

LABORATORY MANUAL

17CSL77-WEB TECHNOLOGY LAB WITH MINI PROJECT

2020-21



DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING
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SYLLABUS**WEB TECHNOLOGY LABORATORY WITH MINI PROJECT****[As per Choice Based Credit System (CBCS) scheme]****(Effective from the academic year 2017 -2018)****SEMESTER – VII****Subject Code 17CSL77 IA Marks 40 Exam Marks 60.**

1. Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.

2. Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format.

3. Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXTSHRINKING” in BLUE color. Then the font size decreases to 5pt.

4. Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:
 - a) Parameter: A string
 - b) Output: The position in the string of the left-most vowel
 - c) Parameter: A number
 - d) Output: The number with its digits in the reverse order

5. Design an XML document to store information about a student in an engineering college affiliated to VTU. The information must include USN, Name, and Name of the College, Branch, Year of Joining, and email id. Make up sample data for 3 students. Create a CSS style sheet and use it to display the document.

6. Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.

7. Write a PHP program to display a digital clock which displays the current time of the server.

8. Write the PHP programs to do the following:

- a) Implement simple calculator operations.
- b) Find the transpose of a matrix.
- c) Multiplication of two matrices.
- d) Addition of two matrices.

9. Write a PHP program named states.py that declares a variable states with value "Mississippi Alabama Texas Massachusetts Kansas". write a PHP program that does the following:

- a) Search for a word in variable states that ends in xas. Store this word in element 0 of a list named states List.
- b) Search for a word in states that begins with k and ends in s. Perform a case-insensitive comparison. [Note: Passing re.I as a second parameter to method compile performs a case-insensitive comparison.] Store this word in element 1 of states List.
- c) Search for a word in states that begins with M and ends in s. Store this word in element 2 of the list.
- d) Search for a word in states that ends in a. Store this word in element 3 of the list.

10. Write a PHP program to sort the student records which are stored in the database using selection sort.

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Program 1

/* Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient. */

```
<!DOCTYPE HTML>

<html>

  <head>

    <style>

      table, td, th

        {

          border: 1px solid black;

          width: 33%;

          text-align: center;

          background-color: DarkGray;

          border-collapse: collapse;

        }

      table { margin: auto; }

      input { text-align: right; }

    </style>

    <script type="text/javascript">

      function calc(clicked_id)

      {

        var val1 = parseFloat(document.getElementById("value1").value);

        var val2 = parseFloat(document.getElementById("value2").value);

        if(isNaN(val1)||isNaN(val2))

          alert("ENTER VALID NUMBER");

        else if(clicked_id=="add")
```

```
        document.getElementById("answer").value=val1+val2;
else if(clicked_id=="sub")
        document.getElementById("answer").value=val1-val2;
else if(clicked_id=="mul")
        document.getElementById("answer").value=val1*val2;
else if(clicked_id=="div")
        document.getElementById("answer").value=val1/val2;
}
function cls()
{
        value1.value="0";
        value2.value="0";
        answer.value="";
}
</script>
</head>
<body>
<table>
        <tr><th colspan="4"> SIMPLE CALCULATOR </th></tr>
        <tr><td>value1</td><td><input type="text" id="value1"
value="0"/></td>
        <td>value2</td><td><input type="text" id="value2" value="0"/>
</td></tr>
        <tr><td><input type="button" value="Addition" id = "add"
onclick="calc(this.id)"/></td>
        <td><input type="button" value="Subtraction" id = "sub"
```

```
onclick="calc(this.id)"/></td>
    <td><input type="button" value="Multiplication" id = "mul"
onclick="calc(this.id)"/></td>
    <td><input type="button" value="Division" id ="div"
onclick="calc(this.id)"/></td></tr>
    <tr><td>Answer:</td><td> <input type="text" id="answer" value=""
disabled/></td>
    <td colspan="2"><input type="button" value="CLEAR ALL"
onclick="cls()"/></td>
</tr>
</table>
</body>
</html>
```

Output:

