WEB TECHNOLOGY LABORATORY MANUAL 15CSL77

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***PROGRAM* 1:**

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

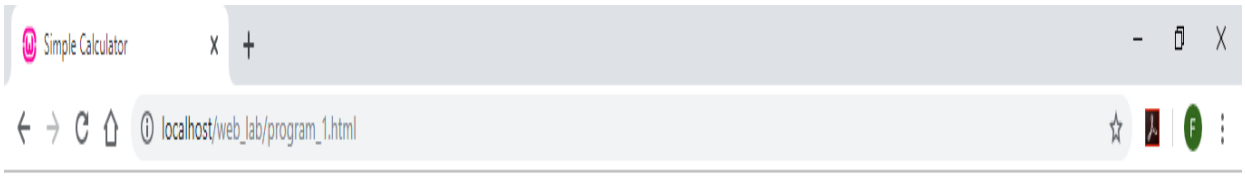
Filename: program_1.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Simple Calculator</title>
   <script type="text/javascript">
      var op1= 0,op2= 0,operator="",res="",from="";
      function reset()
      {
         document.getElementById('res').value="";
         op1=0;op2=0;operator="";res="";from="";
      }
      function insertOperand(operand)
      {
         if(from=="calculate")
            reset();
         else if(from=="operator")
            document.getElementById('res').value = "";
         document.getElementById('res').value+=operand;
         from = "operand";
      }
      function insertOperator(op)
      {
         if(op1==0)
         {
            op1=document.getElementById('res').value;
         }
         else
         {
            if(from=="operand")
            {
               calculate();
            }
         }
         operator=op;
         from="operator";
      }
      function calculate()
      {
         op2=document.getElementById('res').value;
         op1=parseInt(op1);
         op2=parseInt(op2);
```

```
        switch (operator)
        {
           case '+':res=op1+op2;
              break;
           case '-' :res=op1-op2;
              break;
           case '*':res=op1*op2;
              break;
           case '/':
              if(op2==0)
                 res=0;
              else
                 res=parseInt(op1/op2);
              break;
        }
        document.getElementById('res').value=res;
        op1=res;
        op2=0;
        operator="";
        from="calculate";
     }
  </script>
  <style type="text/css">
     input {width: 100%}
     h1 {text-align: center}
  </style>
</head>
<body onload="reset()">
  <h1>Simple Calculator</h1>
  <table align="center" border="1">
     <tr>
        <td colspan="5"><input type="text" id="res" name="res" value="" /></td>
     </tr>
     <tr>
        <td><input type="button" value="7" onclick="insertOperand('7')" /></td>
        <td><input type="button" value="8" onclick="insertOperand('8')" /></td>
        <td><input type="button" value="9" onclick="insertOperand('9')" /></td>
        <td><input type="button" value="+" onclick="insertOperator('+')" /></td>
        <td><input type="button" value="-" onclick="insertOperator('-')" /></td>
     </tr>
     <tr>
        <td><input type="button" value="4" onclick="insertOperand('4')" /></td>
        <td><input type="button" value="5" onclick="insertOperand('5')" /></td>
        <td><input type="button" value="6" onclick="insertOperand('6')" /></td>
        <td><input type="button" value="*" onclick="insertOperator('*')" /></td>
        <td><input type="button" value="/" onclick="insertOperator('/')"/></td>
     </tr>
     <tr>
        <td><input type="button" value="1" onclick="insertOperand('1')" /></td>
        <td><input type="button" value="2" onclick="insertOperand('2')" /></td>
```

```
        <td><input type="button" value="3" onclick="insertOperand('3')" /></td>
        <td><input type="button" value="0" onclick="insertOperand('0')" /></td>
        <td><input type="button" value="=" onclick="calculate()" /></td>
      </tr>
      <tr>
        <td colspan="5"><input type="button" size="100%" value="CLEAR"
onclick="reset()" /></td>
      </tr>
   </table>
</body>
</html>
```

OUTPUT:



Simple Calculator

12

7	8	9	+	-
4	5	6	*	/
1	2	3	0	=

CLEAR

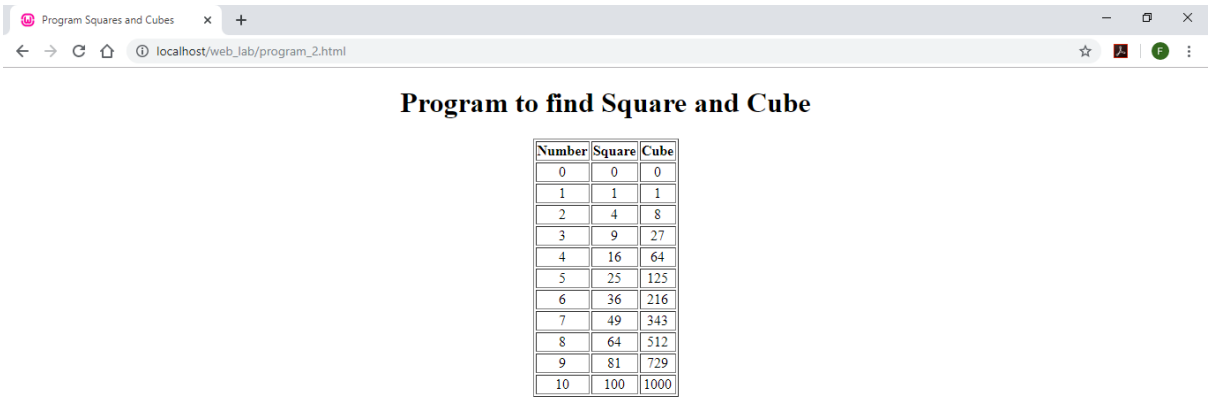
PROGRAM 2:

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.

Filename: program_2.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Program Squares and Cubes</title>
   <style type="text/css">
      table,h1 {text-align: center}
   </style>
</head>
<body>
<h1>Program to find Square and Cube</h1>
<script type="text/javascript">
   var mytable="<table border='1' align='center'> <tr> <th> Number </th> <th> Square </th>
<th> Cube </th> </tr>";
   var square= 0,cube=0;
   for(var i=0;i<=10;i++)
   {
      square=i*i;
      cube=i*i*i;
      mytable+="<tr><td>"+i+"</td><td>"+square+"</td><td>"+cube+"</td></tr>"
   }
   mytable+="</table>";
   document.write(mytable);
</script>
</body>
</html>
```

OUTPUT:



