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

```
<!DOCTYPE html>
<html>
<head>
        <title>My online calculator</title>
<style>
        table{
        border:2px solid black;
        width:50%;
        background-color:grey;
        }
        td{
        padding:2px;
        height:100%;
        color:white;
        }
        input{
        width:100%;
        height:200%;
        background-color:white;
        }
        button{
        width:100%;
        height:200%;
        }
        button:hover{
        color: red;
        font-weight:bold;
        }
```

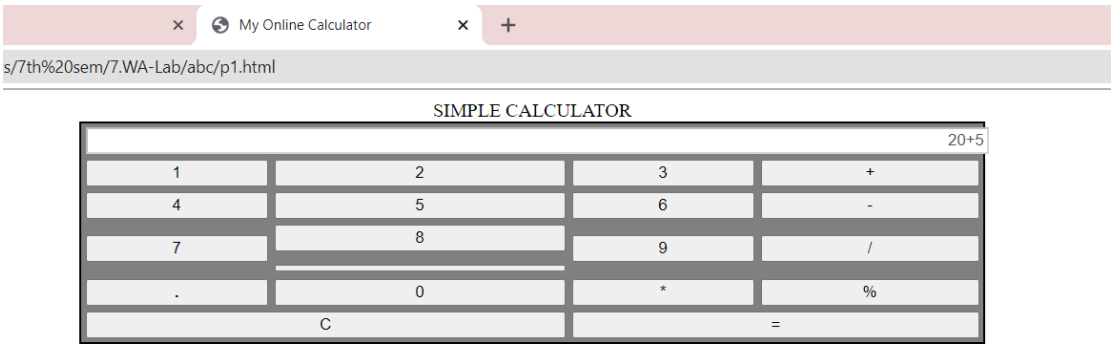
```
</style>
<script>
function number(value)
{
document.cal.result.value +=value;
}
function cle(value)
{
document.cal.result.value =value;
}
function evalua()
{
document.cal.result.value = eval(document.cal.result.value);
}
</script>
</head>
<body>
<form name="cal">
<table align="center">
<caption>SIMPLE CALCULATOR</caption>
<tr>
<td colspan="4">
<input type = "text" name="result"    disabled style="text-align:right"></input>
</td>
</tr>

<tr>
<td><button type = "button" onclick="number(value)" value="1">1 </button> </td>
<td><button type = "button" onclick="number(value)" value="2"> 2</button> </td>
<td><button type = "button" onclick="number(value)" value="3">3</button> </td>
<td><button type = "button" onclick="number(value)" value="+">+</button> </td>
```

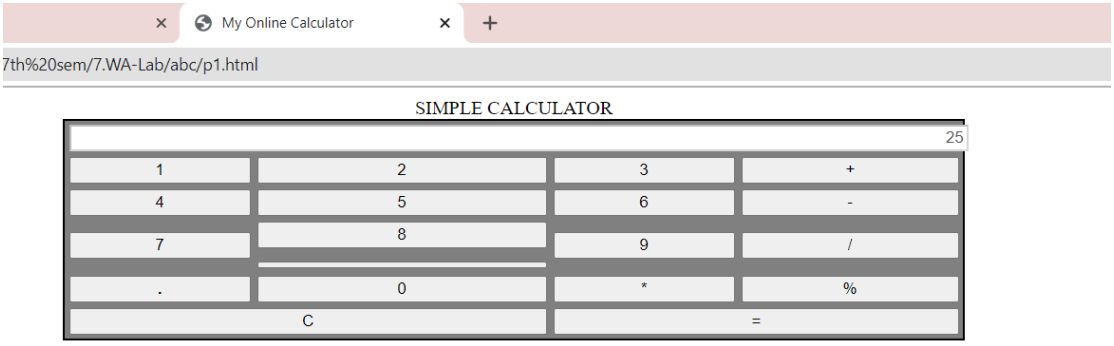
```
</tr>

<tr>
<td><button type = "button" onclick="number(value)" value="4">4</button></td>
<td><button type = "button" onclick="number(value)" value="5">5</button></td>
<td><button type = "button" onclick="number(value)" value="6">6</button></td>
<td><button type = "button" onclick="number(value)" value="-">-</button></td>
</tr>

<tr>
<td><button type = "button" onclick="number(value)" value="7">7</button></td>
<td><button type = "button" onclick="number(value)" value="8">8</button></td>
<td><button type = "button" onclick="number(value)" value="9">9</button></td>
<td><button type = "button" onclick="number(value)" value="/">/</button></td>
</tr>

<tr>
<td><button type = "button" onclick="number(value)" value="."><strong>.</strong>
</button></td>
<td><button type = "button" onclick="number(value)" value="0">0</button></td>
<td><button type = "button" onclick="number(value)" value="*">* </button></td>
<td><button type = "button" onclick="number(value)" value="%">%</button> </td>
</tr>
<tr>
<td colspan="2">
<button type = "button" onclick="cle(value)" value="">C</button></td>
<td colspan="2">
<button type = "button" onclick="evalua()">=</button>
</td>
</tr>
</table>
</form>
```

