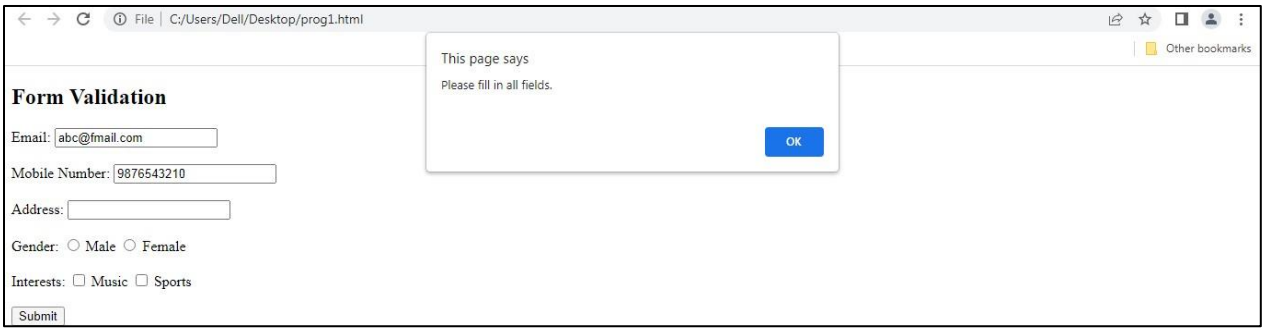
Program 01

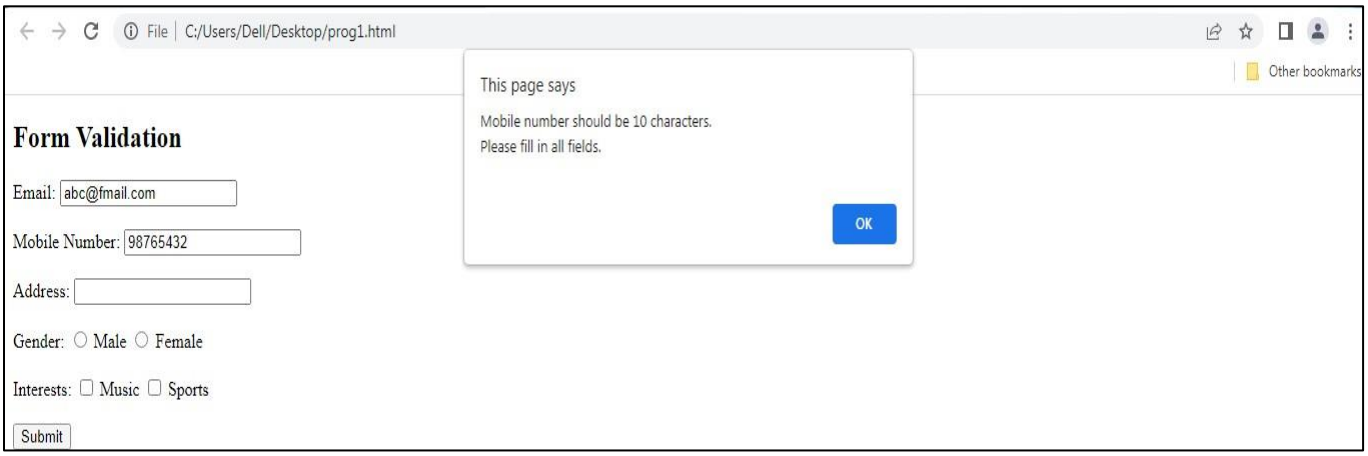
Create a form with the elements of Textboxes, Radio buttons, Checkboxes, and so on. Write JavaScript code to validate the format in email, and mobile number in 10 characters, if a textbox has been left empty, popup an alert indicating when email, mobile number and textbox has been left empty.

```
<!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>
```

Output:


File | C:/Users/Dell/Desktop/prog1.html
Other bookmarks
This page says
Please fill in all fields.
OK
Form Validation
Email: abc@fmail.com
Mobile Number: 9876543210
Address:
Gender: Male Female
Interests: Music Sports
Submit


