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

HTML:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Calculator – JavaScript and HTML</title>
    </head>
    <body>
    <div id='calc-contain'>
    <form name="calculator">
    <input type="text" name="answer" />

    <br>

    <input type="button" value=" 1 " onclick="calculator.answer.value += '1'" />
    <input type="button" value=" 2 " onclick="calculator.answer.value += '2'" />
    <input type="button" value=" 3 " onclick="calculator.answer.value += '3'" />
    <input type="button" value=" + " onclick="calculator.answer.value += '+'" />
    <br/>

    <input type="button" value=" 4 " onclick="calculator.answer.value += '4'" />
    <input type="button" value=" 5 " onclick="calculator.answer.value += '5'" />
    <input type="button" value=" 6 " onclick="calculator.answer.value += '6'" />
    <input type="button" value=" - " onclick="calculator.answer.value += '-'" />
    </br>

    <input type="button" value=" 7 " onclick="calculator.answer.value += '7'" />
    <input type="button" value=" 8 " onclick="calculator.answer.value += '8'" />
    <input type="button" value=" 9 " onclick="calculator.answer.value += '9'" />
    <input type="button" value=" x " onclick="calculator.answer.value += '*'" />
```

```
        </br>

        <input type="button" value=" c " onclick="calculator.answer.value = "" />
        <input type="button" value=" 0 " onclick="calculator.answer.value += '0'" />
        <input type="button" value=" = " onclick="calculator.answer.value =
        eval(calculator.answer.value)" />
        <input type="button" value=" / " onclick="calculator.answer.value += '/'" />
        </br>
        </form>

            <div id="agh">
                <p>K.S. Institute Of Technology</p>
            </div>
        </div>
        </body>
</html>
```

CSS:

```
#calc-contain{
position: relative;
width: 400px;
border: 2px solid black;
border-radius: 12px;
margin: 0px auto;
padding: 20px 20px 100px 20px;
}
#agh{
position: relative;
float: right;
margin-top: 15px;
color: red;
```

```
}
#agh p{
font-size: 20px;
font-weight: 900;
color: red;
}
input[type=button] {
background: lightGray;
width: 20%;
font-size: 20px;
font-weight: 900;
border-radius: 7px;
margin-left: 13px;
margin-top: 10px;
}
input[type=button]:active {
background-color: #3e8e41;
box-shadow: 0 5px #666;
transform: translateY(4px);
}
input[type=button]:hover {
background-color: #003300;
color: white;
}
input[type = text] {
position: relative;
display: block;
width: 90%;
margin: 5px auto;
font-size: 20px;
```

```
padding: 10px;
box-shadow: 4px 0px 12px black inset;
}
```

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.

```
<html>
<head>
<script>
document.write('<h1 align="right">Squares and Cubes of the numbers from 0 to 10</h1>');
document.write('<center><table width="30%" border="1" bgcolor="white">');
document.write( "<tr> <th>Number</th> <th>Square</th> <th>Cube</th> </tr>" ) ;
for(var n=0; n<=10; n++)
{
document.write( "<tr><td>" + n + "</td><td>" + n*n + "</td><td>" + n*n*n + "</td></tr>" );
}
document.write( "</table>" );
</script>
</head>
</html>
```

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.

```
<!DOCTYPE html>
<html>
<body>
<p id="myP1">TEXT-GROWING.</p>
<p id="myP2">TEXT-SHRININKING</p>
</body>
<script>
//Global declerations
var size = 10;
vari =0;
var myWait1 = setInterval(GrowText1, 100);
function GrowText1()
{
	if(size<51)
	{
		size = size + 1;
		document.getElementById("myP1").style.fontSize = (size+'pt');
		document.getElementById("myP1").style.color = "red";
		//Hide the paragraph "text-shriniking"
		document.getElementById("myP2").style.visibility = "hidden";
	}
	else
	{
		clearInterval(myWait1);
		myWait1 = setInterval(ShrinkText1, 100);
		//Now hide the 1st paragraph and display the second paragraph
		document.getElementById("myP1").style.visibility = "hidden";
```