</body>

</html>

OUTPUT:





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

OUTPUT:

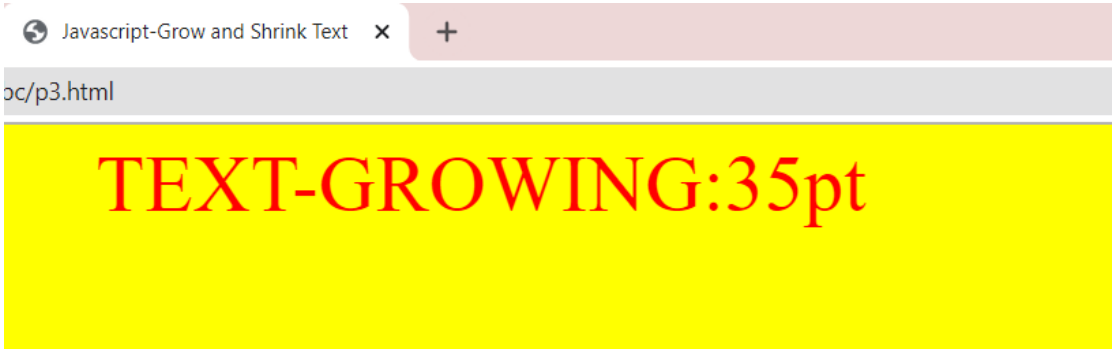
Number From 0 to 10 with their aquares and cubes		
Numbers	Squares	Cube
0	0	0
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000

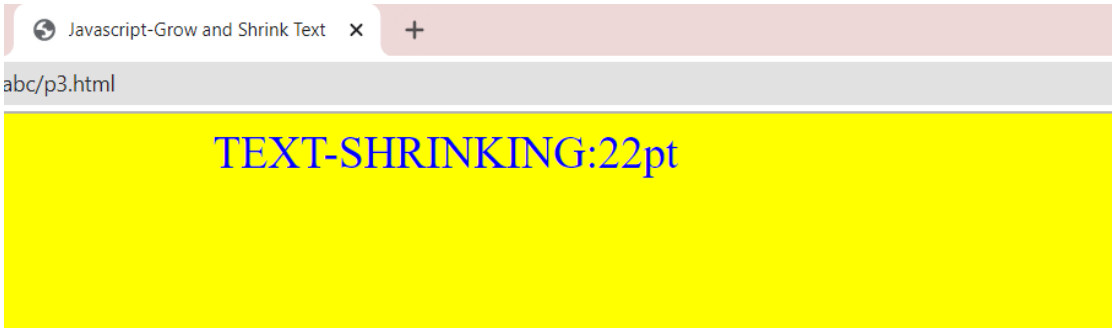
3. ***Write a JavaScript code that displays text "TEXT-GROWING" with increasing font size in the interval of 100ms in RED COLOR, when the font size reaches 50pt it displays "TEXT-SHRINKING" in BLUE color. Then the font size decreases to 5pt.***

```
<!DOCTYPE html>
<html>
<head>
    <title>JavaScript - Grow & Shrink Text</title>
    <script language = "JavaScript">
    var c = 0, t1;
    function start()
    {
        t1 =setInterval("incr()", 100);
    }
    function incr()
    {
        c = c + 1;
        t.innerHTML = "TEXT-GROWING : " + c + "pt";
        t.style.fontSize = c + "pt";
         t.style.color = "red";
         if (c >= 50)
        {
         clearTimeout(t1);
         alert("Font Size Reached 50pt. Text will Now Shrink");
         t1 = setInterval("decr()", 100);
         }
    }
    function decr() {
        c = c - 1;
        t.innerHTML = "TEXT-SHRINKING: " + c + "pt";
        t.style.fontSize = c + "pt";
        t.style.color = "blue";
```

```
            if (c == 5) {
            clearTimeout(t1);
            }
        }
</script>
</head>
<body bgcolor="yellow" onload="start()">
        <center>
            <p id="t"></p>
        </center>
</body>
</html>
```