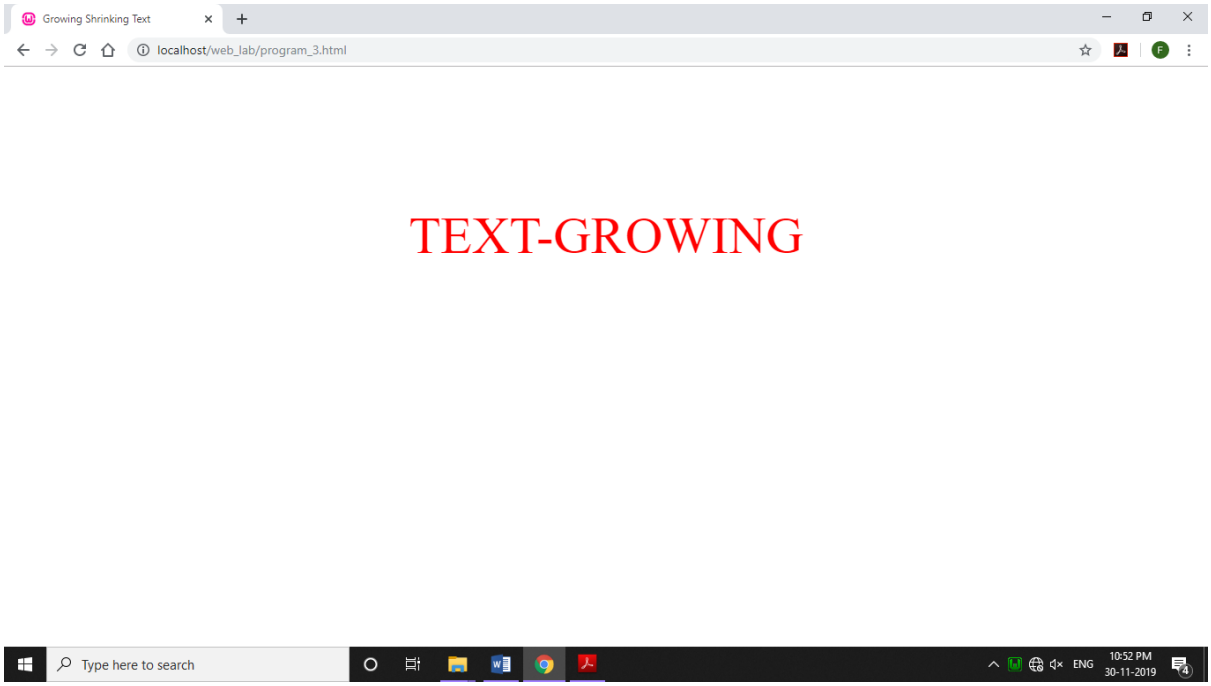
PROGRAM 3:

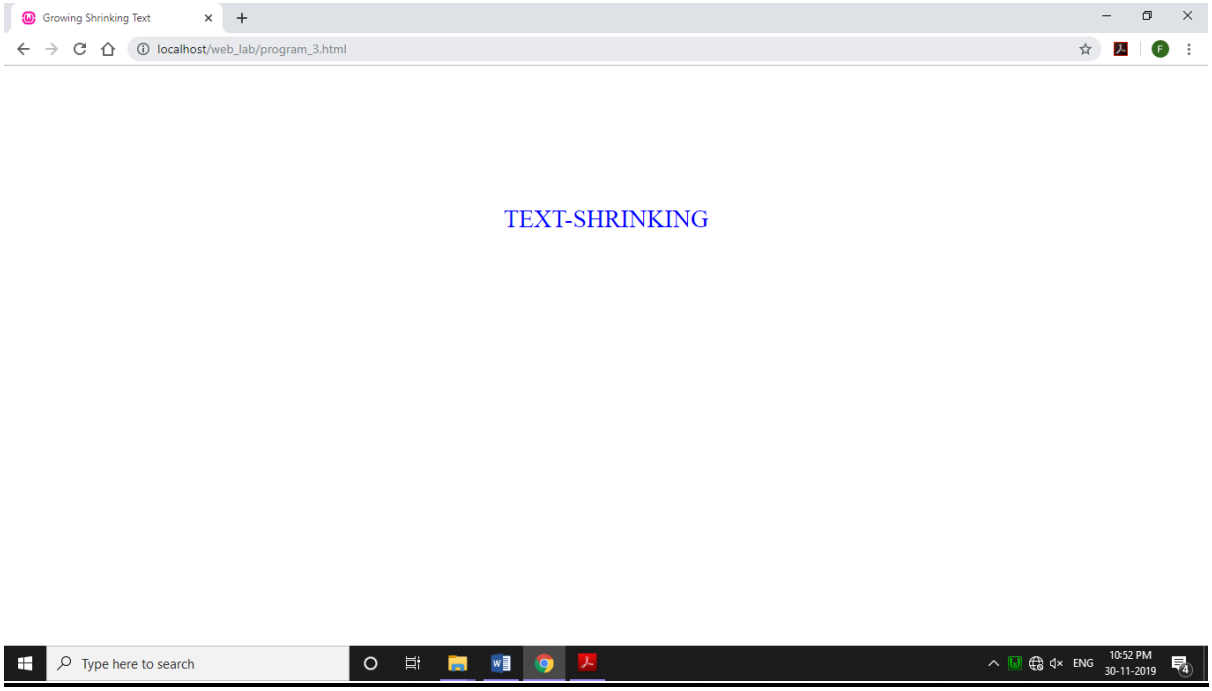
Write a JavaScript code that displays text "TEXT-GROWING" with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays "TEXT-SHRINKING" in BLUE color. Then the font size decreases to 5pt.

Filename: program_3.html

```
<!DOCTYPE html>
<html>
	<head>
		<title>Growing Shrinking Text</title>
		<script>
		var fontsize = 12;
		var growing = true;
		function controlText()
			{
				if(fontsize == 50)
					{
						message.style.color = "blue";
						message.innerHTML = "TEXT-SHRINKING";
						growing = false;
					}
				if(growing && fontsize < 50)
				message.style.fontSize = ++fontsize + "pt";
				else if(!growing && fontsize > 5)
					message.style.fontSize = --fontsize + "pt";
				else
					clearInterval();
			}
		</script>
		<style>
			#message {
					color:red;
					text-align:center;
					padding-top:150px;
				}
		</style>
	</head>
	<body onload = "setInterval(controlText, 100);">
	<div id="message">TEXT-GROWING</div>
</body>
</html>
```

OUTPUT:


Growing Shrinking Text
localhost/web_lab/program_3.html
TEXT-GROWING
Type here to search
ENG
10:52 PM
30-11-2019


Growing Shrinking Text
localhost/web_lab/program_3.html
TEXT-SHRINKING
Type here to search
ENG
10:52 PM
30-11-2019

PROGRAM 4:

Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:

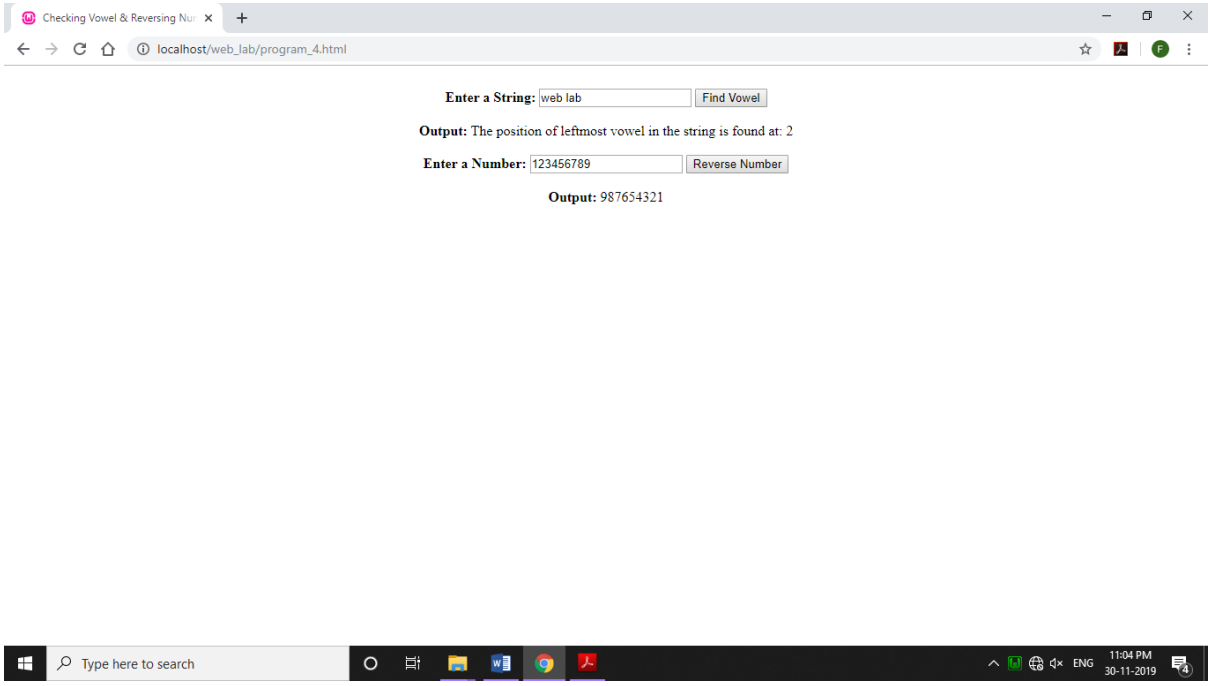
a) Parameter: A string
Output : The position in the string of the left-most vowel
b) Parameter: A number
Output : The number with its digits in the reverse order