```
                document.getElementById("myP1").style.fontSize = '1pt';
                document.getElementById("myP2").style.visibility = "visible";
        }
}
function ShrinkText1()
{
        if(size>5)
        {
                size = size - 1;
                document.getElementById("myP2").style.fontSize = (size+'pt');
                document.getElementById("myP2").style.color = "blue";
        }
        else
        {
                clearInterval(myWait1);
        }
}
</script>
</html>
```

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.

4a)
```
<html>
<head><title>3A PROGRAM</title>
<SCRIPT>
function vow(st)
{
var pos;
pos=st.search(/[aeiouAEIOU]/);
if(pos<0)
alert("pattern not found\n");
else
alert("Position of the left most vowel is "+(pos+1));
}
</SCRIPT>
</head>
<body>
<FORM><p>Enter the text</p>
<input type="text" id="voweltext"/>
<input type="button" value="Click here" onclick="vow(voweltext.value);"/>
</FORM></body>
</html>
```

4b)

```
<html>
<title>Reverse Number</title>
<script>
	function rev()
		{
			var n=prompt("Enter Number"," ");
			n=parseInt(n);
			var temp=0,rev=0;
			while(n>0)
		{
			temp=n%10;
			rev=rev*10+temp;
			n=n/10;
			n=parseInt(n);
		}
	document.write("The Reverse number is:",rev);
		}
</script>
<body>
<form>
<input type="button" value="Enter No" onclick="rev()";>
</form>
</body>
</html>
```

Apache, Lamp, PHP Installation

Step 1: Install Apache and Allow in Firewall

sudo apt-get update

sudo apt-get install apache2

Step 2: Install MySQL

sudo apt-get install mysql-server

Step 3: Install PHP

sudo apt-get install php libapache2-mod-php php-mcrypt php-mysql

Program No.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.

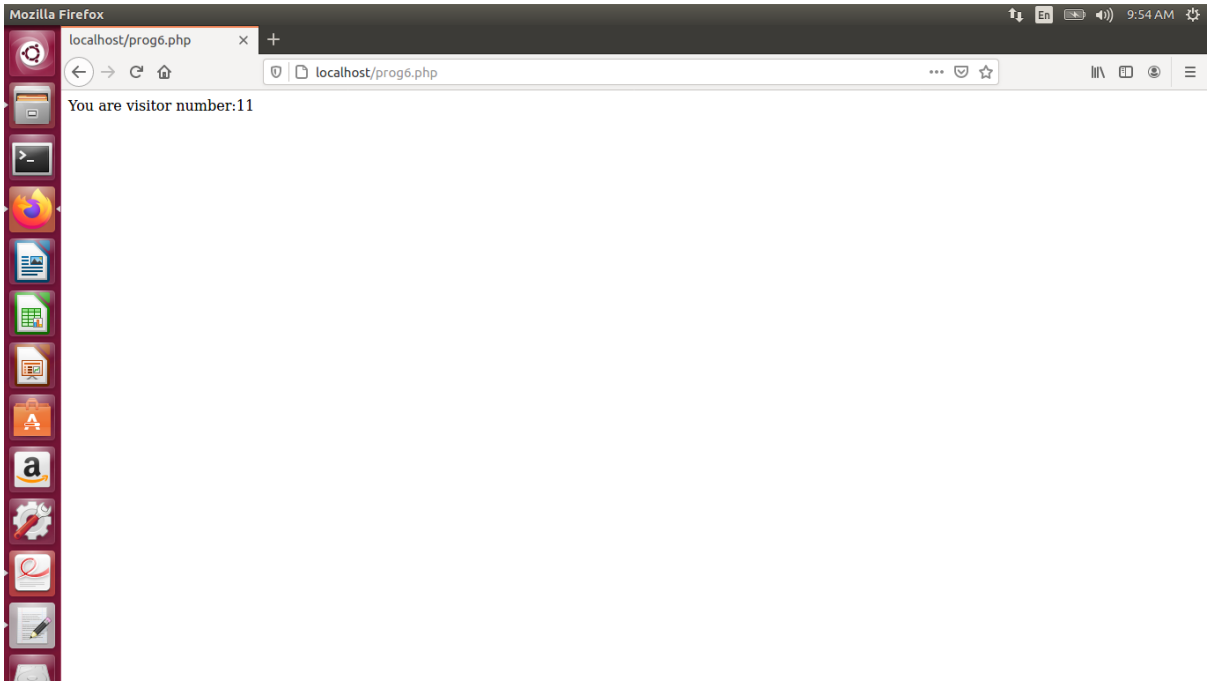
PHP Script