OUTPUT:

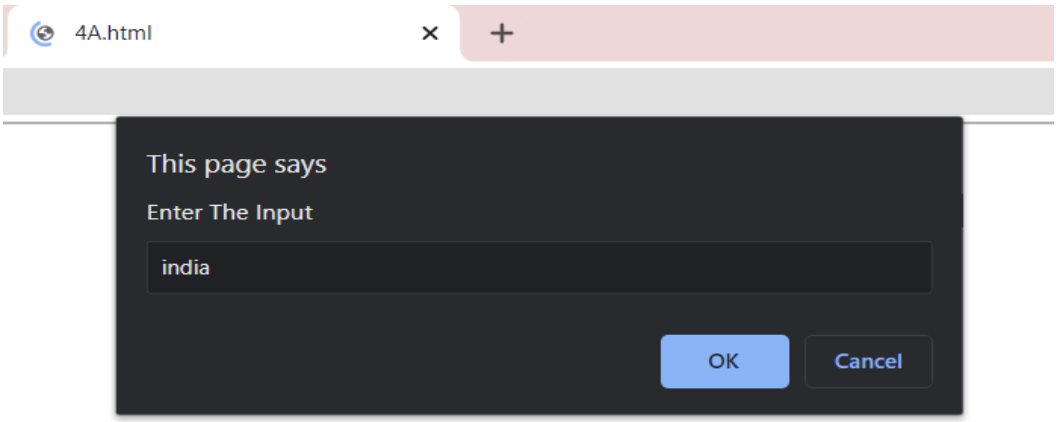


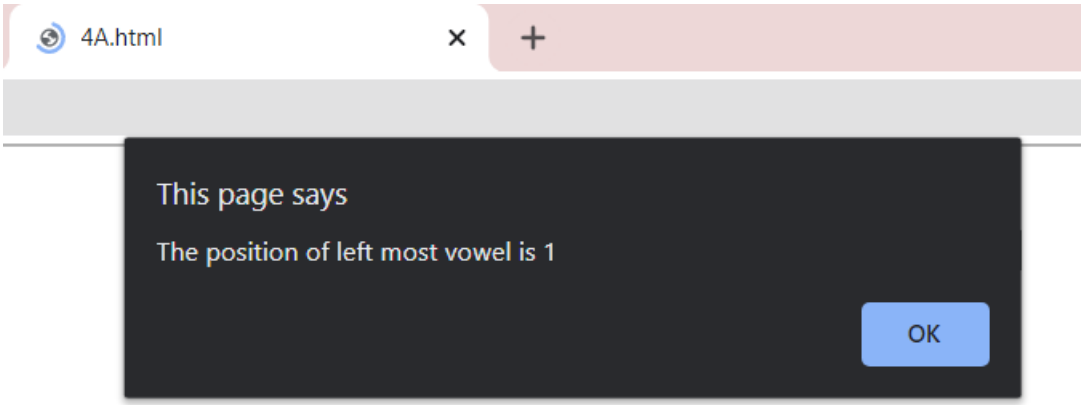


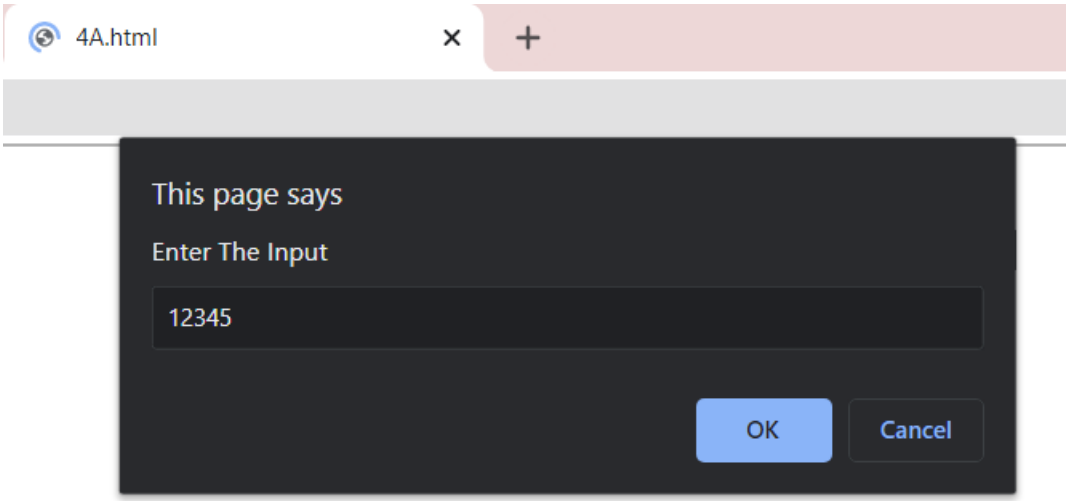
4. ***Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:***
   a. Parameter: A string
   b. Output: The position in the string of the left-most vowel
   c. Parameter: A number
   d. Output: The number with its digits in the reverse order.

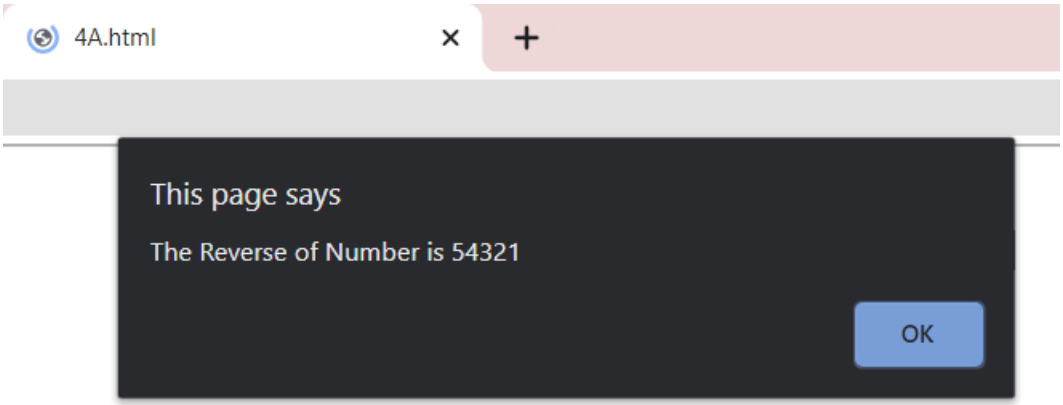
```
<!DOCTYPE html>
<html>
<body>
<script>
var str=prompt("enter the input");
if(isNaN(str))
{
str=str.toUpperCase();
for(var i=0;i<str.length;i++)
{
var char=str.charAt(i);
if(char=="A"||char=="E"||char=="I"||char=="O"||char=="U")
break;
 }
if(i<str.length)
 alert("the pos of le most vowel is "+(i+1));
 else
 alert("no vowel found");
}
else
{
var str=parseInt(str);
var a,b,temp=0;
b=str;
while(b>0)
{
a=parseInt(b%10);
b=parseInt(b/10);
temp=temp*10+a;
}
alert("the reverse of number is "+ temp);
}
</script>
</body>
</html>
```

