document.
getElementById ('form1'). style. background color : 'blue'; ">
</form>
</body> </html>
```

102)

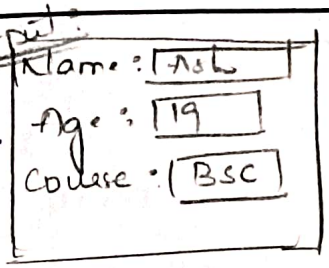
```
<html>
<head> <title> onload, onmouseover, onmouseout --
                                    </title> </head>
<body onload = "alert ('page is closed!')" >
<form onsubmit : "alert ("form is submitted!')"
      onreset : "alert ('form is reset!')" >
name: <input type : "text" onfocus : "this. style.
 background-color = "lightblue'; "onblue = 'this. style.
background-color = "white"; " >
 <input type = "submit" value : "submit" > <br> <br>
 <input type = "reset" value. = "reset" > <br> <br>
 <input type : "button" value = "click me" onmouseovee :
 "this . style . background Color : 'red'; "onmouseout :
      "this . style . background color = 'white'; " >
</form>
</body> </html>
```

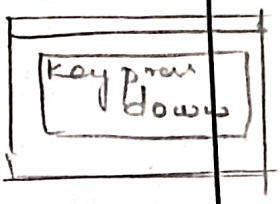


103)

```
<html>
<head>
<title> onkeypress event </title>
</head>
<body>
<form>
Name : <input type = "text" onkeypress = "alert ('key is pressed!')
<br>
Age : <input type = "text" onkeyup = "alert('key is released!')"><br>
Course : <input type = "text" onkeydown = "alert("key is pressed down!')"><br>
</form>
</body>
</html>
```

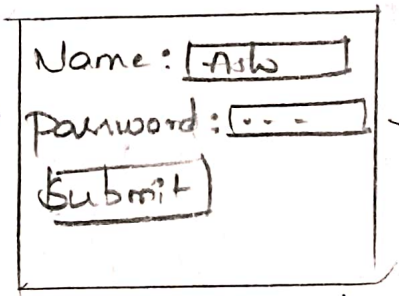
output:

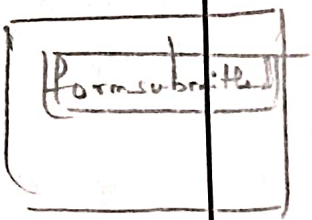




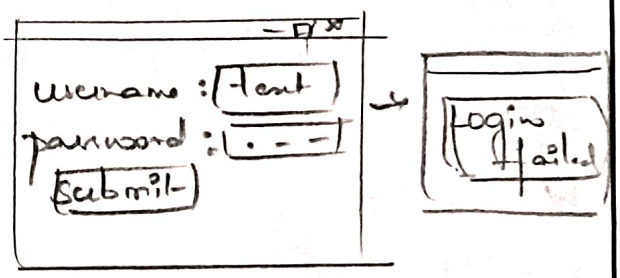
104)

```
<html>
<head>
<title> use 5 events </title>
</head>
<body>
<form>
Name : <input type = "text" onkeypress = "alert ('key is pressed!')" onfocus = "this.style.backgroundcolor = 'lightblue';" onblur = 'this.style.backgroundcolor = 'white';"><br>
password : <input type = "password" onkeyup = "alert('key is released!')"><br>
<input type = 'submit" value = "submit" onmouseover = "this.style.backgroundcolor = 'red'; onmouseout = "this.style.backgroundcolor = 'white'; "onclick = "alert('form submitted!')">
</form>
</body>
</html>
```





10s)
```
<html>
<head><title> Login form </title></head>
<script>
function authenticate ( )
{ if ( document . getElementById ('name') . value = 'admin' &&
    document . getElementById ('pass') . value = 'admin')
  {alert ('Login Successful. !');
  }
  else
  {
  alert ('Login Failed !');
  }
}
</script>
<body>
<form>
username : <input type = "text" id = "name" ><br>
password : <input type = "password" id = pass "><br>
<input type = "submit" value = " Submit " onmouseover = "this.
  style . backgroundcolor = 'red' ;" onmouseout = "this . style .
  backgroundcolor = 'white' ;" onclick = "authenticate ( )" >
</form>
</body>
</html>
```



Assessment :

a)
```
<html>
<head>
<title> Prime number generator </title>
</head>
<body>
<form>
<table border = '1' bordercolor = "black" width = "50%">
<caption > Prime Number Generator </caption>
<tr> <td > start : </td>
<td> <input type = "text" id = "s" </td> </tr>
<tr>
<td> End : </td>
```