```
<?php
$file = 'count.txt';
$count = strval(file_get_contents($file));
file_put_contents($file, $count + 1);
echo("You are visitor number:".$count);
?>
```

Steps for PHP Execution

1. vi prog6.php
2. Type the program
3. Save Program in vi editor Esc->**Shift** + **:** ->wq
4. Press Y for Yes to Program Save
5. Run the program in Web Browser localhost/prog6.php

Output



Program No.7

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

PHP Script

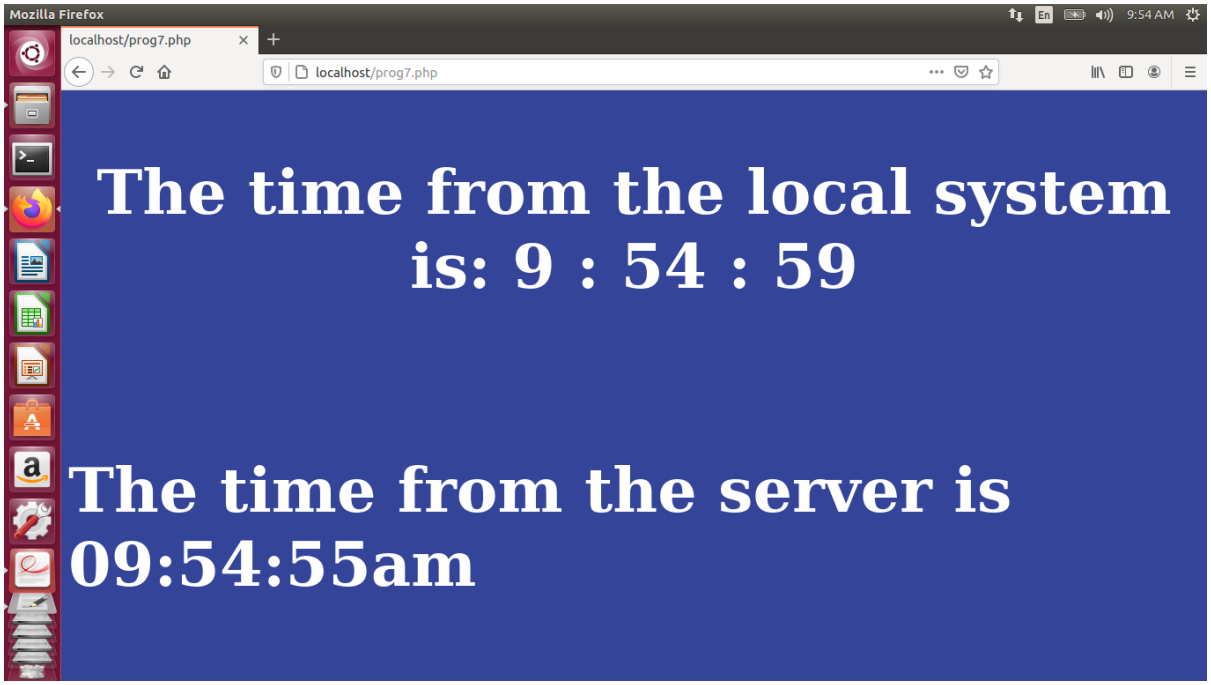
```
<html>
<head>

<script type="text/javascript">
function startTime()
{
var d= new Date();
var h= d.getHours();
var m= d.getMinutes();
var s= d.getSeconds();
document.getElementById("txt").innerHTML= h+" : "+m+" : "+s;
setTimeout('startTime()', 1000);
}
</script>

<style type="text/css">
h1
{
  font-size: 70px;
}
</style>
</head>

<body bgcolor = "#349" text="white" onload="startTime()">
<br>
<h1 align= "center"> The time from the local system is:
```