OUTPUT:


4A.html
This page says
Enter The Input
india
OK
Cancel


4A.html
This page says
The position of left most vowel is 1
OK


4A.html
This page says
Enter The Input
12345
OK
Cancel


4A.html
This page says
The Reverse of Number is 54321
OK

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--

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/css" href="PGM5.css"?>
<VTU>
    <student>
        <sname>AMITH</sname>
        <usn>4KV15CS001</usn>
        <college>KVG</college>
        <branch>CSE</branch>
        <yoj>2015</yoj>
        <email>abcd@xyz.com</email>
    </student>
    <student>
        <sname>ARATHI</sname>
        <usn>4KV15CS002</usn>
        <college>KVG</college>
        <branch>CSE</branch>
        <yoj>2015</yoj>
        <email>qwerty@xyz.com</email>
    </student>
    <student>
        <sname>ASHA</sname>
        <usn>4KV15CS003</usn>
        <college>KVG</college>
        <branch>CSE</branch>
        <yoj>2015</yoj>
        <email>pqrs@xyz.com</email>
    </student></VTU>
```

```
--CSS—
VTU {
    background-color: pink;
    font-family: ‘cambria';
}
student {
    display: block;
    margin-bottom: 30pt;
    margin-left: 0;
}
sname:before{
    content: "Student Name: ";
    font-size: 14pt;
    color:red;
    font-weight: bold;
}
sname {
    display: block;
    font-size: 15pt;
    text-transform: uppercase;
    color: blue;
}
usn:before {
    content: "USN: ";
    font-size: 14pt;
    color:red;
    font-weight: bold;
}
usn {
    font-size: 14pt;
    margin-left: 20pt;
```

