

Program 01

Create a form with the elements of Textboxes, Radio buttons, Checkboxes, and so on. Write JavaScript code to validate the format in email, and mobile number in 10 characters, if a textbox has been left empty, popup an alert indicating when email, mobile number and textbox has been left empty.

```
<!DOCTYPE html>
<html>
<head>
<title>Form Validation</title>
<script>
function validateForm()
{
const email = document.getElementById('email').value;
const mobile = document.getElementById('mobile').value;
const textbox = document.getElementById('textbox').value;
let isValid = true;
let errorMessage="";
// Validate email format
if(!validateEmail(email))
{
errorMessage+= "Invalid email format.\n";
isValid = false;
}
// Validate mobile number length
if(mobile.length!=10)
{
errorMessage+="Mobile number should be 10 characters.\n";
isValid=false;
}
// Check if any field is left empty
if(email=== ""||mobile=== ""||textbox=== "")
{
errorMessage+="Please fill in all fields. \n";
isValid=false;
}
// Display error message in an alert if any validation fails
if(!isValid)
{
alert(errorMessage);
}
return isValid;
}
// Function to validate email format using a regular expression
function validateEmail(email)
{

```

```
const emailRegex=/^[^\s@ ]+@[^\s@ ]+\.[^\s@ ]+$/;
return emailRegex.test(email);
}
</script>
</head>
<body>
<h2>Form Validation</h2>
<form onsubmit="return validateForm()">
Email: <input type="text" id="email"><br><br>
Mobile Number: <input type="text" id="mobile"><br><br>
Address: <input type="text" id="textbox"><br><br>
Gender:
<input type="radio" id="male" name="gender" value="male">
<label for="male">Male</label>
<input type="radio" id="female" name="gender" value="female">
<label for="female">Female</label><br><br>
Interests:
<input type="checkbox" id="music" name="interest" value="music">
<label for="music">Music</label>
<input type="checkbox" id="sports" name="interest" value="sports">
<label for="sports">Sports</label><br><br>
<input type="submit" value="Submit">
</form>
</body>
</html>
```

Program 02

Develop an HTML form which accepts any mathematical expression. Write a JavaScript code to evaluate the expression and display the result.

```
<html>
<head>
<title>
Math Expression Evaluator
</title>
<script>
function evaluateExpression()
{
const expression = document.getElementById('expression').value;
try
{
const result=eval(expression);
document.getElementById('result').textContent=`Result:${result}`;
}
catch(error)
{
document.getElementById('result').textContent="invalid Expression or operation.";
}
}
</script>
</head>
<body>
<h2>Math Expression Evaluator</h2>
<form>
Enter a Mathematical Expression:
<input type="text" id="expression">
<input type="button" value="Evaluate" onclick="evaluateExpression()">
</form>
<p id="result"></p>
</body>
</html>
```

Program 03

Create a page with dynamic effects. Write the code to include layers and basic animations.

```
<html>
<head>
  <title> Basic Animation </title>
  <style>
    #layer1{position:absolute; top:50px;left:50px;}
    #layer2{position:absolute; top:50px;left:400px;}
    #layer3{position:absolute; top:50px;left:800px;}
  </style>

  <script type="text/javascript">
    function moveImage(layer)
    {
      var top = window.prompt("Enter top value");
      var left = window.prompt("Enter left value");
      document.getElementById(layer).style.top =top+'px';
      document.getElementById(layer).style.left =left+'px';
    }
  </script>
</head>

<body>
  <div id="layer1"></div>
  <div id="layer2"></div>
  <div id="layer3"></div>
</body>
</html>
```

Program 04

Write a JavaScript code to find the sum of N natural numbers. (use userdefined function)

```
<html>
<head>
  <title>sum of n numbers</title>
  <script type="text/javascript">
    function sum()
    {
      var n=prompt("enter a number",0);
      var num=parseInt(n);
      var sum=0;
      for(i=1;i<=num;i++)
      {
        sum=sum+i;
      }
      document.writeln("sum of "+num+" natural numbers: "+sum);
    }
  </script>

</head>
<body>
<center><h1> finding sum of natural numbers using javascript </h1>
<input type="button" onclick="sum()" value="sum"/>
</center>
</body>
</html>
```