```
<span id= "txt"></span>
</h1>
</body>
</html>


</br>
</br>
</br>
</br>



<?php
$today = date("H:i:s");
?>


<!DOCTYPE html>
<html>
<body>
<h1>
<?php echo "The time from the server is " . date("h:i:sa");?>
</h1>
</body>
</html>
```

Steps for PHP Execution

1. vi prog7.php
2. Type the program
3. Save Program in vi editor Esc->**Shift** + **:** ->wq
4. Press Y for Yes to Program Save
5. Run the program in Web Browser localhost/prog7.php

Output


Mozilla Firefox
9:54 AM
localhost/prog7.php
localhost/prog7.php
The time from the local system is: 9 : 54 : 59
The time from the server is 09:54:55am

Program No.8

Write the PHP Programs to do the following

a) Implement simple calculator operations.

PHP Script

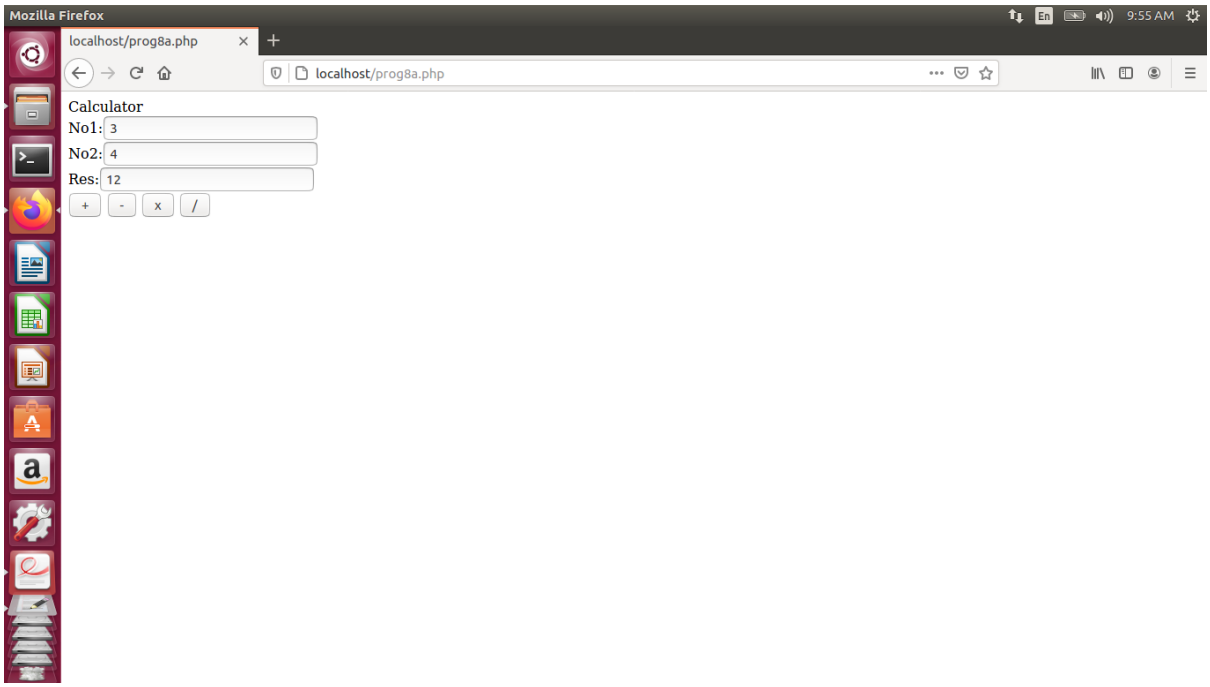
```
<?php
if(isset($_POST['sub']))
{
$txt1=$_POST['n1'];
$txt2=$_POST['n2'];
$oprnd=$_POST['sub'];
if($oprnd=="+")
$res=$txt1+$txt2;
else if($oprnd=="-")
$res=$txt1-$txt2;
else if($oprnd=="x")
$res=$txt1*$txt2;
else if($oprnd=="/")
$res=$txt1/$txt2;
}
?>
<html>
<form method="post" action="">
Calculator
</br>
No1:<input name="n1" value="<?php echo $txt1; ?>" >
</br>
No2:<input name="n2" value="<?php echo $txt2; ?>">
</br>
Res:<input name="res" value="<?php echo $res; ?>">
```

```
</br>
<input type="submit" name="sub" value="+">
<input type="submit" name="sub" value="-">
<input type="submit" name="sub" value="x">
<input type="submit" name="sub" value="/">
</form>
</html>
```

Steps for PHP Execution

1. vi prog8a.php
2. Type the program
3. Save Program in vi editor Esc->**Shift** + **:** ->wq
4. Press Y for Yes to Program Save
5. Run the program in Web Browser localhost/prog8a.php

Output



Program No.8

Write the PHP Programs to do the following

b) Transpose of a matrix & c) Addition of matrix and multiplication of two matrices.

PHP Script

```
<?php
header('Content-Type: text/plain');
$matrix1 = array(
array(1, 2),
array(4, 5),
);

$matrix2 = array(
array(1, 2),
array(4, 5),
);

echo "\n\n\n";
echo "The order of the matrix A is:" .count($matrix1)."x".count($matrix1[0]);
echo "\n";
echo "The order of the matrix B is:" .count($matrix1)."x".count($matrix2[0]);
echo "\n";