Filename: program_4.html

```
<!DOCTYPE html>
<html>
<head>
<title>Checking Vowel & Reversing Number</title>

<script>
function findvowel(string)
{
var index = string.search(/[aeiou]/i);
stringOutput.innerText = (index >= 0)? ("The position of leftmost vowel in the string is found at: " +
(index + 1)) : "No vowel found.";
}
function reverse(n)
{
var reverse = 0;
for(; n != 0; n = Math.floor(n / 10))
reverse = reverse * 10 + n % 10;
numberOutput.innerText = reverse;
}
</script>
</head>
<body>
<center>
<br>
<span style='font-weight:bold'>Enter a String:</span>
<input type="text" id="stringInput">
<button onclick="findvowel(stringInput.value);">Find Vowel</button>
<br><br>
<span style='font-weight:bold'>Output:</span>
<div id="stringOutput" style='display:inline'></div>
<br><br>
<span style='font-weight:bold'>Enter a Number:</span>
<input type="number" id="numberInput">
<button onclick="reverse(numberInput.value);">Reverse Number</button>
<br><br>
<span style='font-weight:bold'>Output:</span>
<div id="numberOutput" style='display:inline'></div>
```

```
</center>
</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.

Filename: program_5.xml

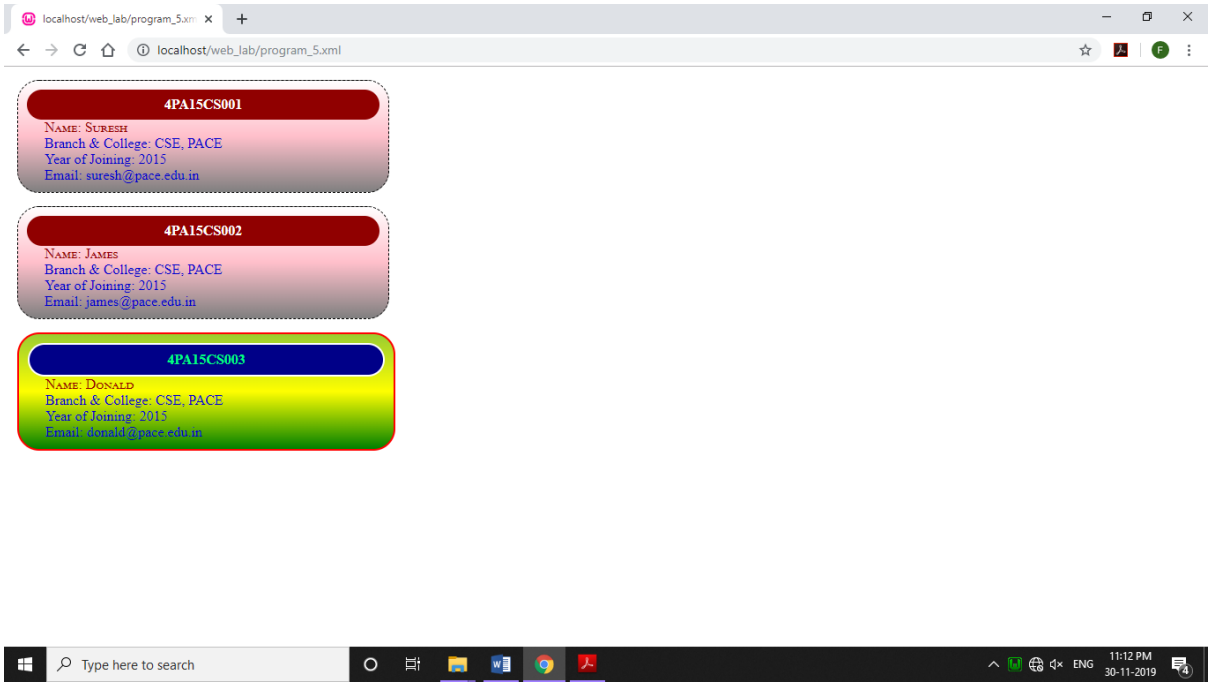
```
<?xml version = "1.0" ?>
<?xml-stylesheet type = "text/css" href = "program_5.css" ?>
<students>
	<student>
		<usn>4PA15CS001</usn>
		<name>Suresh</name>
		<branch>CSE</branch>
		<college>PACE</college>
		<yoj>2015</yoj>
		<email>suresh@pace.edu.in</email>
	</student>

	<student>
		<usn>4PA15CS002</usn>
		<name>James</name>
		<branch>CSE</branch>
		<college>PACE</college>
		<yoj>2015</yoj>
		<email>james@pace.edu.in</email>
	</student>

	<student>
		<usn>4PA15CS003</usn>
		<name>Donald</name>
		<branch>CSE</branch>
		<college>PACE</college>
		<yoj>2015</yoj>
		<email>donald@pace.edu.in</email>
	</student>
</students>
```

Filename: program_5.css

```
/* CSS Document */
student {
display: block; border-radius: 25px;
width: 400px; margin: 15px;
```