Program 05

Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.

```
<!DOCTYPE html>
<html>
<title>Current Date in Words</title>
<head>
</head>
<body>
<h2>Current Date in Words</h2>
<p id="dateInWords"></p><script>
// Arrays to hold day, month, and year names
const daysOfWeek = [
  "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",
  "Saturday"
];
const monthsOfYear = [
  "January", "February", "March", "April", "May", "June", "July", "August", "September", "October",
  "November", "December"];
// Get current date
const currentDate = new Date();
// Extract day, month, and year components
const day = daysOfWeek [currentDate.getDay()]; const month = monthsOfYear [currentDate.getMonth()];
const year = currentDate.getFullYear();
// Construct the date in words
const currentDateInWords = `${day}, ${month} ${currentDate.getDate()},
${year}`;
// Display the date in words
document.getElementById('dateInWords').textContent = "Current date in words: " + currentDateInWords;
</script>
</body>
</html>
```

Program 06

Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.

```
<html>
<head>
<title>Student Information Form</title>
<script>
function calculateResult() {
// Get input values from the form
var math=parseFloat(document.getElementById('math').value);
var science=parseFloat(document.getElementById('science').value);
var english=parseFloat(document.getElementById('english').value);
// Calculate Total marks and Average
var totalMarks=math+science+english;
var average=totalMarks/3;
var result=(math>=35 && science>=35 && english>=35)?"Pass":"Fail";
// Calculate Grade based on the average marks
var grade;
if(average>=90)
{
grade='A+';
}
else if(average>=80)
{
grade='A';
}
else if(average>=70)
{
grade='B';
}
else if(average>=60)
{
grade='C';
}
else if(average>=50)
{
grade='D';
}
else
{
grade='F';
}
// Display the calculated values
document.getElementById('totalMarks').value=totalMarks.toFixed(2);
document.getElementById('average').value=average.toFixed(2);
```

```
document.getElementById('result').value=result;
document.getElementById('grade').value=grade;
}
</script>
</head>
<body>
<h2>Student Information</h2>
<form>
Math: <input type="number" id="math"><br><br>
Science: <input type="number" id="science"><br><br>
English: <input type="number" id="english"><br><br>
<input type="button" value="Calculate" onclick="calculateResult()">
</form>
<br>
<h2>Result Details</h2>
Total Marks: <input type="text" id="totalMarks" readonly><br><br>
Average: <input type="text" id="average" readonly><br><br>
Result: <input type="text" id="result" readonly><br><br>
Grade: <input type="text" id="grade" readonly>
</body>
</html>
```