$rowCount= count($matrix1);
$colCount = count($matrix1[0]);

echo "The input matrix A is:\n";
for($r=0; $r<$rowCount; $r++)
{
        for($c=0; $c < $colCount; $c++)
```

```
        {
                echo $matrix1[$r][$c]." \t";
        }
        echo "\n";
}

echo "The input matrix B is:\n";
for($r=0; $r<$rowCount; $r++)
{
        for($c=0; $c < $colCount; $c++)
        {
                echo $matrix1[$r][$c]." \t";
        }
        echo "\n";
}

echo "\nThe output Transpose of matrix is:\n";

for($r=0; $c < $colCount; $r++)
{
        for($c=0; $c < $rowCount; $c++)
        {
                echo $matrix1[$c][$r]." \t";
        }
        echo "\n";
}

$rowCount= count($matrix1);
$colCount = count($matrix1[0]);
$rowCount2 = count($matrix2);
```

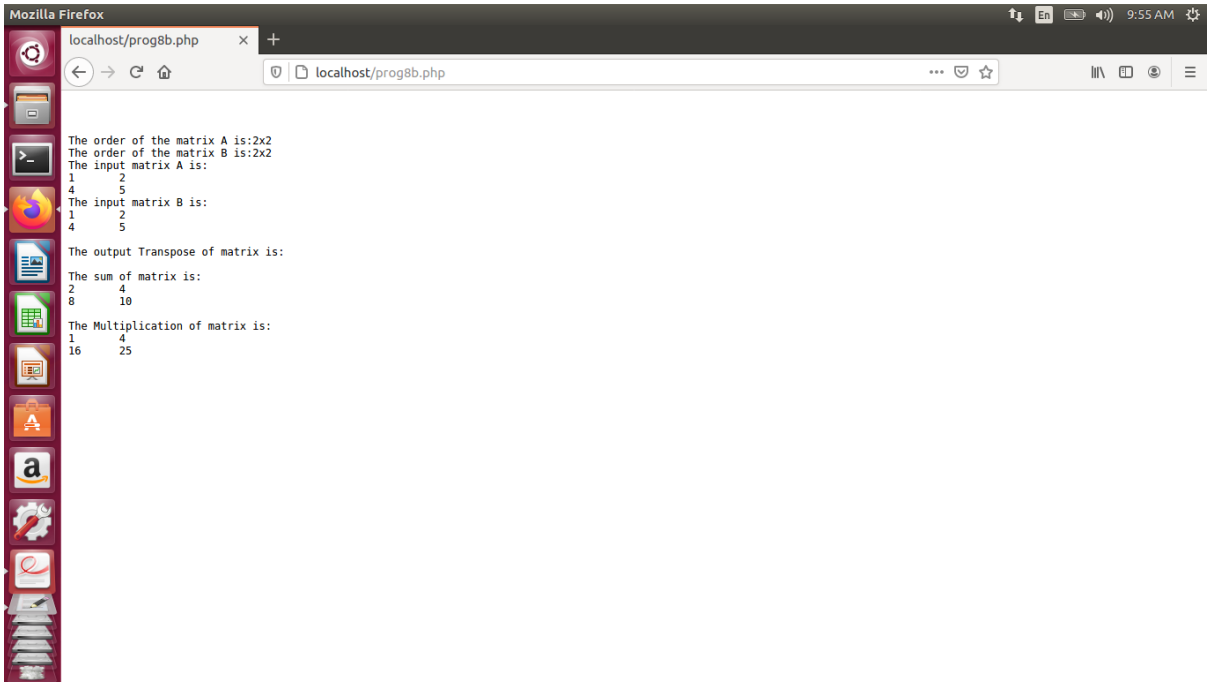
```
$colCount2 = count($matrix2[0]);

echo "\nThe sum of matrix is:\n";

for($r = 0; $r < $rowCount; $r++)
{
	for($c=0; $c < $colCount; $c++)
	{
		$val= $matrix1[$r][$c] + $matrix2[$r][$c];
		echo $val."\t";
	}
	echo "\n";
}

$rowCount= count($matrix1);
$colCount = count($matrix1[0]);
$rowCount2 = count($matrix2);
$colCount2 = count($matrix2[0]);

echo "\nThe Multiplication of matrix is:\n";

if($colCount == $rowCount2)
{
	for($r=0; $r < $rowCount; $r++)
	{
		for($c=0; $c < $colCount; $c++)
		{
			$val= $matrix1[$r][$c] * $matrix2[$r][$c];
			echo $val."\t";
		}
```

```
        echo "\n";