```
        text-transform: uppercase;
        color: blueviolet;
}
college:before {
        content: "College name: ";
        font-size: 14pt;
        color:red;
        font-weight: bold;
}
college {
        display: block;
        font-size: 14pt;
        margin-left: 20pt;
        color: blueviolet;
}
branch:before {
        content: "Branch: ";
        font-size: 14pt;
        font-weight: bold;
        color:red;
}
branch {
        display: block;
        font-size: 14pt;
        margin-left: 20pt;
        color: blueviolet;
}
yoj:before {
        content: "Year of Joining: ";
        font-size: 14pt;
        font-weight: bold;
```

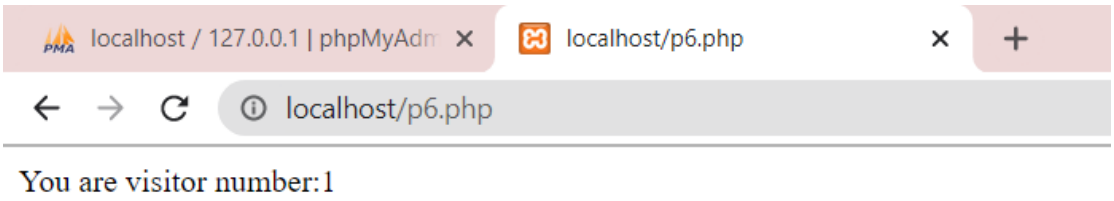
```
        color:red;
}
yoj {
        display: block;
        font-size: 14pt;
        margin-left: 20pt;
        color: blueviolet;
}
email:before {
        content: "EMAIL_ID: ";
        font-size: 14pt;
        font-weight: bold, color:red;
}email {
        font-size: 14pt;
        margin-left: 20pt, color: blueviolet;
        }
```

OUTPUT:

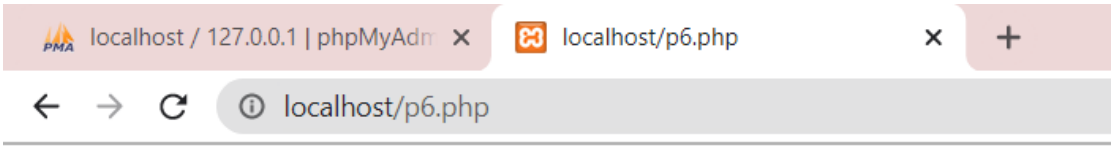
6. ***Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.***

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

OUTPUT:



You are visitor number:1

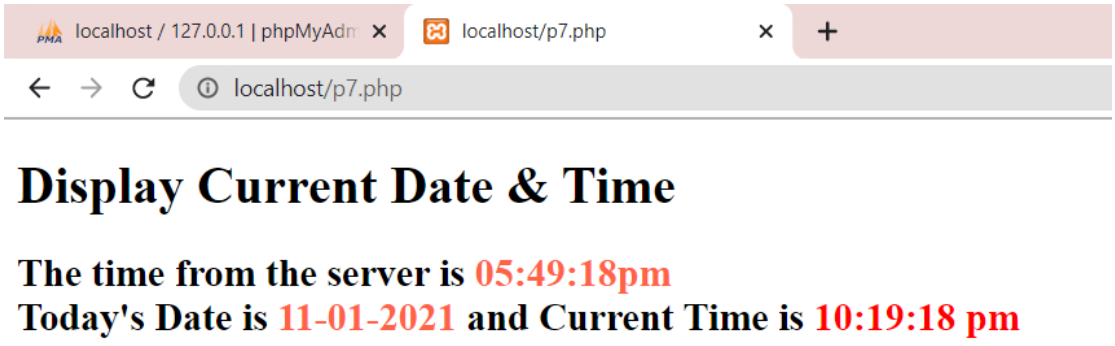


You are visitor number:21

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

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <meta http-equiv="refresh" content="1">
</head>
<body>
<h1>Display Current Date & Time</h1>
<h2>
<?php
    echo "The time from the server is <span style='color:tomato';> " . date("h:i:sa")."
</span>";
    echo '<br />';
    echo "Today's Date is <span style='color:tomato';>" . date("d-m-Y");
    date_default_timezone_set('Asia/Kolkata');
    echo " </span> and Current Time is <span style='color:red';>" . date("h:i:s a") .
"</span>";
?>
</h2>
</body>
</html>
```

OUTPUT:



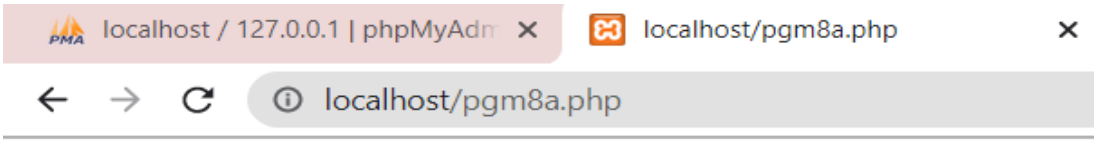
8.a Write the PHP programs to do the following:

a. Implement simple calculator operations.
b. Find the transpose of a matrix.

```
<!DOCTYPE html>
<html>
 <head>
 <meta charset="UTF-8">
 <title></title>
 </head>
 <body>
 <h1>Simple Calculator Using PHP</h1>
 <form action="pgm8a.php" method="post">
 <table>
 <tr><td>Enter First Number: </td><td><input type="text" name="first" required
autocomplete="off"/></td></tr>
 <tr><td>Enter Second Number: </td><td><input type="text" name="second"
required
autocomplete="off"/></td></tr>
 <tr><td>Select Operator: </td><td>
 <select name="op">
 <option>Select Operation</option>
 <option value="+">Addition</option>
 <option value="-">Subtraction</option>
 <option value="*">Multiplication</option>
 <option value="/">Division</option>
 <option value="%">Remainder</option>
 </select>
 </td></tr>
 <tr><td colspan="2"><input type="submit" name="pop" value="Perform
Operation"/></td></tr>
 </table>
 </form>
 <?php
 if(isset($_POST['pop'])) {
 echo "<h1>Result is </h1>";
 $num1 = $_POST["first"];
 $num2 = $_POST["second"];
 $op = $_POST["op"];
 $result = 0;
 switch($op) {
 case '+' : $result = $num1 + $num2;
 echo "<h1>Addition of 2 Numbers: " . $result . "</h1>";
 break;
 case '-' : $result = $num1 - $num2;
 echo "<h1>Subtraction of 2 Numbers: " . $result . "</h1>";
 break;
 case '*' : $result = $num1 * $num2;
```

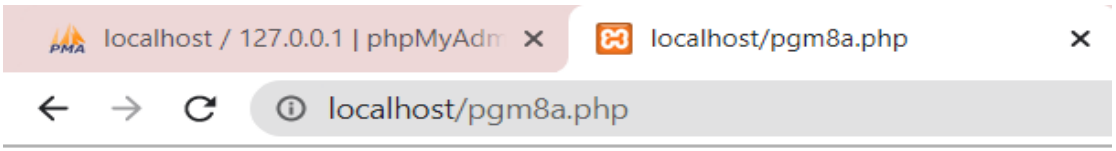
```
echo "<h1>Product of 2 Numbers: " . $result . "</h1>";
break;
case '/' : $result = $num1 / $num2;
echo "<h1>Division of 2 Numbers: " . $result . "</h1>";
break;
case '%' : $result = $num1 % $num2;
echo "<h1>Remainder of 2 Numbers: " . $result . "</h1>";
break;
default : echo "<h1 style='color:red;'>Sorry, No Operation Found</h1>";
break;
}
}
?>
</body>
</html>
```

OUTPUT:



Simple Calculator Using PHP

Enter First Number: 20
Enter Second Number: 30
Select Operator: Addition
PerformOperation



Simple Calculator Using PHP

Enter First Number:
Enter Second Number:
Select Operator: Select Operation
PerformOperation

Result is

Addition of 2 Numbers: 50

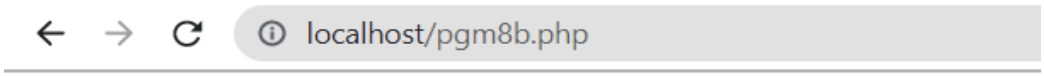
8.b Write the PHP programs to do the following:

c. Multiplication of two matrices.
d. Addition of two matrices.

```
<?php
header('Content-Type: text/plain'); //without this header "\t and \n" wont work
// transpose matrix
$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($matrix1[0]);
echo "\n";
echo "The order of the matrix B is:" . count($matrix2) . "x" . count($matrix2[0]);
echo "\n";
$rowCount = count($matrix1); //Provides the rowcount of matrix
$colCount = count($matrix1[0]); //Provides the column count of matrix
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 $matrix2[$r][$c] . " \t";
  }
  echo "\n";
}
//The transpose of the matrix
echo "\nThe output Transpose of matrix is:\n";
for ($r = 0; $r < $colCount; $r++) {
  for ($c = 0; $c < $rowCount; $c++) {
  echo $matrix1[$c][$r] . " \t";
  }
  echo "\n";
}
$rowCount = count($matrix1); //Provides the rowcount of matrix
$colCount = count($matrix1[0]); //Provides the column count of matrix
$rowCount2 = count($matrix2);
$colCount2 = count($matrix2[0]);
//The sum of the matrix
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); //Provides the rowcount of matrix
$colCount = count($matrix1[0]); //Provides the column count of matrix
$rowCount2 = count($matrix2);
$colCount2 = count($matrix2[0]);
//The Multiplication of the matrix
echo "\nThe Multiplication of matrix is:\n";
//A*B C*D
//B is not equal to C
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.";
}
?>
```