```
<td><input type="text" id="e"></td>
</tr>
<tr>
<td>Prime Number</td>
<td><textarea id="result" row="10" cols="10">
</textarea></td>
</tr>
<tr>
<td></td>
<td><input type="button" value="Generate" onclick="generate()">
</td></tr></table></form><script>
function generate(){
    var e = parseInt(document.getElementById('e').value);
    var s = parseInt(document.getElementById('s').value);
    var result = " ";
    for(var i=s; i<=e; i++)
    { var prime = true;
      for(var j=2; j<i; j++)
      { if(i%j==0){
            prime=false; break;}}
      if(prime){
          result+=i+",";
      }
    }document.getElementById("result").value=result.
    slice(0,-2);}
</script></body></html>
```

Output:

Start:	1
End:	20
Prime Number	2, 3, 5, 7, 11, 13, 17, 19
	Generate

b)

```
<html>
<head>
<title>Marksheet calculator</title></head>
<body><form>
<table border="1" bordercolor="black" width="67%">
<caption>Mark-sheet calculator</caption>
<tr><td>Hindi</td>
<td><input type="text" id="Hin">(Max:100)</td></tr>
<tr><td>English</td>
<td><input type="text" id="Eng">(Max:100)</td></tr>
<tr><td>Maths</td>
<td><input type="text" id="Mat">(Max:100)</td>
</tr><tr>
```

```
<td> Science. </td>
<td><input type="text" id="sci"> (Max:100)</td>
</tr> <tr>
<td>Art</td> <td><input type="text" id="art"> (Max:100)
</td> </tr> <tr>
<td> computer </td>
<td><input type="text" id="comp"> (Max:100)</td>
</tr> <tr> <td> Total </td>
<td><p id="total"></p></td></tr>
<tr> <td> percentage </td>
<td><p id="per"></p></td>
</tr> <tr>
<td> Grade </td>
<td><p id="grade"></p></td> </tr> <tr>
<td></td>
<td><input type="button" value="calculate" onclick="
calculate()" </td> </tr> </table> </form>
<script>
function calculate() {
var s1 = parseFloat(document.getElementById('hin').value);
var s2 = parseFloat(document.getElementById('eng').value);
var s3 = parseFloat(document.getElementById('Mat').value);
var s4 = parseFloat(document.getElementById('sci').value);
var s5 = parseFloat(document.getElementById('art').value);
var s6 = parseFloat(document.getElementById('comp').value);
var total = (s1+s2+s3+s4+s5+s6);
var percentage = (parseFloat(total/600)*100; var grade;
document.getElementById('total').innerHTML = total;
document.getElementById('per').innerHTML = percentage.
toFixed(2)+"%";
if (percentage > 45)
{ document.getElementById('grade').innerHTML = "PASS";
}
else {
document.getElementById('grade').innerHTML = "FAIL"; }}
</script> </body> </html> Mark-sheet Calculator
```

Output:

Hindi	[50] (Max:100)
English	[60] (Max:100)
Maths	[50] (Max:100)
Science	[ ] (Max:100)
Art	[ ] (Max:100)
Computer	[ ] (Max:100)
Total	[ ]
percentage	[ ]
Grade	[fail]
	[calculate]

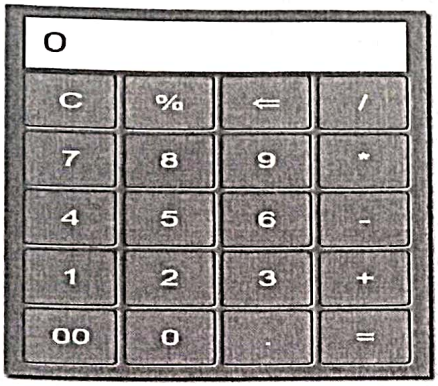
WEEK -19	Lab Exercise Programs	DATE:
106. Write a JavaScript program to create registration Form with Validations.		LAB FACULTY SIGN:

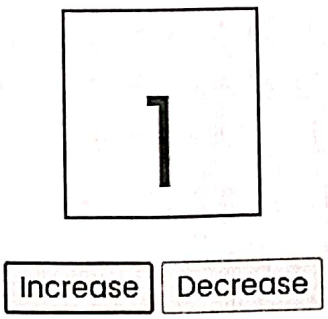
Assessment:

a) **Write a JavaScript program for design simple calculator.**

b) **Write a JavaScript program for counter**

CLASS FACULTY SIGN:





Assignment:

a)