```
border: #000 thin dashed; padding: 10px;
color: #0000CC;
background: linear-gradient(white,pink,grey);
}
name, yoj, email {
display:block; padding-left:20px;
}
usn {
display: block; border-radius: 25px;
width: auto; padding: 8px;
background: #900000; color: #FFFFFF;
text-align: center; font: bold 12pt Times;
}
name {
color:#990000; font-variant:small-caps;
}
branch {
padding-left:20px;
}
name::before { content: "Name: " }
branch::before { content: "Branch & College: " }
branch::after { content: ", " }
yoj::before { content: "Year of Joining: " }
email::before { content: "Email: " }
student:hover{
background: linear-gradient(yellowgreen, yellow, green);
width: 405px; border: 2px solid red;
}
student:hover usn{
background: #000088; color: SpringGreen;
border: 2px solid white;
}
```

OUTPUT:


localhost/web_lab/program_5.xml
4PA15CS001
Name: Suresh
Branch & College: CSE, PACE
Year of Joining: 2015
Email: suresh@pace.edu.in
4PA15CS002
Name: James
Branch & College: CSE, PACE
Year of Joining: 2015
Email: james@pace.edu.in
4PA15CS003
Name: Donald
Branch & College: CSE, PACE
Year of Joining: 2015
Email: donald@pace.edu.in
Type here to search
ENG
11:12 PM
30-11-2019

NOTE:
Execution of .php Programs using XAMPP:

Step 1: Open XAMPP ->Manage Services-> Start All Services
Step 2: Save your program with .php extension. The program must be saved as **/xampp/htdocs** folder
Step 3: Open ur browser and use the **localhost** domain
(for eg. url: localhost/program_6.php)

PROGRAM 6.

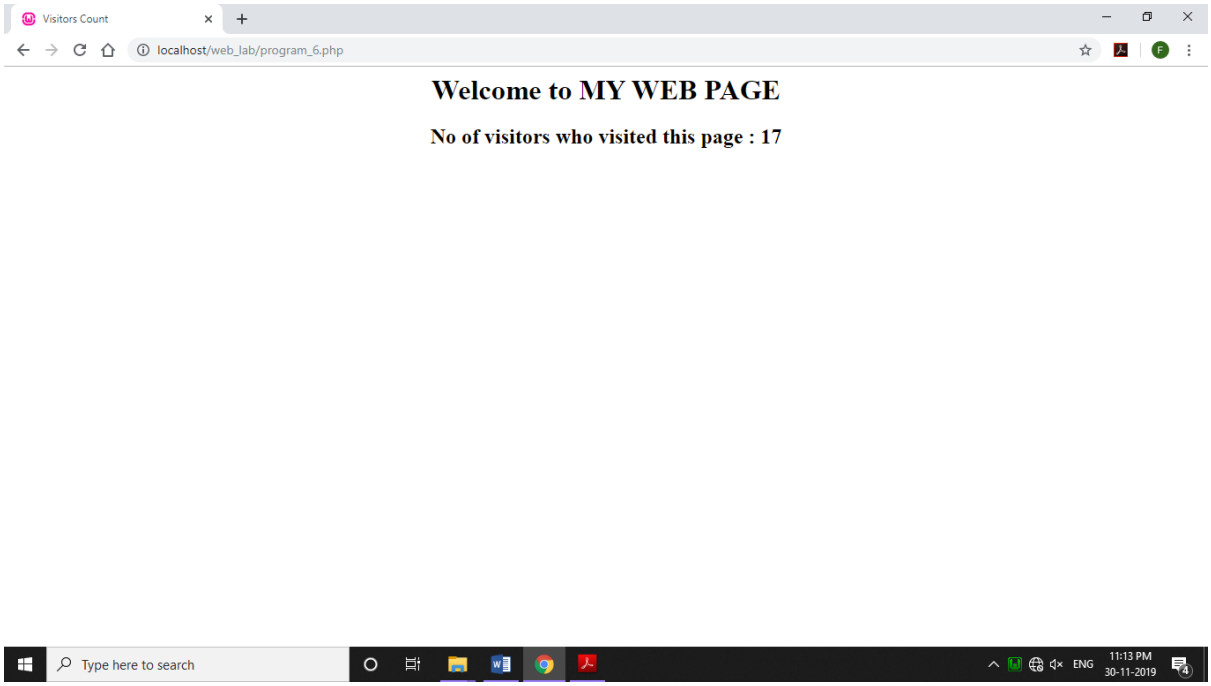
Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.

Filename: program_6.php

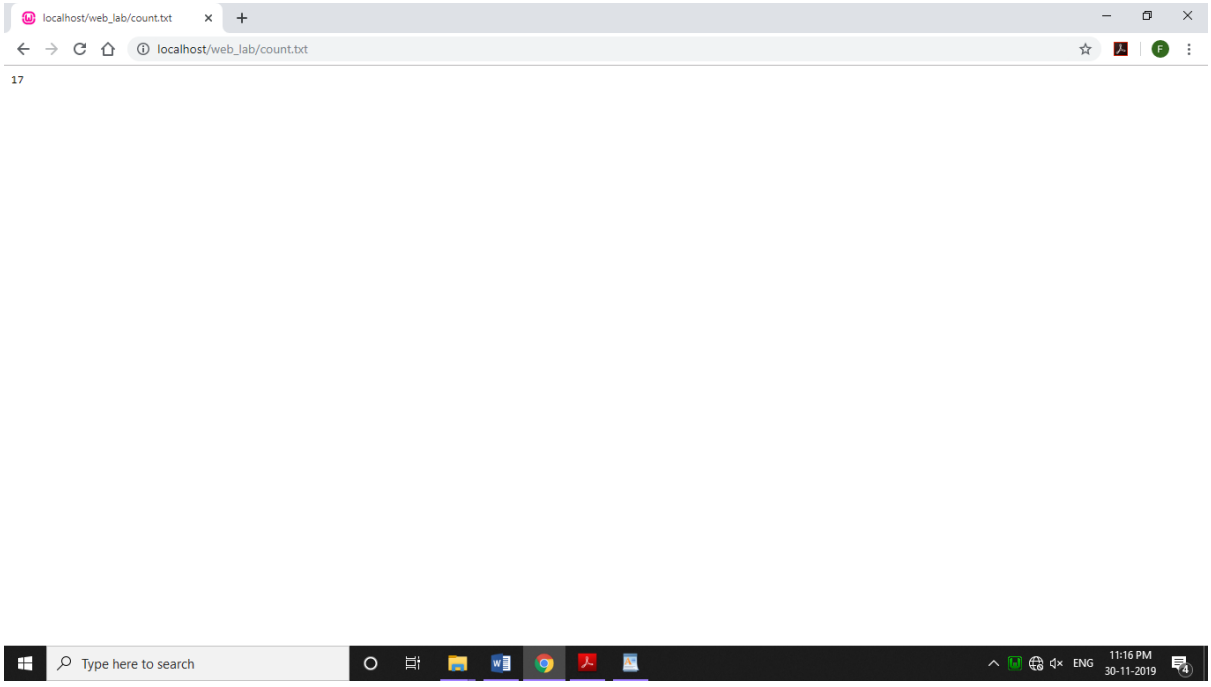
```
<html>
<head>
   <title>Visitors Count</title>
   <style type="text/css">
      h1,h2 {text-align: center}
   </style>
</head>
<body>
   <h1>Welcome to MY WEB PAGE</h1>
   <?php
   $file="count.txt";
   $handle=fopen($file,'r') or die("Cannot Open File : $file");
   $count=fread($handle,10);
   fclose($handle);
   $count++;
   echo "<h2>No of visitors who visited this page : $count </h2>";
   $handle=fopen($file,'w') or die("Cannot Open File : $file");
   fwrite($handle,$count);
   fclose($handle);
   ?>
</body>
</html>
```

NOTE: Create a file **count.txt** and save it in the same location of file program_6.php

OUTPUT:



count.txt file



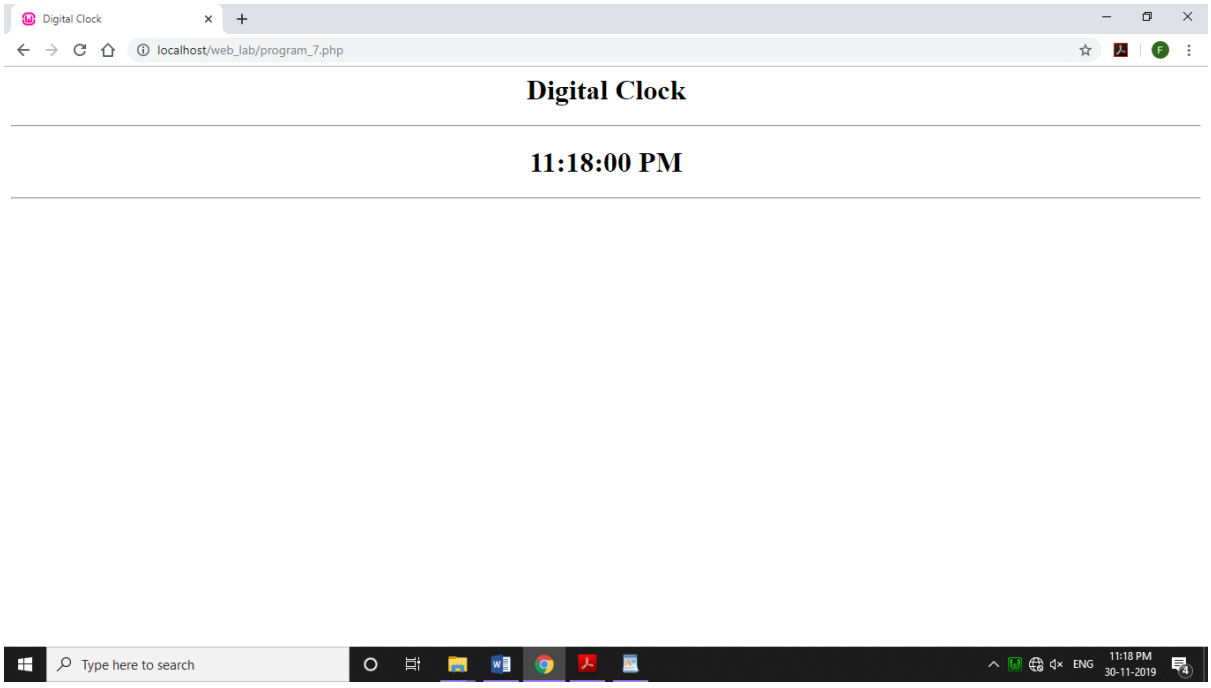
PROGRAM 7.

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

Filename: program_7.php