        }
}
else
{
        echo "The matrix multiplication is not possible.";
}
?>
```

Steps for PHP Execution

1. vi prog8b.php
2. Type the program
3. Save Program in vi editor Esc->**Shift** + **:** ->wq
4. Press Y for Yes to Program Save
5. Run the program in Web Browser localhost/prog8b.php

Output



Program No.9

Write a PHP program named states.py that declares a variable states with the 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. [Note: Passing re.Ias s second parameter to method compile performs 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 element in 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 Script

```
<?php
header('Content-Type: text/plain');
$allTheStates = "Mississippi Alabama Texas Massachusetts Kansas tuxas";
$statesArray = [];
$states1 = explode(' ',$allTheStates);
$i = 0;
//states that ends in xas
foreach($states1 as $state) {
if(preg_match( '/xas$/', ($state)))
{
$statesArray[$i] = ($state);
$i = $i + 1;
print "\nThe States that ends in xas:" . $state;
}
}
//states that begins with k and ends in s
foreach($states1 as $state)
{
if(preg_match('/^k.*s$/i', ($state)))
```

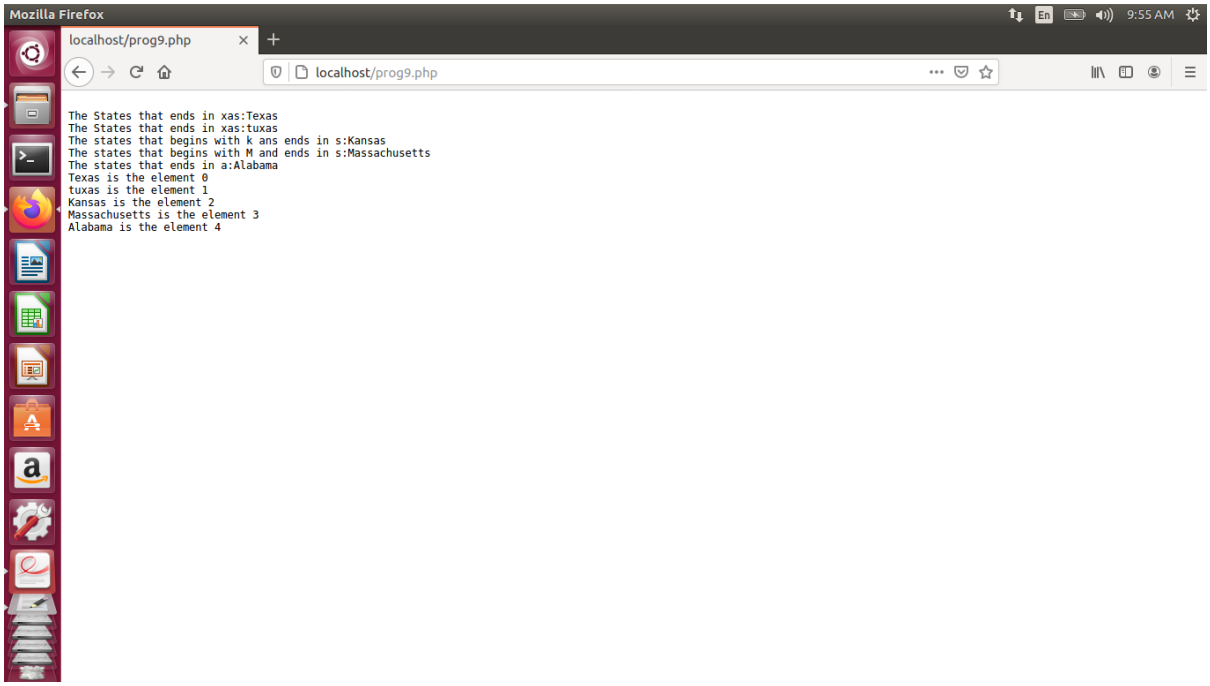
```
{ $statesArray[$i] = ($state);
$i = $i + 1;
echo "\nThe states that begins with k ans ends in s:" . $state;
}
}
//states that begins with M and ends in s
foreach($states1 as $state) {
if(preg_match('/^M.*s$/', ($state)))
{
$statesArray[$i] = ($state);
$i = $i + 1;
echo "\nThe states that begins with M and ends in s:" . $state;
}
}
//states that ends in a
foreach($states1 as $state) {
if(preg_match('/a$/', ($state)))
{
$statesArray[$i] = ($state);
$i = $i + 1;
echo "\nThe states that ends in a:" . $state;
}
}
//}
foreach( $statesArray as $element => $value ){
print( "\n" . $value." is the element ". $element);
}
?>
```

Steps for PHP Execution

1. vi prog9.php
2. Type the program

3. Save Program in vi editor Esc->**Shift** + **:** ->wq
4. Press Y for Yes to Program Save
5. Run the program in Web Browser localhost/prog9.php

Output



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