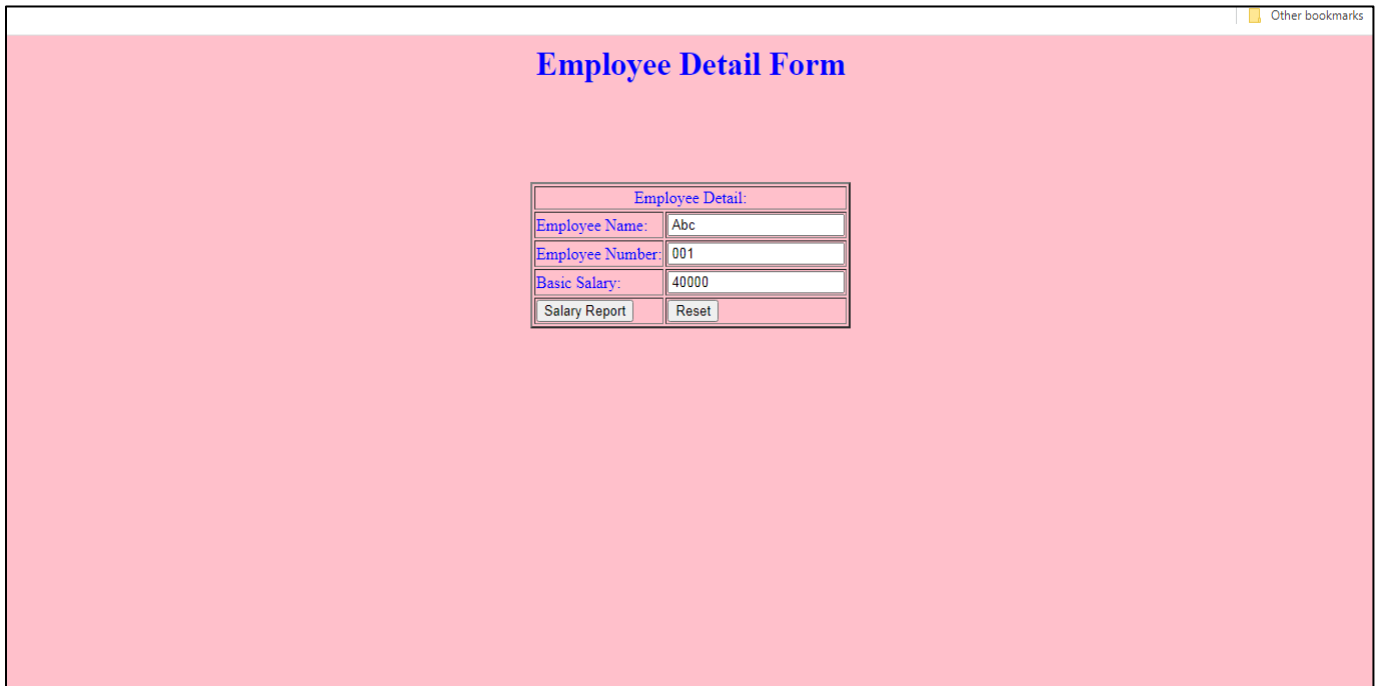

Program 07

Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.

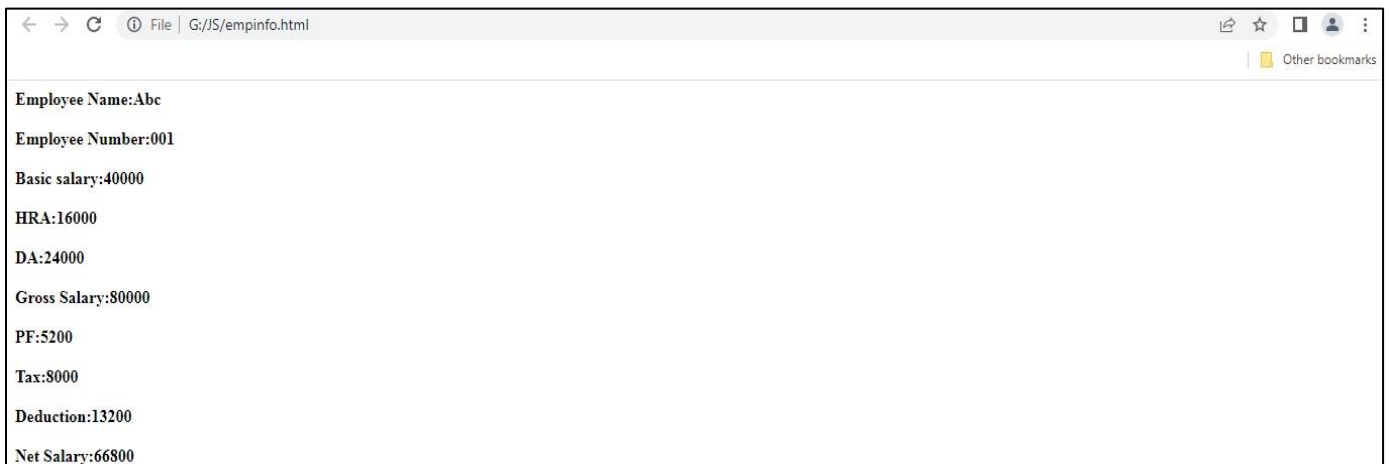
```
<html>
<head>
<script type="text/javascript">
function show()
{
    var name=document.getElementById("txtname").value;
    var num=document.getElementById("txtnum").value;
    var sal=parseInt(document.getElementById("txtsal").value);
    var hra=(sal*40)/100;
    var da=(sal*60)/100;
    var gross=sal+hra+da;
    var pf=(sal*13)/100;
    var tax=(sal*20)/100;
    var deduct=pf+tax;
    var net=gross-deduct;
    document.writeln("<b>Employee Name:"+name+"</b>"+<br>"+<br>");
    document.writeln("<b>Employee Number:"+num+"</b>"+<br>"+<br>");
    document.writeln("<b>Basic salary:"+sal+"</b>"+<br>"+<br>");
    document.writeln("<b>HRA:"+hra+"</b>"+<br>"+<br>");
    document.writeln("<b>DA:"+da+"</b>"+<br>"+<br>");
    document.writeln("<b>Gross Salary:"+gross+"</b>"+<br>"+<br>");
    document.writeln("<b>PF:"+pf+"</b>"+<br>"+<br>");
    document.writeln("<b>Tax:"+tax+"</b>"+<br>"+<br>");
    document.writeln("<b>Deduction:"+deduct+"</b>"+<br>"+<br>");
    document.writeln("<b>Net Salary:"+net+"</b>"+<br>"+<br>");
}
</script>
</head>
<body bgcolor="pink" text="blue">
<center>
<h1> Employee Detail Form</h1>
<form name="emp">
<table border="2">
<tr><td colspan="2" align="center"> Employee Detail:</td></tr><br>
<tr><td>Employee Name:</td><td><input type="text" id="txtname"></td></tr><br>
<tr><td>Employee Number:</td><td><input type="text" id="txtnum"></td></tr><br>
<tr><td> Basic Salary:</td><td><input type="text" id="txtsal"></td></tr><br>
<tr><td><input type="button" onclick="show()" value="Salary Report"></td>
<td><input type="reset" value="Reset"></td></tr>
</table>
</form>
</center>
```