```
<html>
<head>
   <meta http-equiv="refresh" content="1">
   <title>Digital Clock</title>
   <style type="text/css">
      h1 {text-align: center}
   </style>
</head>
<body>
   <?php
   echo "<h1>Digital Clock</h1>";
   echo "<hr/>";
   echo "<h1>".date('h:i:s A')."</h1>";
   echo "<hr/>";
   ?>
</body>
</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.

Filename: program_8a.html

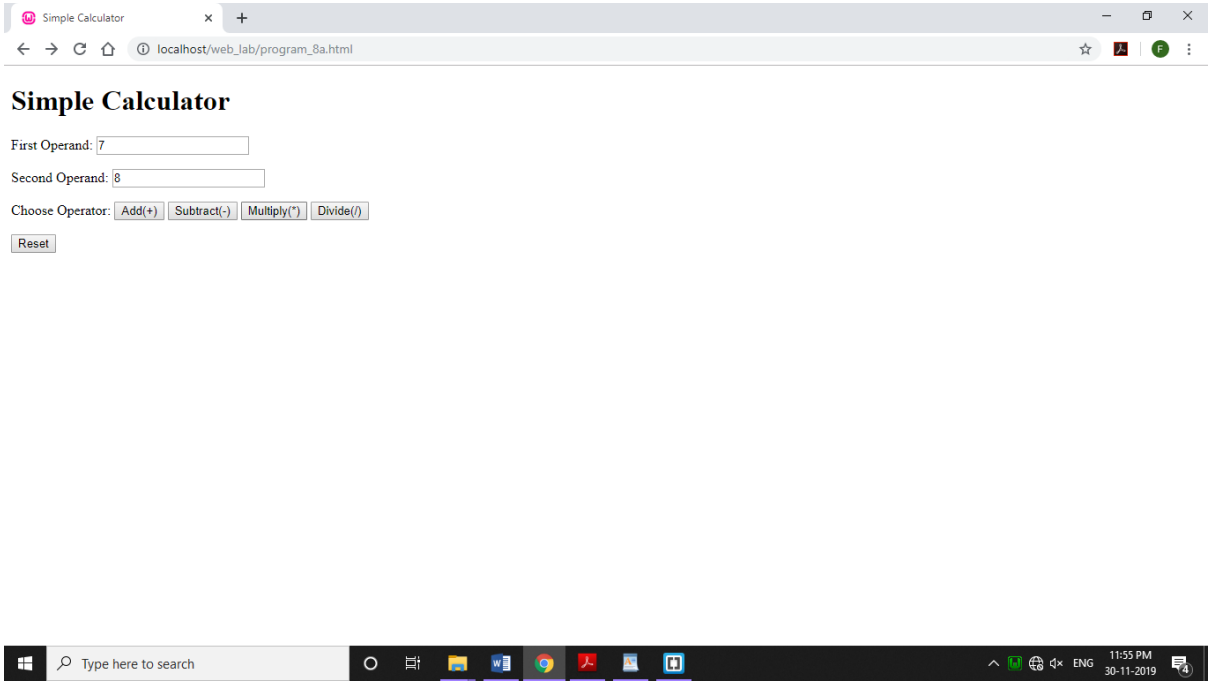
```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Simple Calculator</title>
</head>
<body>
   <form action="prog8a.php" method="post">
      <h1>Simple Calculator</h1>
      <p>First Operand: <input type="text" name="op1" /></p>
  <p>Second Operand: <input type="text" name="op2"></p>
      <p>Choose Operator:
         <button name = "operator" value="+"> Add(+)</button>
         <button name = "operator" value="-"> Subtract(-)</button>
         <button name = "operator" value="*"> Multiply(*)</button>
         <button name = "operator" value="/"> Divide(/)</button>
      </p>
          <p><input type="reset" name="submit" value="Reset"></p>
   </form>
</body>
</html>
```

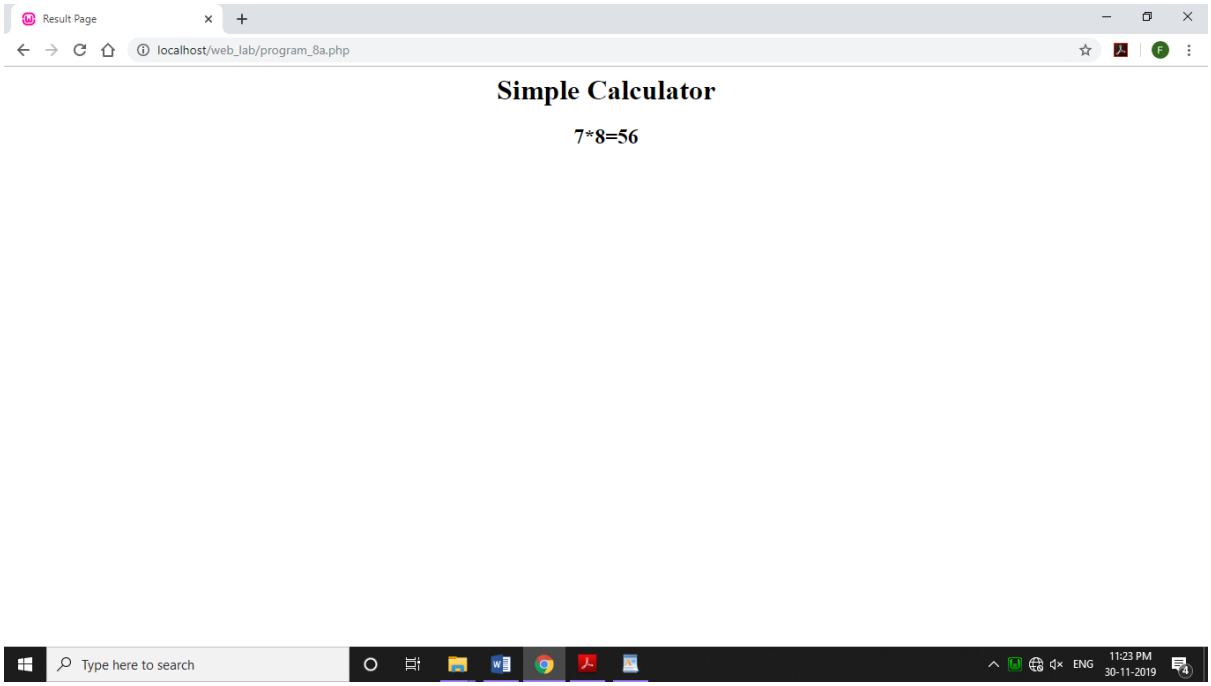
Filename: program_8a.php

```
<html>
<head>
   <title>Result Page</title>
   <style type="text/css">
      h1,h2 {text-align: center}
   </style>
</head>
<body>
   <?php
   $op1 = $_POST['op1'];
   $op2 = $_POST['op2'];
   $operator = $_POST['operator'];
   switch($operator)
   {
      case '+':$res=$op1+$op2;
```

```
            break;
        case '-':$res=$op1-$op2;
            break;
        case '*':$res=$op1*$op2;
            break;
        case '/':if($op2==0)
            $res=0;
        else
            $res=$op1/$op2;
            break;
    }
    echo "<h1>Simple Calculator</h1>";
    echo "<h2>".$op1.$operator.$op2."=".$res."</h2>";
    ?>
</body>
</html>
```