Program 2

/* Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format. */

```
<!DOCTYPE HTML>

<html>

  <head>

  <style>

    table,tr, td

    {

      border: solid black;

      width: 33%;

      text-align: center;

      border-collapse: collapse;

      background-color:lightblue;

    }

    table { margin: auto; }

  </style>

  <script>

    document.write( "<table><tr><th colspan='3'> NUMBERS FROM
0 TO 10 WITH THEIR SQUARES AND CUBES </th></tr>" );

    document.write("<tr><td>Number</td><td>Square</td><td>Cube
</td></tr>" );

    for(var n=0; n<=10; n++)

    {

      document.write( "<tr><td>" + n + "</td><td>" + n*n +
"</td><td>" + n*n*n + "</td></tr>" );

    }

  </script>

</html>
```



```
    }  
    document.write( "</table>" );  
</script>  
</head>  
</html>
```

Output:

Program 3

/* Write a JavaScript code that displays text “TEXT-GROWING” with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays “TEXTSHRINKING” in BLUE color. Then the font size decreases to 5pt.*/

```
<!DOCTYPE HTML>

<html>

  <head>

    <style>

      p {

        position: absolute;

        top: 50%;

        left: 50%;

        transform: translate(-50%, -50%);

      }

    </style>

  </head>

  <body>

    <p id="demo"></p>

    <script>

      var var1 = setInterval(inTimer, 1000);

      var fs = 5;

      var ids = document.getElementById("demo");

      function inTimer() {

        ids.innerHTML = 'TEXT GROWING';

        ids.setAttribute('style', "font-size: " + fs + "px; color: red");

      }

    </script>

  </body>

</html>
```

```
        fs += 5;
        if(fs >= 50 ){
            clearInterval(var1);
            var2 = setInterval(deTimer, 1000);
        }
    }
function deTimer() {
    fs -= 5;
    ids.innerHTML = 'TEXT SHRINKING';
    ids.setAttribute('style', "font-size: " + fs + "px; color:
blue");
    if(fs === 5 ){
        clearInterval(var2);
    }
}
</script>
</body>
</html>
```

Output:

Program 4

/* Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems: a) Parameter: A string, b) Output: The position in the string of the left-most vowel, c) Parameter: A number, d) Output: The number with its digits in the reverse order */

```
<!DOCTYPE HTML>
```

```
<html>
```

```
  <body>
```

```
    <script type="text/javascript">
```

```
      var str = prompt("Enter the Input", "");
```

```
      if(!(isNaN(str)))
```

```
      {
```

```
        var num, rev=0, remainder;
```

```
        num = parseInt(str);
```

```
        while(num!=0) {
```

```
          remainder = num%10;
```

```
          num = parseInt(num/10);
```

```
          rev = rev * 10 + remainder;
```

```
        }
```

```
        alert("Reverse of "+str+" is "+rev);
```

```
      }
```

```
    else
```

```
    {
```

```
      str = str.toUpperCase();
```

```
      for(var i = 0; i < str.length; i++) {
```

```
        var chr = str.charAt(i);
```

```
        if(chr == 'A' || chr == 'E' || chr == 'I' || chr == 'O' || chr ==
'U')break;
    }
    if( i < str.length )
        alert("The position of the left most vowel is "+(i+1));
    else
        alert("No vowel found in the entered string");
    }
</script>
</body>
</html>
```

Output:

Program 5

/* Design an XML document to store information about a student in an engineering college affiliated to VTU. The information must include USN, Name, and Name of the College, Branch, Year of Joining, and email id. Make up sample data for 3 students. Create a CSS style sheet and use it to display the document. */

```
<?xml-stylesheet type="text/css" href="p.css" ?>
<!DOCTYPE HTML>
<html>
  <head>
    <h1> STUDENTS DESCRIPTION </h1>
  </head>
  <students>
    <student>
      <USN>USN : 1AT07IS001</USN>
      <name>NAME : SANTHOSH</name>
      <college>COLLEGE : AIT</college>
      <branch>BRANCH : Information Science and
Engineering</branch>
      <year>YEAR : 2007</year>
      <e-mail>E-Mail : santosh@gmail.com</e-mail>
    </student>
    <student>
      <USN>USN : 1AT07IS001</USN>
      <name>NAME : MANORANJAN</name>
      <college>COLLEGE : AIT</college>
      <branch>BRANCH : Information Science and
Engineering</branch>
```

```
<year>YEAR : 2007</year>
<e-mail>E-Mail : manoranjan@gmail.com</e-mail>
</student>
<student>
  <USN>USN : 1AT07EC001</USN>
  <name>NAME : CHETHAN</name>
  <college>COLLEGE : AIT</college>
  <branch>BRANCH : Electronics and Communication Engineering
</branch>
  <year>YEAR : 2007</year>
  <e-mail>E-Mail : chethan@gmail.com</e-mail>
</student>
</students>
</html>
```