File | C:/Users/Dell/Desktop/prog1.html
Other bookmarks
This page says
Mobile number should be 10 characters.
Please fill in all fields.
OK
Form Validation
Email: abc@fmail.com
Mobile Number: 98765432
Address:
Gender: Male Female
Interests: Music Sports
Submit

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>
```

Output:

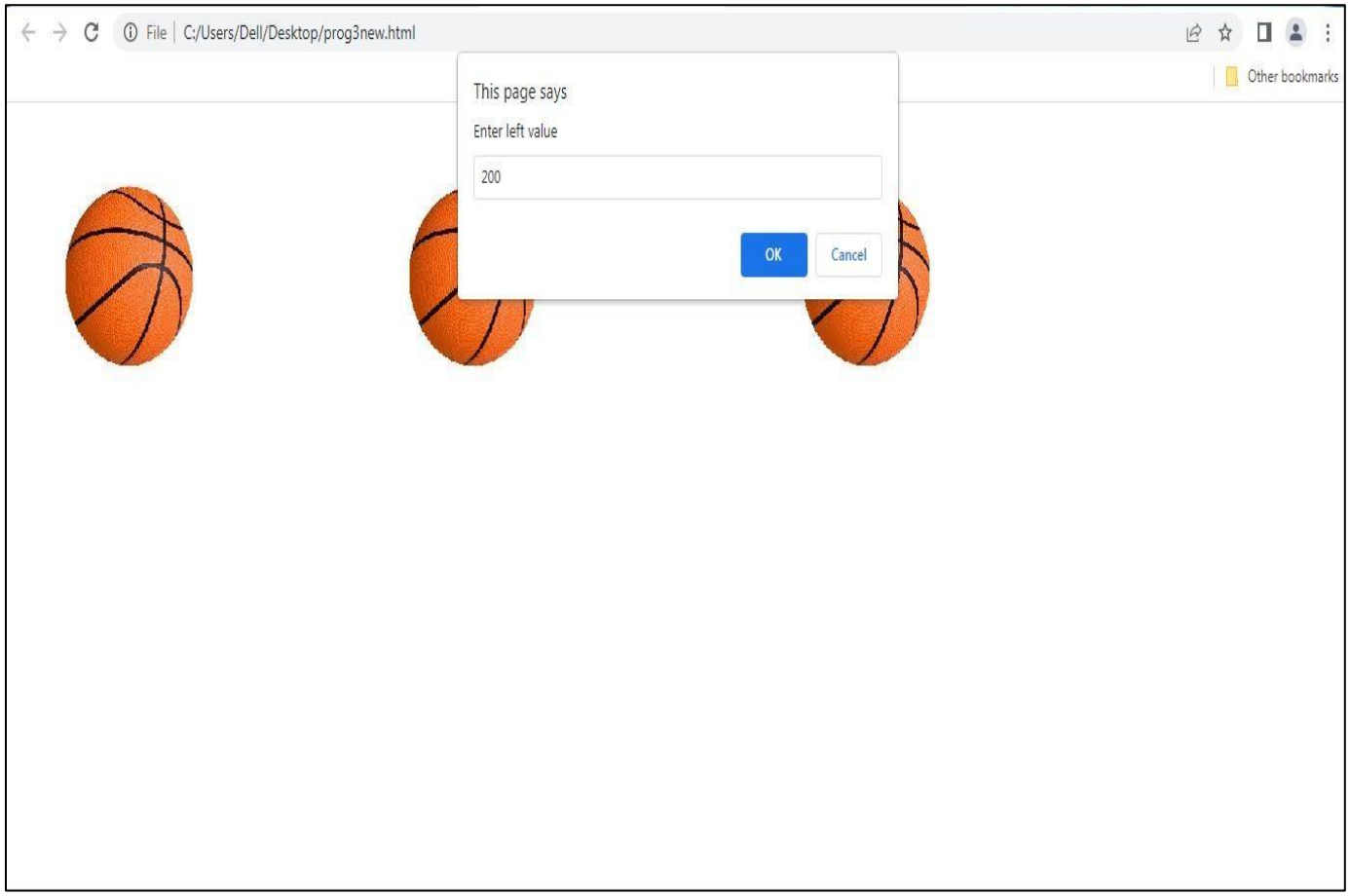

File | C:/Users/Dell/Desktop/prog2.html?
Other bookmarks
Math Expression Evaluator
Enter a Mathematical Expression: 5+2*4
Evaluate
Result:13

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"><img  src="ball.jpg"  onclick="moveImage('layer1')"  alt="My  Image."/></div>
          <div  id="layer2"><img  src="ball.jpg"  onclick="moveImage('layer2')"  alt="My  Image."/></div>
          <div  id="layer3"><img  src="ball.jpg"  onclick="moveImage('layer3')"  alt="My  Image."/></div>
</body>
</html>
```