OUTPUT:



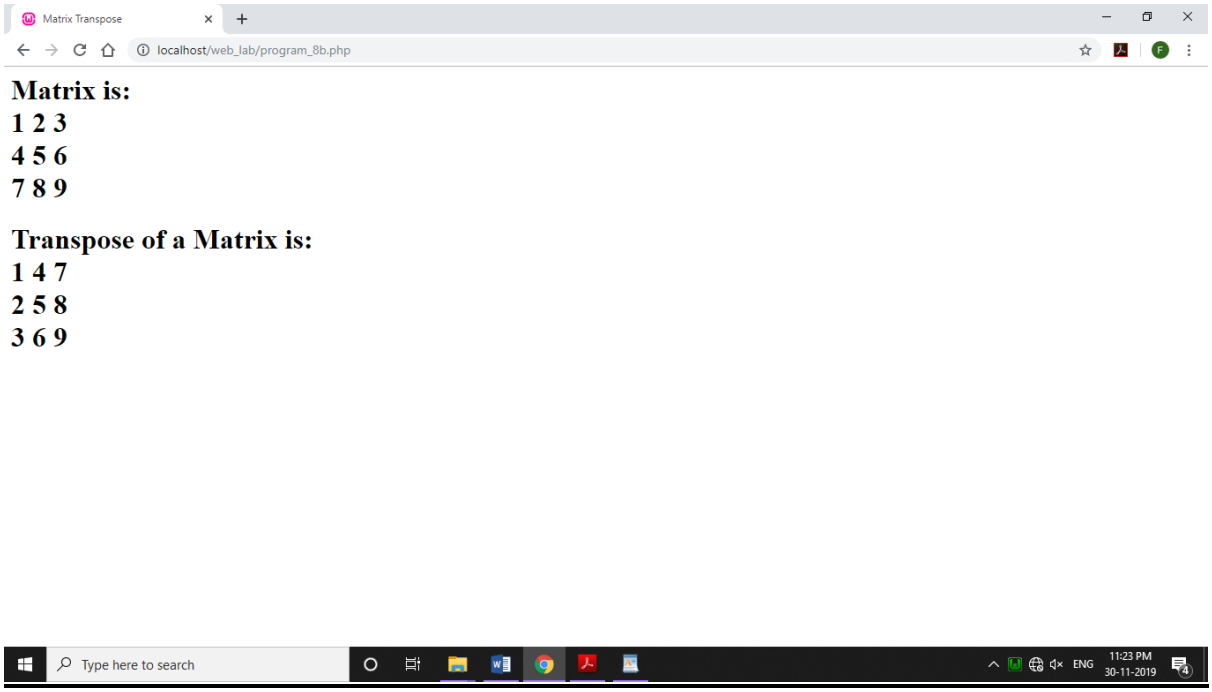


Filename: program_8b.php

```
<?php
$mat=Array(Array(1,2,3),
          Array(4,5,6),
          Array(7,8,9));  //Initializing Array in PHP
$transpose=array();
echo "<html><head><title>Matrix Transpose</title></head><body>";
echo "<h1>Matrix is:<br/>";
for($i=0;$i<count($mat);$i++)
{
   for ($j = 0; $j < count($mat[0]); $j++)
   {
      echo $mat[$i][$j] . " ";
   }
   echo "</br/>";
}
echo "</h1>";
for($i=0;$i<count($mat);$i++)       //calculation for Transpose
   for($j=0;$j<count($mat[0]);$j++)
   {
      $transpose[$j][$i]=$mat[$i][$j];
   }
echo "<h1>Transpose of a Matrix is:<br/>";
for($i=0;$i<count($transpose);$i++)
{
   for ($j = 0; $j < count($transpose[0]); $j++)
   {
      echo $transpose[$i][$j] . " ";
```

```
    }
    echo "<br/>";
}
echo "</h1>";
echo "</body></html>";
```

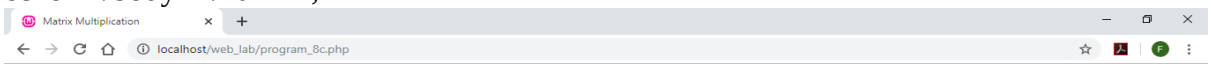
OUTPUT:



Filename: program_8c.php

```
<?php
$mat1=Array(Array(1,2,7),
            Array(3,4,5),
            Array(5,6,4));
$mat2=Array(Array(2,4,8),
            Array(1,3,5),
            Array(1,2,3));
echo "<html><head><title>Matrix Multiplication</title></head><body>";
if(count($mat1[0])!=count($mat2))
{
    echo "<h1>Incompatible Matrices</h1>";
    exit(0);
}
$res=array();
echo "<h1>Matrix A:<br/>";
for($i=0;$i<count($mat1);$i++)
{
    for ($j = 0; $j < count($mat1[0]); $j++)
    {
        echo $mat1[$i][$j] . " ";
```

```
    }
    echo "<br/>";
}
echo "</h1>";
echo "<h1>Matrix B:<br/>";
for($i=0;$i<count($mat2);$i++)
{
    for ($j = 0; $j < count($mat2[0]); $j++)
    {
        echo $mat2[$i][$j] . " ";
    }
    echo "<br/>";
}
echo "</h1>";
for($i=0;$i<count($mat1);$i++)
    for($j=0;$j<count($mat2[0]);$j++)
    {
        $res[$i][$j]=0;
        for($k=0;$k<count($mat2);$k++)
            $res[$i][$j]=$res[$i][$j]+$mat1[$i][$k]*$mat2[$k][$j];
}
echo "<h1>A x B:<br/>";
for($i=0;$i<count($res);$i++)
{
    for ($j = 0; $j < count($res); $j++)
    {
        echo $res[$i][$j] . " ";
    }
    echo "<br/>";
}
echo "</h1>";
echo "</body></html>";
```