Program5.css

```
student{
    display:block; margin-top:10px; color:Navy;
}
USN{
    display:block; margin-left:10px;font-size:14pt; color:Red;
}
name{
    display:block; margin-left:20px;font-size:14pt; color:Blue;
}
college{
```

```
        display:block; margin-left:20px;font-size:12pt; color:Maroon;
    }
    branch{
        display:block; margin-left:20px;font-size:12pt; color:Purple;
    }
    year{
        display:block; margin-left:20px;font-size:14pt; color:Green;
    }
    e-mail{
        display:block; margin-left:20px;font-size:12pt; color:Blue;
    }
```

Output:

Program 6

/* Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings. */

```
<?php

    print "<h3> REFRESH PAGE </h3>";

    $name="counter.txt";

    $file = fopen($name,"r");

    $hits= fscanf($file,"%d");

    fclose($file);

    $hits[0]++;

    $file = fopen($name,"w");

    fprintf($file,"%d",$hits[0]);

    fclose($file);

    print "Total number of views: ".$hits[0];

?>
```

Output:

Program 7

/* Write a PHP program to display a digital clock which displays the current time of the server. */

```
<!DOCTYPE HTML>

<html>

  <head>

    <meta http-equiv="refresh" content="1"/>

  <style>

    p {

      color:white;

      font-size:90px;

      position: absolute;

      top: 50%;

      left: 50%;

      transform: translate(-50%, -50%);

    }

    body{background-color:black;}

  </style>

  <p> <?php echo date(" h: i : s A");?> </p>

</head>

</html>
```

Output:

Program 8

/* Write the PHP programs to do the following: a) Implement simple calculator operations. b) Find the transpose of a matrix. c) Multiplication of two matrices. d) Addition of two matrices. */

```
<html>
    <head>
        <style>
            table, td, th
            {
                border: 1px solid black;
                width: 35%;
                text-align: center;
                background-color: DarkGray;
            }
            table { margin: auto; }
            input, p { text-align: right; }
        </style>
    </head>
    <body>
        <form method="post">
            <table>
                <caption><h2> SIMPLE CALCULATOR </h2></caption>>
                <tr><td>First Number:</td><td><input type="text" name="num1"
                /></td>
                <td rowspan="2"><input type="submit" name="submit"
                value="calculate"></td></tr>
                <tr><td>Second Number:</td><td><input type="text"
```

```

name="num2"/></td></tr>

</form>

<?php
    if(isset($_POST['submit'])) // it checks if the input submit is filled
    {
        $num1 = $_POST['num1'];
        $num2 = $_POST['num2'];
        if(is_numeric($num1) and is_numeric($num2) )
        {
            echo "<tr><td> Addition
</td><td><p>".($num1+$num2)."</p></td>";

            echo "<tr><td> Subtraction :</td><td><p> ".($num1-
$num2)."</p></td>";

            echo "<tr><td> Multiplication
:</td><td><p>".($num1*$num2)."</p></td>";

            echo "<tr><td>Division :</td><td><p>
".($num1/$num2)."</p></td>";

            echo "</table>";

        }
        else
        {
            echo"<script type='text/javascript' > alert(' ENTER VALID
NUMBER');
</script>";

        }
    }
?>