OUTPUT:




```
The order of the matrix A is:2x2
The order of the matrix B is:2x2
The input matrix A is:
1       2
4       5
The input matrix B is:
1       2
4       5

The output Transpose of matrix is:
1       4
2       5

The sum of matrix is:
2       4
8       10

The Multiplication of matrix is:
1       4
16      25
```

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 statesList.

b. Search for a word in states that begins with k and ends in s. Perform a caseinsensitive comparison. [Note: Passing re.Ias a second parameter to method compile performs a case-insensitive comparison.] Store this word in element1 of statesList.

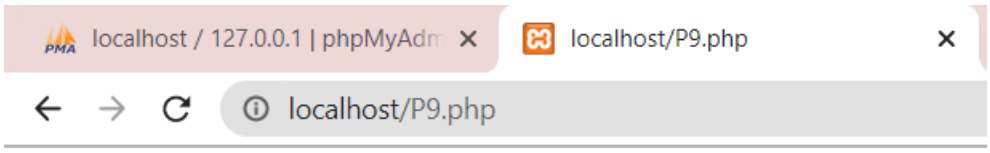
c. Search for a word in states that begins with M and ends in s. Store this word in element 2 of the list.

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

```
<?php
header('Content-Type: text/plain');
$allTheStates = "Mississippi Alabama Texas Massachusetts Kansas";
$statesArray = Array();
$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);
}
?>
```

OUTPUT:



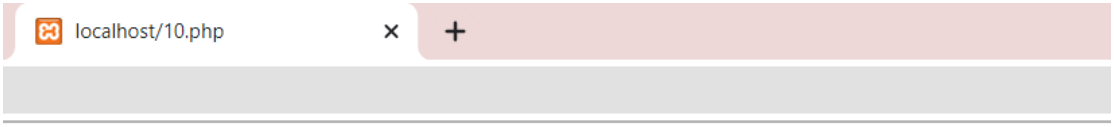

```
The States that ends in xas:Texas
The states that begins with k ans ends in s:Kansas
The states that begins with M and ends in s:Massachusetts
The states that ends in a:Alabama
Texas is the element 0
Kansas is the element 1
Massachusetts is the element 2
Alabama is the element 3
```

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

```
<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
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "weblab";
$a=[];
// Create connection
$conn = mysqli_connect($servername, $username, $password, $dbname);
// Check connection and return an error description from the lastconnection error, if
any
if ($conn->connect_error)
die("Connection failed: " . $conn->connect_error);
$sql = "SELECT * FROM student";
// performs a query against the database
$result = $conn->query($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 ($result->num_rows> 0)
{
// output data of each row and fetches a result row as anassociative array
while($row = $result->fetch_assoc()){
echo "<tr>";
echo "<td>". $row["usn"]."</td>";
echo "<td>". $row["name"]."</td>";
echo "<td>". $row["addr"]."</td></tr>";
array_push($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 = $conn->query($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]=$row["addr"];
}
}
}
}
echo "<br>";
echo "<center> AFTER SORTING <center>";
echo "<table border='2'>";
echo "<tr>";
echo "<th>USN</th><th>NAME</th><th>Address</th></tr>";
for($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>";
$conn->close();
?>
</body>
</html>
```

OUTPUT:



BEFORE SORTING

USN	NAME	Address
4kv17cs062	Sujith Rai	Thingalady
4kv17cs064	Vineeth k h	kuthyala
4kv17cs033	Mahima kamath	panja

AFTER SORTING

USN	NAME	Address
4kv17cs033	Mahima kamath	panja
4kv17cs062	Sujith Rai	Thingalady
4kv17cs064	Vineeth k h	kuthyala