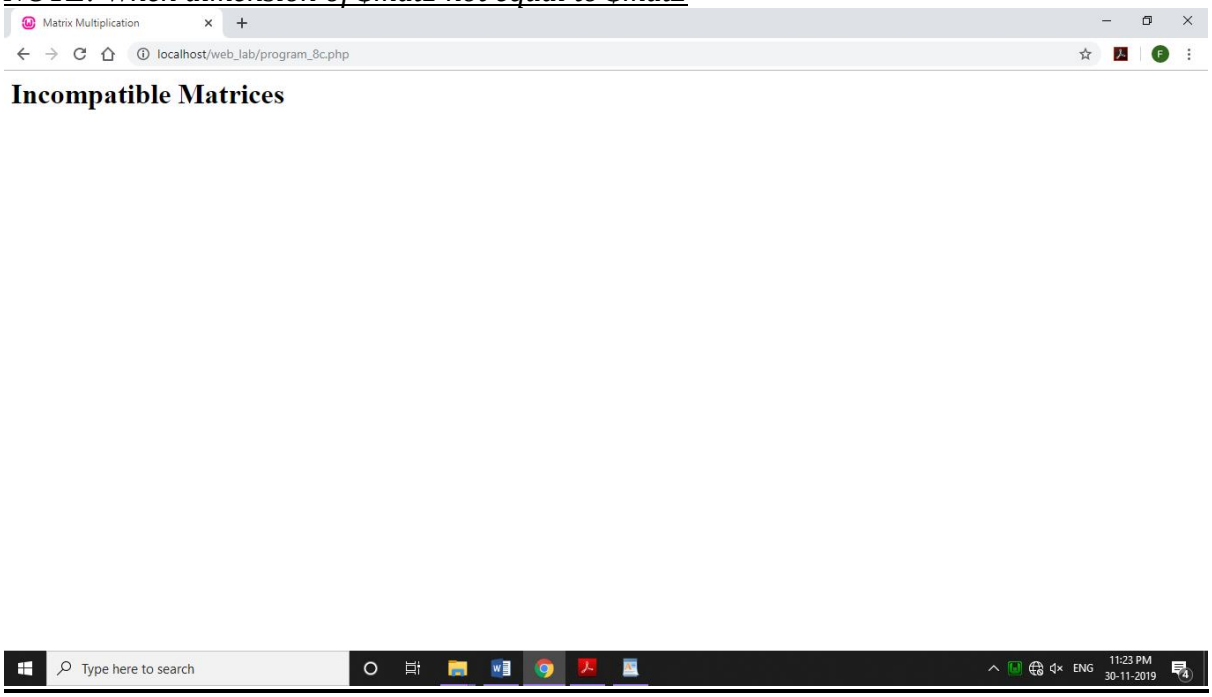


Matrix A:
1 2 7
3 4 5
5 6 4

Matrix B:
2 4 8
1 3 5
1 2 3

A x B:
11 24 39
15 34 59
20 46 82

NOTE: When dimension of $mat1 not equal to $mat2

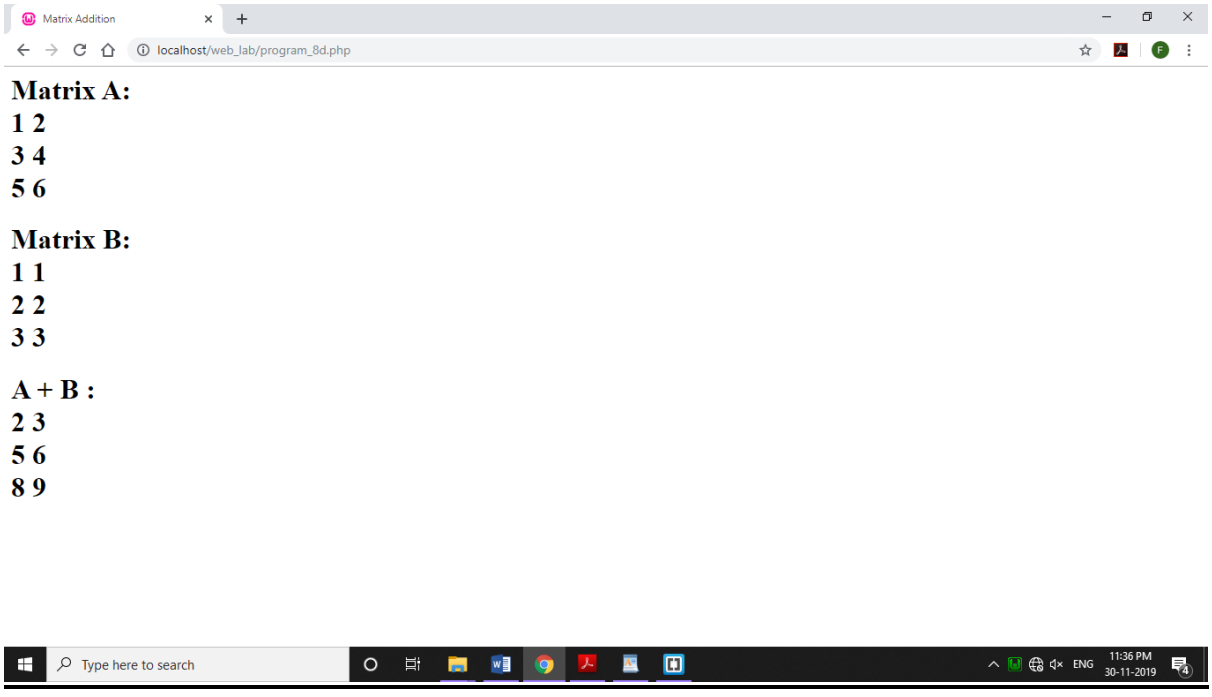


Filename: program_8d.php

```
<?php
$mat1=Array(Array(1,2),
   Array(3,4),
   Array(5,6));
$mat2=Array(Array(1,1),
   Array(2,2),
   Array(3,3));

echo "<html><head><title>Matrix Addition</title></head><body>";

if((count($mat1)!=count($mat2))||(count($mat1[0])!=count($mat2[0])))
{
   echo "<h1>Incompatible Matrices</h1>";
   exit(0);
}
echo "<h1>Matrix A:<br/>";
for($i=0;$i<count($mat1);$i++)
{
   for ($j = 0; $j < count($mat1[0]); $j++)
   {
      echo $mat1[$i][$j] . " ";
   }
   echo "<br/>";
}
echo "</h1>";

echo "<h1>Matrix B:<br/>";
```

```
for($i=0;$i<count($mat2);$i++)
{
   for ($j = 0; $j < count($mat2[0]); $j++)
   {
      echo $mat2[$i][$j] . " ";
   }
   echo "<br/>";
}
echo "</h1>";

$res=array();

for($i=0;$i<count($mat1);$i++)
   for($j=0;$j<count($mat1[0]);$j++)
   {
      $res[$i][$j]=$mat1[$i][$j]+$mat2[$i][$j];
   }
echo "<h1>A + B :<br/>";
for($i=0;$i<count($res);$i++)
{
   for ($j = 0; $j < count($res[0]); $j++)
   {
      echo $res[$i][$j] . " ";
   }
   echo "<br/>";
}
echo "</h1>";
```

OUTPUT:



PROGRAM 9

Write a PHP program named states.php 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 *statesList*.

b) Search for a word in states that *begins with k* and *ends in s*. Perform a case-insensitive comparison. Store this word in element 1 of *statesList*.

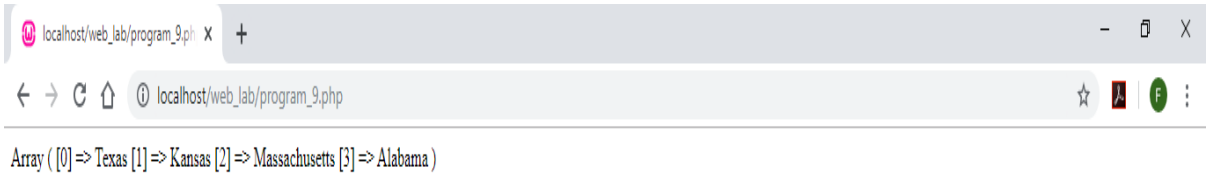
c) Search for a word in states that *begins with M* and *ends in s*. Store this word in element 2 of the list.