```
<!DOCTYPE html>
<html>
<head>
   <title>Selection Sort</title>
</head>

<!-- jQuery 3 -->
<script src="jquery.min.js"></script>

<script type="text/javascript">
var globalData=null;
var tempData;
if(tempData===null||tempData===undefined){
  tempData={};
}

tempData={
   saveRecord:function(){
      var url="ajaxInfo.php";
      var formEQData = new FormData($('#formRecord')[0]);
      formEQData.append("saveRecord","saveRecord");

      $.ajax({
        type:"POST",
        url:url,
        async: false,
        dataType: 'json',
        cache : false,
        processData: false,
        contentType: false,
        data:formEQData,
        success: function(obj) {
           alert(obj.msg);
           tempData.getRecord(); // Calling function to fetch the Record from DB.
        }
      });
   },
   getRecord:function(){
      var url="ajaxInfo.php";
      var myData = {getRecord:'getRecord'};

      $.ajax({
        type:"POST",
        url:url,
        async: false,
        dataType: 'json',
        data:myData,
```

```
        success: function(obj) {
          globalData=obj.studentArr; // Assigning to Global Variable

          var content="";
           $('#tableRow').html("");
          for(var i = 0; i<obj.studentArr.length; i++) {

content+='<tr><td>'+obj.studentArr[i].stu_id+'</td><td>'+obj.studentArr[i].stu_name+'</td>
'+'<td>'+obj.studentArr[i].stu_mobile+'</td><td>'+obj.studentArr[i].stu_email+'</td></tr>';
           }
           $('#tableRow').append(content);
        }
      });
   },
   selectionSort:function(){
      var url="ajaxInfo.php";
      var myData = {selectionSort:'selectionSort'};

      $.ajax({
        type:"POST",
        url:url,
        async: false,
        dataType: 'json',
        data:myData,
        success: function(obj) {
          var content="";
           $('#tableRow').html("");

         for(var i = 0; i<obj.sortedArr.length; i++) {
            for(var j = 0; j<globalData.length; j++) {
                if(obj.sortedArr[i]==globalData[j].stu_id){

content+='<tr><td>'+globalData[j].stu_id+'</td><td>'+globalData[j].stu_name+'</td>'
+'<td>'+globalData[j].stu_mobile+'</td><td>'+globalData[j].stu_email+'</td></tr>';
                }

            }
          }
           $('#tableRow').append(content);


        }
      });
   }
};


$(document).ready(function() {
   tempData.getRecord();
});
```

```
</script>
<body>

   <center>
      <h1> Add Student Record </h1>
      <form id="formRecord">
         <table border="0">
            <tr>
               <td>Name</td>
               <td><input type="text" name="name" id="name"></td>
            </tr>
            <tr>
               <td>Mobile Number</td>
               <td><input type="number" name="mobile" id="mobile"></td>
            </tr>
            <tr>
               <td>Email ID</td>
               <td><input type="email" name="email"
            id="email"></td> </tr>
         </table><br>

           <button type="button" onclick="tempData.saveRecord();"
style="width:150px;">Add Student</button>

      </form>
<br/><br/>

<div style="overflow-x: scroll;height: 600px;width:60%;">

<button type="button" style="width:150px;float: right;" onclick="tempData.selectionSort();"
>
Selection Sort</button>

<br/><br/>
<table border=1 style="width:100%;">
  <thead>
    <tr style="text-align: left;">
      <th>Student ID</th>
      <th>Name</th>
      <th>Mobile</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody id="tableRow">
  </tbody>
</table>
</div>
   </center>

</body>
```

```
</html>

<?php
  require_once('db.php');


/* Fetching the initial data */
/*$Query = 'select * from info';
$fetchRec = mysqli_query($con,$Query) or die(mysqli_error());*/


/* Add the record to DATABASE */
if(isset($_POST['saveRecord']))
{
   $name = $_POST['name'];
   $mobile = $_POST['mobile'];
   $email = $_POST['email'];

   if($name !='' && $mobile !='' && $email !='')
   {
      $stu_id = rand(0,99999); //random number generation