```
<html>
<head>
<title> calculator </title>
<script>
    function clearscreen() {
        document.getElementById("result").value = "";
    }
    function display(value) {
        document.getElementById("result").value += value;
    }
    function calculate() {
        try {
            document.getElementById("result").value = eval(
                document.getElementById("result").value);
        } catch(err) {
            alert("Invalid Expression");
        }
    }
</script>
</head>
<body>
    <h2> Simple calculator </h2>
    <input type = "text" id = "result" disabled <br>
    <button Onclick = "calc('C')"> C </button>
    <button Onclick = "calc('%')"> % </button>
    <button Onclick = "calc("^")"> ^ </button>
```

```
<button onclick="calc('/')">/</button><br>
<button onclick="calc('4')">4</button>
<button onclick="calc('8')">8</button>
<button onclick="calc('9')">9</button>
<button onclick="calc('*')">*</button><br>
<button onclick="calc('4')">4</button>
<button onclick="calc('5')">5</button>
<button onclick="calc('6')">6</button>
<button onclick="calc('-')">-</button><br>
<button onclick="calc('1')">1</button>
<button onclick="calc('2')">2</button>
<button onclick="calc('3')">3</button>
<button onclick="calc('+')">+</button><br>
<button onclick="calc('00')">00</button>
<button onclick="calc('0')">0</button>
<button onclick="calc('.')">.</button>
<button onclick="calculate()">=</button><br>
</body>
</html>
```

Output:

50.

C /. * /

9 8 9 *

4 5 6 -

1 2 3 +

00 0 . =

b)

```
<html>
<head>
<title> Counter </title>
<script>
let count = 1;
function increase() {
    count++;
    document.getElementById("counter").innerText = count;
}
function decrease() {
    if (count > 0) {
        count--;
        document.getElementById("counter").innerText = count;
    }
}
</script>
```

Output:

Counter

3

Increase Decrease

```
</head>
<body>
<h2> counter </h2>
<h1 id = "counter" > 1 </h1>
<button onclick = "increase()" > Increase </button>
<button onclick = "decrease()" > Decrease </button>
</body>
</html>
```

106)

```
<html>
<head>
<title> Registration Form </title>
<script>
    function validateForm() {
        let name = document.forms["regForm"]["name"].value;
        let email = document.forms["regForm"]["email"].value;
        let password = document.forms["regForm"]["password"].value;
        let phone = document.forms["regForm"]["phone"].value;
        let emailPattern = /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]
                +\.[a-zA-Z]{2,4}$/;
        let phonePattern = /^[0-9]{10}$/;
    if(name == "" || email == "" || password == "" ||
                    phone == "") {
        alert("All fields must be filled out");
        return false;
    }
    if (!email.match(emailPattern)) {
        alert("Invalid Email format");
        return false;
    }
    if (!phone.match(phonePattern)) {
        alert("phone number must be 10 digits");
        return false;
    }
    return true;
}
</script>
```