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

Filename: program_9.php

```
<?php //String Matching
$states = "Mississippi Alabama Texas Massachusetts Kansas";
if (preg_match("/[a-zA-Z]*xas\b/", $states, $match))
$statesList[0] = $match[0];
if (preg_match("/\bk[a-z]*s\b/i", $states, $match))
$statesList[1] = $match[0];
if (preg_match("/\bM[a-z]*s\b/", $states, $match))
$statesList[2] = $match[0];
if (preg_match("/[a-zA-Z]*a\b/", $states, $match))
$statesList[3] = $match[0];
print_r($statesList);
?>
```

OUTPUT:



PROGRAM 10

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

Filename: program_10.php

```
<html>
<head>
   <title>Select Sort on student records</title>
   <style type="text/css">
      h1 {text-align: center}
   </style>
</head>
<body>
   <h1>Selection Sort on sample student data</h1>
   <form action="" method="post">
      <h1>Sort By :
         <select name="field">
            <option value="" disabled selected>Choose Field</option>
            <option value="name">Name</option>
            <option value="usn">USN</option>
            <option value="year">Year</option>
            <option value="marks">Marks</option>
            <option value="coll">College</option>
         </select>
      </h1>
      <h1>
         <input type="submit" name="submit" value="Submit">
         <input type="reset" name="reset" value="Reset">
      </h1>
   </form>
      <?php
      function selection_sort($data,$keys)
      {
         for($i=0; $i<count($data)-1; $i++)
         {
            $min = $i;
            for($j=$i+1; $j<count($data); $j++)
            {
               if ($data[$j]<$data[$min])
               {
                  $min = $j;
               }
            }
            $data = swap_positions($data, $i, $min);
            $keys = swap_positions($keys, $i, $min);
         }
         return $keys;
```

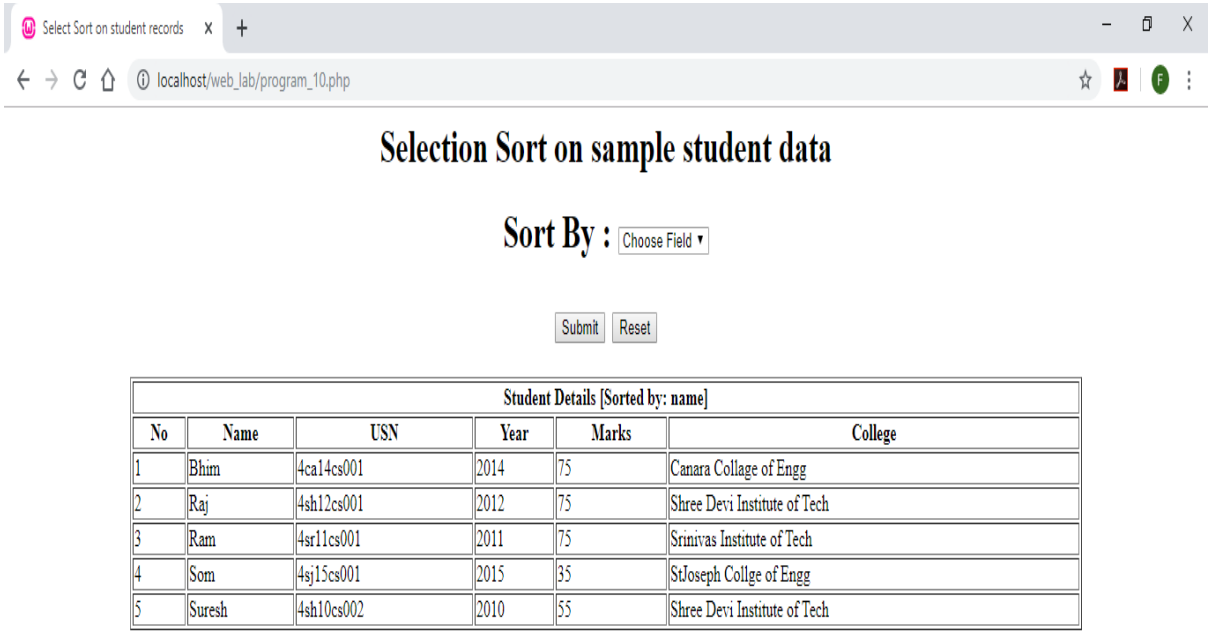
```
    }

    function swap_positions($data1, $left, $right)
    {
       $temp = $data1[$right];
       $data1[$right] = $data1[$left];
       $data1[$left] = $temp;
       return $data1;
    }
    $sql=mysqli_connect("localhost","root","","prog10");
    $str="select * from studentdetails";
    $res=mysqli_query($sql,$str);
    $field="none";
    $myarr=[];
    $original=[];
    $i=1;
    while($arr=mysqli_fetch_assoc($res))
    {
       $myarr[]=$arr;
    }
    if(isset($_POST['submit']))
    {
       $field=$_POST['field'];
       $original=array_column($myarr,$field,'id'); // Create Associate array with
(key,value)=('id',$feild)
       $orginalKey=array_keys($original);
       $originalVal=array_values($original);
       $sortedkeys=selection_sort($originalVal,$orginalKey);
       $myarr=[];
       foreach ($sortedkeys as $key)
       {
          $str="select * from studentdetails WHERE id='$key'";
          $res=mysqli_query($sql,$str);
          $myarr[]=mysqli_fetch_assoc($res);
       }
    }
    ?>
  <table border="1" width="80%" align="center">
    <tr>
       <th colspan="6">Student Details [Sorted by: <?php echo $field;?>]</th>
    </tr>
    <tr>
       <th>No</th>
       <th>Name</th>
       <th>USN</th>
       <th>Year</th>
       <th>Marks</th>
       <th>College</th>
    </tr>
    <?php foreach ($myarr as $arr): ?>
```

```
        <tr>
          <td><?php echo $i++; ?></td>
          <td><?php echo $arr['name']; ?></td>
          <td><?php echo $arr['usn']; ?></td>
          <td><?php echo $arr['year']; ?></td>
          <td><?php echo $arr['marks']; ?></td>
          <td><?php echo $arr['coll']; ?></td>
        </tr>
      <?php endforeach; ?>
   </table>
</body>
</html>
```

NOTE: *Records must be manually inserted into the Database (mysql)*

1. Create Database
2. Use Database
3. Create Table
4. Insert atleast 5 sample data into Table.

OUTPUT:



Student Details [Sorted by: name]					
No	Name	USN	Year	Marks	College
1	Bhim	4ca14cs001	2014	75	Canara Collage of Engg
2	Raj	4sh12cs001	2012	75	Shree Devi Institute of Tech
3	Ram	4sr11cs001	2011	75	Srinivas Institute of Tech
4	Som	4sj15cs001	2015	35	StJoseph Collge of Engg
5	Suresh	4sh10cs002	2010	55	Shree Devi Institute of Tech

Selection Sort on sample student data

Sort By : Choose Field

Submit Reset

Student Details [Sorted by: marks]					
No	Name	USN	Year	Marks	College
1	Som	4sj15cs001	2015	35	StJoseph Collge of Engg
2	Suresh	4sh10cs002	2010	55	Shree Devi Institute of Tech
3	Ram	4sr11cs001	2011	75	Srinivas Institute of Tech
4	Raj	4sh12cs001	2012	75	Shree Devi Institute of Tech
5	Bhim	4ca14cs001	2014	75	Canara Collage of Engg