```

```
</body>
```

```
</html>
```

Output:

```
<?php
    $a = array(array(1,2,3),array(4,5,6),array(7,8,9));
    $b = array(array(7,8,9),array(4,5,6),array(1,2,3));
    $m=count($a);
    $n=count($a[2]);
    $p=count($b);
    $q=count($b[2]);
    echo "the first matrix :". "<br/>";
    for ($row = 0; $row < $m; $row++) {
    for ($col = 0; $col < $n; $col++)
        echo " ".$a[$row][$col];
        echo "<br/>";
    }
    echo "the second matrix :". "<br/>";
    for ($row = 0; $row < $p; $row++) {
        for ($col = 0; $col < $q; $col++)
            echo " ".$b[$row][$col];
            echo "<br/>";
        }
    echo "the transpose for the first matrix is:". "<br/>";
    for ($row = 0; $row < $m; $row++) {
        for ($col = 0; $col < $n; $col++)
            echo " ".$a[$col][$row];
            echo "<br/>";
        }
    }
```

```

if(($m=== $p) and ($n=== $q)) {
    echo "the addition of matrices is:".<br/>;
    for ($row = 0; $row < 3; $row++) {
        for ($col = 0; $col < 3; $col++)
            echo " ".$a[$row][$col]+$b[$row][$col]." ";
        echo "<br/>";
    }
}

if($n=== $p){
    echo " The multiplication of matrices: <br/>";
    $result=array();
    for ($i=0; $i < $m; $i++) {
        for($j=0; $j < $q; $j++){
            $result[$i][$j] = 0;
            for($k=0; $k < $n; $k++)
                $result[$i][$j] += $a[$i][$k] * $b[$k][$j];
        }
    }
    for ($row = 0; $row < $m; $row++) {
        for ($col = 0; $col < $q; $col++)
            echo " ".$result[$row][$col];
        echo "<br/>";
    }
}

?>

```

Output:

Program 9

/* Write a PHP program named states.py that declares a variable states with value "Mississippi Alabama Texas Massachusetts Kansas". write a PHP program that does the following:

a) Search for a word in variable states that ends in xas. Store this word in element 0 of a list named states List.

b) Search for a word in states that begins with k and ends in s. Perform a case-insensitive comparison. [Note: Passing re.I as a second parameter to method compile performs a case-insensitive comparison.] Store this word in element 1 of states List.

c) Search for a word in states that begins with M and ends in s. Store this word in element 2 of the list.

d) Search for a word in states that ends in a. Store this word in element 3 of the list. */

```
<?php
```

```
    $states = "Mississippi Alabama Texas Massachusetts Kansas";
```

```
    $statesArray = [];
```

```
    $states1 = explode(' ', $states);
```

```
    echo "Original Array :<br>";
```

```
    foreach ( $states1 as $i => $value )
```

```
        print("STATES[$i]=$value<br>");
```

```
    foreach($states1 as $state) {
```

```
        if(preg_match( '/xas$/', ($state)))
```

```
            $statesArray[0] = ($state);
```

```
    }
```

```
    foreach($states1 as $state) {
```

```
        if(preg_match('/^k.*s$/i', ($state)))
```

```
            $statesArray[1] = ($state);
```

```
    }foreach($states1 as $state) {
```

```
        if(preg_match('/^M.*s$/', ($state)))
```

```
        $statesArray[2] = ($state);
    }
    foreach($states1 as $state){
        if(preg_match('/a$/', ($state)))
            $statesArray[3] = ($state);
    }
    echo "<br><br>Resultant Array :<br>";
        foreach ( $statesArray as $array => $value )
            print("STATES[$array]=$value<br>");
?>
```

Output:

Program 10

/* Write a PHP program to sort the student records which are stored in the database using selection sort. */

```
<!DOCTYPE html>

<html>

    <body>

        <style>

            table, td, th

            {

                border: 1px solid black;

                width: 33%;

                text-align: center;

                border-collapse: collapse;

                background-color: lightblue;

            }

            table { margin: auto; }

        </style>

    <?php

        $a=[];

        /* Create connection

        Opens a new connection to the MySQL server */

        $con = mysqli_connect("localhost","root","","s1");

        if (mysqli_connect_errno()) {

            echo "Failed to connect to MySQL: " . mysqli_connect_error();

        }

        $sql = "SELECT * FROM stu";
```

```
// performs a query against the database
$result = $con->query($sql);
echo "<br>";
echo "<center> BEFORE SORTING </center>";
echo "<table border='2'>";
echo "<tr>";
echo "<th>USN</th><th>NAME</th><th>Address</th></tr>";
if ($result->num_rows > 0)
{
    /*output data of each row and fetches a result row as an
    associative array*/
    while($row = $result->fetch_assoc()){
        echo "<tr>";
        echo "<td>". $row["usn"]."</td>";
        echo "<td>". $row["name"]."</td>";
        echo "<td>". $row["address"]."</td></tr>";
        array_push($a,$row["usn"]);
    }
}
else
    echo "Table is Empty";
echo "</table>";
$n=count($a);
$b=$a;
for ( $i = 0 ; $i < ($n - 1) ; $i++ )
```

```
{
    $pos= $i;
    for ( $j = $i + 1 ; $j < $n ; $j++ ) {
        if ( $a[$pos] > $a[$j] )
            $pos= $j;
    }
    if ( $pos!= $i ) {
        $temp=$a[$i];
        $a[$i] = $a[$pos];
        $a[$pos] = $temp;
    }
}

$c=[];
$d=[];

$result = $con->query($sql);
if ($result->num_rows> 0)// output data of each row
{
    while($row = $result->fetch_assoc()) {
        for($i=0;$i<$n;$i++) {
            if($row["usn"]== $a[$i]) {
                $c[$i]=$row["name"];
                $d[$i]=$row["address"];
            }
        }
    }
}
```

```
}  
echo "<br>";  
echo "<center> AFTER SORTING <center>";  
echo "<table border='2'>";  
echo "<tr>";  
echo "<th>USN</th><th>NAME</th><th>Address</th></tr>";  
for($i=0;$i<$n;$i++) {  
    echo "<tr>";  
    echo "<td>". $a[$i]."</td>";  
    echo "<td>". $c[$i]."</td>";  
    echo "<td>". $d[$i]."</td></tr>";  
}  
echo "</table>";  
$con->close();  
?>  
</body>  
</html>
```

Output:

VIVA Questions:-

1. What are Cascading Style Sheets?
2. What is class?
3. What is grouping?
4. What is ID selector?
5. What is contextual selector?
6. What does \ABCD (and \ABCDE) mean?
7. What are the advantages / disadvantages of various style methods?
8. What is property?
9. What is the CSS clear property?
10. What are the necessities of using HTML forms?
11. What are the sequences of steps for each HTTP request from a client to the server?
12. What is HTML?
13. What is a tag?
14. What is the simplest HTML page?
15. How do I create frames? What is a frameset?
16. How can I include comments in HTML?
17. What is a Hypertext link?
18. What is a DOCTYPE? Which one do I use?
19. How do you align a table to the right (or left)?
20. How can I use tables to structure forms?
21. How do I open a link into a new window?
22. What are the advantages of JSP over Servlet?
23. What is the life-cycle of JSP?
24. What is the jspInit() method?

25. What is the `_jspService()` method?
26. What is the `jspDestroy()` method?
27. What JSP lifecycle methods can I override?
28. How can I override the `jspInit()` and `jspDestroy()` methods within a JSP page?
29. What are implicit objects in JSP?
30. What are the different types of JSP tags?
31. What are JSP directives?
32. What is page directive?
33. What are the attributes of page directive?
34. What is the include directive?
35. What are the JSP standard actions?
36. What are the standard actions available in JSP?
37. What is the `<jsp:useBean>` standard action?
38. What are the scopes available in `<jsp:useBean>`?
39. What is the `<jsp:forward>` standard action?
40. What is the `<jsp:include>` standard action?
41. What is the difference between include directive and include action?
42. Differentiate between `pageContext.include` and `jsp:include`?
43. What is the `jsp:setProperty` action?
44. What is the `jsp:getProperty` action?
45. What is the `<jsp:param>` standard action?
46. What is the `jsp:plugin` action ?
47. What are scripting elements?
48. What is a scriptlet?
49. What are JSP declarations?

50. What is a JSP expression?
51. How is scripting disabled?
52. What is difference between custom JSP tags and beans?
53. What's relationship between JavaScript and ECMAScript?
54. What are JavaScript types?
55. How do you convert numbers between different bases in JavaScript?
56. What does isNaN function do?
57. What is negative infinity?
58. What boolean operators does JavaScript support?
59. What do "1"+2+4 evaluate to?
60. How about 2+5+"8"?
61. What looping structures are there in JavaScript?
62. How do you create a new object in JavaScript?
63. How do you assign object properties?
64. What's a way to append a value to an array?
65. How do I let people download a file from my page?
66. What is an Empty HTML Tag?
67. What are the benefits of XML?
68. What is a well-formed XML document?
69. What is a valid XML document?
70. What is a Processing Instruction in XML?
71. How does the XML structure is defined?
72. What is DTD?
73. What is XML Schema?