```
</head>
<body>
  <h2> Registration form </h2>
<form name = "regform" onsubmit = "return validateform()">
Name : <input type = "text" name = "name"><br><br>
Email : <input type = "text" name = "email"><br><br>
Password : <input type = "password" name = "password"><br><br>
 phone : <input type = "text" name = "phone"><br><br>
<input type = "submit" value = "Register">
</form>
</body>
</html>
```

Output :

Registration form

Name : [asha]

Email : [asha@gmail.com]

Password : [9988]

Phone : [9985495649]

[Register]

WEEK -20 Lab Exercise Programs	DATE:
107. Write XML program to store person details. 108. Write XML program to store address of your 5 friends. 109. Write XML program to store books information. 110. Write XML program using XML name spaces. 111. Write XML program for DTD. 112. Write a XML Program to represent Student Data using DTD. 113. Write a XML Program to represent Data using XML Schema Definition. 114. Write XML program on Extensible style sheet. 115. Write XML program on DOM. **Assessment:**	LAB FACULTY SIGN: CLASS FACULTY SIGN:

107)

```
<persons>
  <person>
    <name>Hanuman</name>
    <age>20</age>
    <gender>Male</gender>
    <email>Hanu@gmail.com</email>
  </person>
  <person>
    <name>pika</name>
    <age>22</age>
    <gender>Female</gender>
    <email>pika@gmail.com</email>
  </person>
</persons>
```

Output:

```
▼<persons>
  ▼<person>
    <name>Hanuman</name>
    <age>20</age>
    <gender>Male</gender>
    <email>Hanu@gmail.com</email>
  </person>
  ▼<person>
    <name>pika</name>
    <age>22</age>
    <gender>Female</gender>
    <email>pika@gmail.com</email>
  </person>
</persons>
```

108

```
<addresses>
<friend>
  <name>Ash</name>
  <address>shapur nagar</address>
</friend>
<friend>
  <name>Hanuman</name>
  <address>shapur nagar</address>
</friend>
<friend>
  <name>Ram</name>
  <address>Suraram</address>
</friend>
<friend>
  <name>Lakshman</name>
  <address>Jeedimetla</name>
</friend>
<friend>
  <name>Ganesh</name>
  <address>Balnagar</name>
</friend>
</addresses>
```

Output:

```
▼ <addresses>
  ▼ <friend>
      <name>Ash</name>
      <address>shapur nagar</addr
    </friend>
  ▼ <friend>
      <name>Hanuman</name>
      <address>shapurnagar</addr
    </friend>
  ▼ <friend>
      <name>Ram</name>
      <address>Suraram</addr
    </friend>
  ▼ <friend>
      <name>Lakshman</name>
      <address>Jeedimetla</addr
    </friend>
  ▼ <friend>
      <name>Ganesh</name>
      <address>Balnagar</addresses>
    </friend>
  </addresses>
```

109)

```
<library>
  <book>
    <title>XML</title>
    <author>Ash</author>
    <year>2019</year>
    <price>300</price>
  </book>
  <book>
    <title>Advanced</title>
    <author>pika</author>
    <year>2018</year>
    <price>100 Hello</price>
  </book>
</library>
```

Output:

```
<library>
  <book>
    <title>XML</title>
    <author>Ash</author>
    <year>2019</year>
    <price>300</price>
  </book>
  <book>
    <title>Advance</title>
    <author>pika</author>
    <year>2018</year>
    <price>100</price>
  </book>
</library>
```

(10)

```
<library xmlns="https://www.example.com/library">
  <book>
    <title>XML Guide</title>
    <author>Mark. Boucon</author>
  </book>
</library>
```

Output:

```
<library xmlns="https://www.example.com/library">
  <book>
    <title>XML Guide</title>
    <author>MarkBoucon</author>
  </book>
</library>
```

(11)

.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE students SYSTEM "students.dtd">
<students>
  <student>
    <name>Ash</name>
    <age>19</age>
    <course>CS</course>
  </student>
</students>
```

.dtd

```
<!Element library (book+)>
<!Element book (title, name
    author, year, price)>
<!Element title (#PCDATA)>
<!Element author (#PCDATA)>
<!Element year (#PCDATA)>
<!Element price (#PCDATA)>
```

Output:

```
<students>
  <student>
    <name>Ash</name>
    <age>19</age>
    <course>cs</course>
  </student>
</students>
```

11) .xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE library SYSTEM "books.dtd">
<library>
  <book>
    <title> Learning xml </title>
    <author> Ash </author>
    <year> 2019 </year>
    <price> 29.99 </price>
  </book>
</library>
```

.dtd

```
<!Element library (book+)>
<!Element book (title, author, year, price)>
<!Element title (#PCDATA)>
<!Element author (#PCDATA)>
<!Element year (#PCDATA)>
<!Element year (#PCDATA)>
```

Output:

```
▼<library>
  ▼<book>
    <title> Learning xml </title>
    <author> Ash </author>
    <year> 2019 </year>
    <price> 29.99 </price>
  </book>
</library>
```

13) .xml

```
<?xml version="1.0" encoding="UTF-8"?>
<students xmlns:xsi="http://www.w3.org/2001/XMLSchema-
    instance" xsi:noNamespaceSchemaLocation
    ="students.xsd">
  <student>
    <name> Ash </name>
    <age> 19 </age>
    <course> Information Tech </course>
  </student>
</students>
```

Output:

```
▼<students xmlns:xsi="http://www.w3.org/2001/XMLSchema-
    instance" xsi:noNamespaceSchemaLocation
    ="students.xsd">
  ▼<student>
    <name> Ash </name>
    <age> 19 </age>
    <course> Information Tech </course>
  </student>
</students>
```

• xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<xs.schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="students">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="student" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="name" type="xs:string"/>
              <xs:element name="age" type="xs:int"/>
              <xs:element name="course" type="xs:string"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

• xml

14)

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="books.xsl"?>
<library>
  <book>
    <title>XML for Beginners</title>
    <author>Ash</author>
  </book>
</library>
```

output:

```
<library>
  <book>
    <title>XML for Beginners</title>
    <author>Ash</author>
  </book>
</library>
```

.xsl

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.
                w3.org/1999/xsl/Transform">
  <xsl:template match="/">
    <html>
      <body>
        <h2>Library Books</h2>
        <table border="1">
          <tr>
            <th>Title</th>
            <th>Author</th>
          </tr>
          <xsl:for each select="library/book">
            <tr>
              <td><xsl:value-of select="title"/></td>
              <td><xsl:value of select="author"/></td>
            </tr>
          </xsl:for-each>
        </table>
      </body>
    </html>
  </xsl:template>
</xsl:stylesheet>
```

11(5)

```
<html><head>
<title>XML DOM Example</title>
<script>
  function loadXML() {
    let xmlString = <library>
      <book>
        <title>Introduction to XML</title>
        <author>Ashu</author>
      </book>
    </library>
    let parser = new DOMParser();
    let xmlDoc = parser.parseFromString(xmlString, "text/xml");
    document.getElementById("output").innerHTML =
      "Title " + xmlDOC.getElementsByTagName("title")[0].
                 childNodes[0].nodeValue +
      "<br>Author:" + xmlDOC.getElementsByTagName("author")
                      [0].childNodes[0].nodeValue;}
</script></head><body>
<h2>XML DOM Example</h2>
<button onclick="loadxml()">Load XML</button>
<div id="output"></div>
</body>
</html>
```

Output:

XML DOM Example

[Load XML]

Title: Introduction to XML

Author: Ashu