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

Output:



The screenshot shows a web browser window with a pink background. At the top center, the title "Employee Detail Form" is displayed in blue. Below the title, there is a form titled "Employee Detail:". The form contains four input fields: "Employee Name:" with the value "Abc", "Employee Number" with the value "001", and "Basic Salary:" with the value "40000". At the bottom of the form, there are two buttons: "Salary Report" and "Reset".



The screenshot shows a web browser window with a white background. The address bar shows the file path "G:/JS/empinfo.html". The page content displays the following information:

Employee Name:Abc
Employee Number:001
Basic salary:40000
HRA:16000
DA:24000
Gross Salary:80000
PF:5200
Tax:8000
Deduction:13200
Net Salary:66800

Program 08

Write a program in PHP to change background color based on day of the week using if else if statements and using arrays

```
<?php
// Define an array to map days of the week to background colors
$dayColors = [
    'Sunday' => '#ffcccb',
    'Monday' => '#ffebed',
    'Tuesday' => '#add8e6',
    'Wednesday' => '#98fb98',
    'Thursday' => '#f0e68c',
    'Friday' => '#dda0dd',
    'Saturday' => '#c0c0c0'
];

// Get the current day of the week
$currentDay = date('l');

// Set a default color in case the day is not found
$backgroundColor = '#ffffff'; // Default white color

// Check if the current day exists in the array
if (array_key_exists($currentDay, $dayColors)) {
    // If the day exists, set the background color based on the day
    $backgroundColor = $dayColors[$currentDay];
}
?>
<!DOCTYPE html>
<html>
<head>
    <title>Background Color Based on Day of the Week</title>
    <style>
        body {
            background-color: <?php echo $backgroundColor; ?>;
        }
    </style>
</head>
<body>
    <h1>Welcome! Today is <?php echo $currentDay; ?></h1>
</body>
</html>
```

Program 09

Write a simple program in PHP for

1) Generating prime number.

2) Generate Fibonacci series.

```
<?php
$count = 0;
$num = 2;
echo "<h3>Prime numbers from 1 to 50: </h3>";
echo "\n";
while ($count < 15 )
{
    $div_count=0;
    for ( $i=1; $i<=$num; $i++)
    {
        if (($num%$i)==0)
        {
            $div_count++;
        }
    }
    if ($div_count<3)
    {
        echo $num." , ";
        $count=$count+1;
    }
    $num=$num+1;
}
?>

<?php
$num = 0;
$n1 = 0;
$n2 = 1;
echo "<h3>Fibonacci series for first 12 numbers: </h3>";
echo "\n";
echo $n1.' '.$n2.' ';
while ($num < 10 )
{
    $n3 = $n2 + $n1;
    echo $n3.' ';
    $n1 = $n2;
    $n2 = $n3;
    $num = $num + 1;
}
?>
```

Program 10

Write a PHP program to remove duplicates from a sorted list.

```
<html>
<head>
<title> Remove duplicates from sorted list</title>
</head>
<body>
<h2> Enter a sorted list of numbers separated by spaces</h2>
<form method="post">
<input type="text" name="numbers" placeholder="enter numbers">
<input type="submit" name="submit" value="remove duplicates">
</form>
<?php
function removeDuplicates($arr){
    $n=count($arr);
    if($n==0||$n==1){
        return $arr;
    }
    $unique=[];
    $unique[]=$arr[0];
    for($i=1;$i<$n;$i++){
        if($arr[$i]!=$arr[$i-1]){
            $unique[]=$arr[$i];
        }
    }
    return $unique;
}
if($_SERVER["REQUEST_METHOD"]=="POST"){
    $input=$_POST["numbers"];
    $inputArray=explode(" ", $input);
    $sortedList=array_map('intval', $inputArray);
    sort($sortedList);
    echo"<h2> Entered List:</h2>";
    echo "<pre>".print_r($sortedList,true)."</pre>";
    $result=removeDuplicates($sortedList);
    echo"<h2>List after removing duplicates:</h2>";
    echo"<pre>".print_r($result,true)."</pre>";
}
?>
</body>
</html>
```