

List of Programs

Sl. No	Name of Experiment	CO
1.	Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.	CO1
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.	CO1
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.	CO1
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.	CO1
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.	CO2
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.	CO3
7.	Write a PHP program to display a digital clock which displays the current time of the server.	CO3
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.	CO3
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 element0 of a list named states List.	CO3

	<ul style="list-style-type: none"> 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.	CO4
11.	Develop a web application project using the languages and concepts learnt in the theory and exercises listed in part A with a good look and feel effects. You can use any web technologies and frameworks and databases.	CO5 CO6

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

program1.html

```
<!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:

SIMPLE CALCULATOR			
value1	<input type="text"/>	value2	<input type="text"/>
Addition	Subtraction	Multiplication	Division
Answer:	<input type="text"/>	CLEAR ALL	

Test Cases

Test No.	Input Parameters	Expected Output	Obtained Output	Remarks
1.	value1=50.56 value2=24.39	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	PASS
2.	value1= 0 value2= 45	Addition =45 Subtraction =-45 Multiplication=0 Division=0	Addition =45 Subtraction =-45 Multiplication=0 Division=0	PASS
3.	value1= 45 value2= 0	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	PASS
4.	value1 = abc value2 = 23	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS
5	value1 = 50 value2 =xyz	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3										3	3	

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

Output:

NUMBERS FROM 0 TO 10 WITH THEIR SQUARES AND CUBES		
Number	Square	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>
    <style>
      center {
        height: 620px;
        position: relative;
      }
      p{
        position: absolute;
        top: 50%;
        left: 50%;
        transform: translate(-50%, -50%);
      }
    </style>
  </head>
  <body>

    <div class="center">
      <p id="demo" align="center" style="font-size: 5px; color: red "></p>
    </div>
    <script>
      var myVar = setInterval(inTimer, 1000);
      var fs = 5;
      var myVar2 = setInterval(deTimer, 1000);
      var ids = document.getElementById("demo");
      function inTimer() {
        ids.innerHTML = 'TEXT-GROWING'
        ids.setAttribute('style', "font-size: " + fs + "px; color: red")
        fs += 5;
        if(fs >= 50 ){
          clearInterval(myVar);
          myVar2 = setInterval(deTimer, 1000);
        }
      }
      function deTimer() {
        fs -= 5;
        ids.innerHTML = 'TEXT-SHRINKING'
        ids.setAttribute('style', "font-size: " + fs + "px; color: blue")

        if(fs === 5 ){
          clearInterval(myVar2);
        }
      }
    </script>
```

```
</body>  
</html>
```

Output:

TEXT-GROWING

TEXT SHRINKING

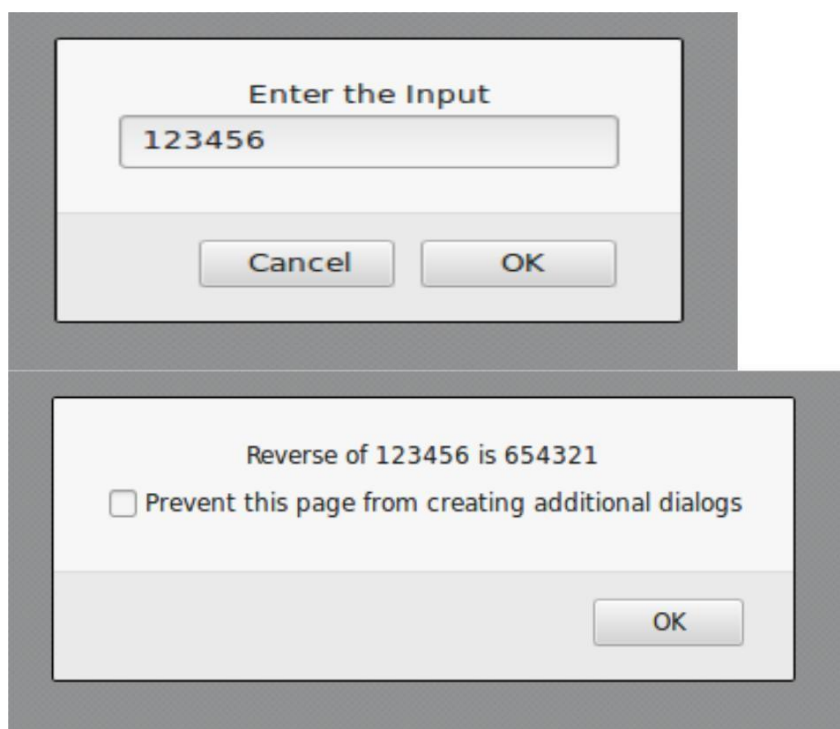
4. Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:

- 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**

Program4.html

```
<!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 :



Enter the Input

123456

Cancel OK

Reverse of 123456 is 654321

☐ Prevent this page from creating additional dialogs

OK

Test Cases :

Test No.	Input Parameters	Expected Output	Obtained Output	Remarks
1.	123	Reverse of 123 is 321	Reverse of 123 is 321	PASS
2.	CHANNASANDRA	The position of the left most vowel is 3	The position of the left most vowel is 3	PASS
3.	SKY	No vowel found in the entered string	No vowel found in the entered string	PASS
4.	MNKTO	The position of the left most vowel is 5	The position of the left most vowel is 5	PASS

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.

Program5.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<?xml-stylesheet type="text/css" href="5.css" ?>
<html>
  <head>
    <h1> STUDENTS DESCRIPTION </h1>
  </head>
  <students>
    <student>
      <USN>USN      : 1RN07CS001</USN>
      <name>NAME     : SHWETHA</name>
      <college>COLLEGE : RNSIT</college>
      <branch>BRANCH  : Computer Science and Engineering</branch>
      <year>YEAR      : 2007</year>
      <e-mail>E-Mail  : santosh@gmail.com</e-mail>
    </student>
    <student>
      <USN>USN      : 1RN07IS001</USN>
      <name>NAME     : VINUTHA</name>
      <college>COLLEGE : RNSIT</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      : 1RN07EC001</USN>
      <name>NAME     : SUNITHA</name>
      <college>COLLEGE : RNSIT</college>
      <branch>BRANCH  :Mechanical 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:

-
- 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.**

Program6.Php

```
<?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:

REFRESH PAGE

Total number of views: 10

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

Program7.php

```
<html>
  <head>
    <meta http-equiv="refresh" content="1" charset="UTF-8"/>
    <style>
      p {
        position: absolute;
        top: 50%;
        left: 50%;
        transform: translate(-50%, -50%);
      }
      body{
        background-color:black;
        color:white;
      }
    </style>
    <p style="font-size: 80px;"><?php echo date(" h: i : s A");?></p>
  </head>
</html>
```

Output:



10: 44 : 08 AM

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.

Program8a.php

```
<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>
            </table>
        </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>";
            }
        }
    }
</body>
</html>
```



```

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

```

SIMPLE CALCULATOR

First Number:	50	<input type="button" value="calculate"/>
Second Number:	25	
Addition :	75	
Subtraction :	25	
Multiplication :	1250	
Division :	2	

Test Cases:

Test No.	Input Parameters	Expected Output	Obtained Output	Remarks
1.	value1=50.56 value2=24.39	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	PASS
2.	value1= 0 value2= 45	Addition =45 Subtraction =-45 Multiplication=0 Division=0	Addition =45 Subtraction =-45 Multiplication=0 Division=0	PASS
3.	value1= 45 value2= 0	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	PASS

4.	value1 = abc value2 = 23	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS
5	value1 = 50 value2 =xyz	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS

Program8b.php

<?php

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

Output:

the first matrix:

1 2 3

4 5 6

7 8 9

the second matrix:

7 8 9

4 5 6

1 2 3

the transpose of the first matrix:

1 4 7

2 5 8

3 6 9

the addition of matrices is:

8 10 12

8 10 12

8 10 12

the multiplication of matrices:

18 24 30

54 69 84

90 114 138

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 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 `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.

Program9.php

```
<?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:

Original Array :

```
STATES[0]=Mississippi  
STATES[1]=Alabama  
STATES[2]=Texas  
STATES[3]=Massachusetts  
STATES[4]=Kansas
```

Resultant Array :

```
STATES[0]=Texas  
STATES[1]=Kansas  
STATES[2]=Massachusetts  
STATES[3]=Alabama
```

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

Goto Mysql and then type

```
create database weblab;
use weblab;
create table student(usn varchar(10), name varchar(20),address varchar(20));
```

Program10.php

```
<!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
            $servername = "localhost";
            $username = "root";
            $password = "root";
            $dbname = "weblab";
            $a=[];

            // Create connection
            //The MySQLi functions allows you to access MySQL database servers.
            $conn = mysqli_connect($servername, $username, $password,
            $dbname);
            // Check connection
            if ($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 an  
associative
```

```
    while($row = $result->fetch_assoc()) array  
    {  
        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 |
|-------|------------|-----------|
| 1rn14 | chandan | bengaluru |
| 1rn07 | arun | mysore |
| 1rn01 | abhi | tumkur |
| 1rn38 | Manoranjan | Mandya |

AFTER SORTING

| USN | NAME | Address |
|-------|------------|-----------|
| 1rn01 | abhi | tumkur |
| 1rn07 | arun | mysore |
| 1rn14 | chandan | bengaluru |
| 1rn38 | Manoranjan | Mandya |