      $Query ="insert into info(stu_id,stu_name,stu_mobile,stu_email)
      values($stu_id,'$name',$mobile,'$email')";
      mysqli_query($con,$Query) or die(mysqli_error());
      $msg = 'Record Saved Successfully !';
   }
   else{
       $msg = "Text Field is empty !";
   }

   $status['msg'] = $msg;
   echo json_encode($status);
   mysqli_close($con);
}

/* read all studrnt data from DATABASE */
if(isset($_POST['getRecord']))
{
   $sql = "select * from info";
   $fetchRec = mysqli_query($con,$sql) or
   die(mysqli_error()); while
   ($row=mysqli_fetch_array($fetchRec)) {

      $stu_id = $row['stu_id'];
      $stu_name = $row['stu_name'];
      $stu_mobile = $row['stu_mobile'];
      $stu_email = $row['stu_email'];

      $studentArr[]=array('stu_id' =>$stu_id,
```

```
                    'stu_name' =>$stu_name,
                    'stu_mobile' =>$stu_mobile,
                    'stu_email' =>$stu_email
                    );
    }

    $status['studentArr'] = $studentArr;
    echo json_encode($status);
    mysqli_close($con);

}

/* read data from DATABASE */
if(isset($_POST['selectionSort']))
{
    $sql = "select * from info";
    $fetchRec = mysqli_query($con,$sql) or
    die(mysqli_error()); while
    ($row=mysqli_fetch_array($fetchRec)) {
        $getStuID[]= $row['stu_id'];
    }
    $selectionArr = selection_sort($getStuID); // calling selection Sort function

    $status['sortedArr'] = $selectionArr;
    echo json_encode($status);
    mysqli_close($con);

}

function selection_sort($data)
{
for($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);
}
return $data;
}

function swap_positions($data1, $left, $right) {
    $backup_old_data_right_value = $data1[$right];
    $data1[$right] = $data1[$left];
    $data1[$left] = $backup_old_data_right_value;
    return $data1;
}
?>
```

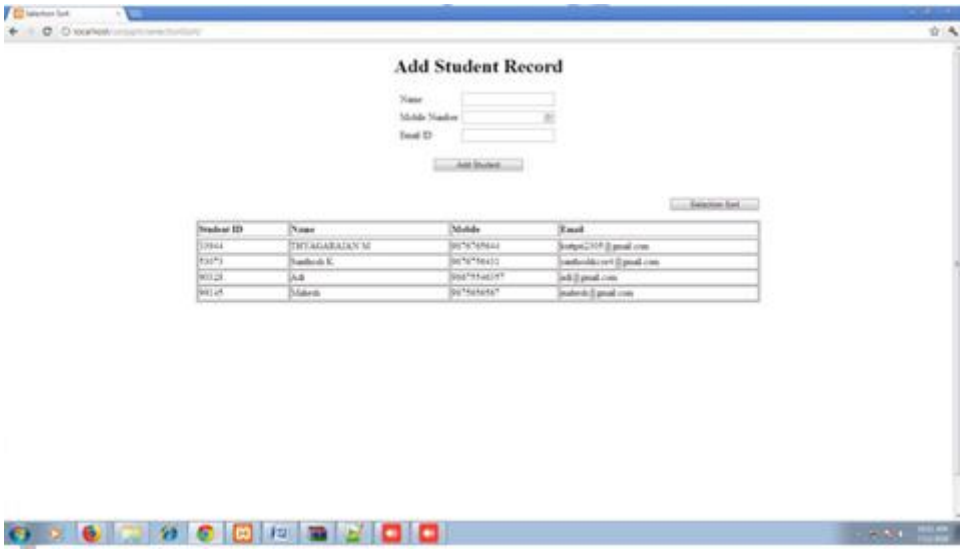
```
<?php
error_reporting(0);
session_start();

   $con =
   mysqli_connect("localhost","root","","student_db"); if
   (mysqli_connect_errno()) {
     echo "Failed to connect to MySQL: " . mysqli_connect_error();
   }
?>
```

Steps to run

1. Create Database in phpmyadmin. [refer student_db.sql file]
2. run file brower.

1. ajaxInfo.php - Database related file [Save, Read, Selection Sort]
2. db.php - connect to database.
3. index.php - Home file [Ajax, JSon,]
4. jquery.min.js - [it will helps to run the ajax]

Output




Add Student Record
Name
Mobile Number
Email ID
Add Student
Selection Sort
Student ID
Name
Mobile
Email