Output:

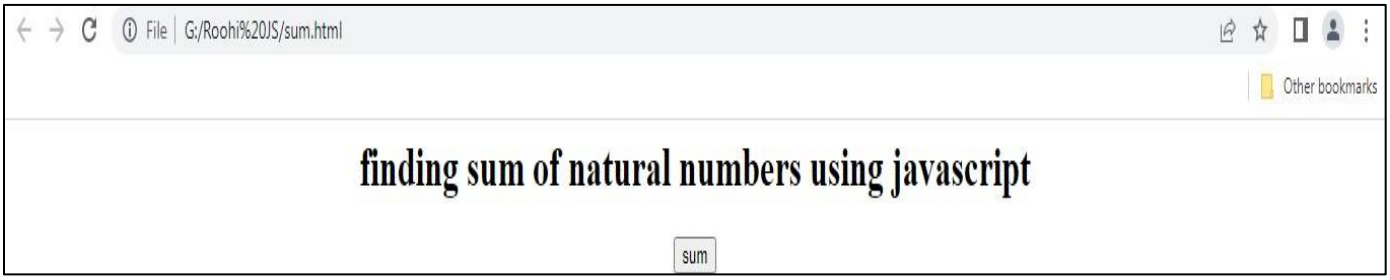

File | C:/Users/Dell/Desktop/prog3new.html
Other bookmarks
This page says
Enter left value
200
OK
Cancel

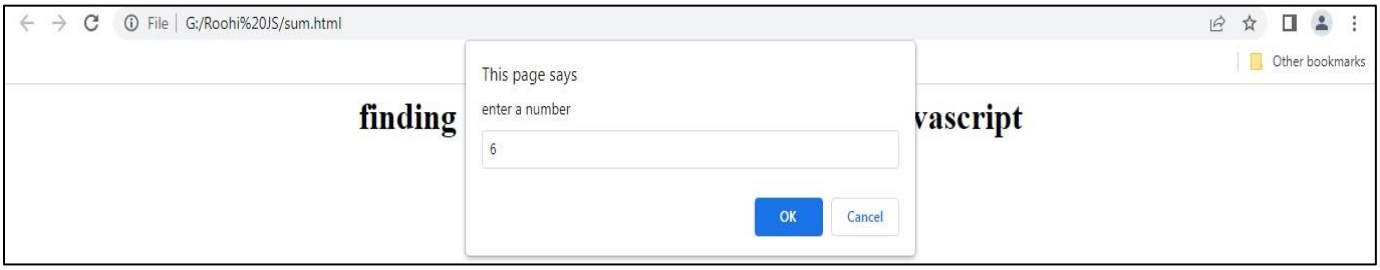
Program 04

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>
```

Output:


File | G:/Roohi%20JS/sum.html
Other bookmarks
finding sum of natural numbers using javascript
sum


File | G:/Roohi%20JS/sum.html
Other bookmarks
This page says
enter a number
6
OK
Cancel
finding
vascript


File | G:/Roohi%20JS/sum.html
Other bookmarks
sum of 6 natural numbers: 21

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>
```

Output:


File | C:/Users/Dell/Desktop/prog5.html
Other bookmarks
Current Date in Words
Current date in words: Sunday, December 31, 2023

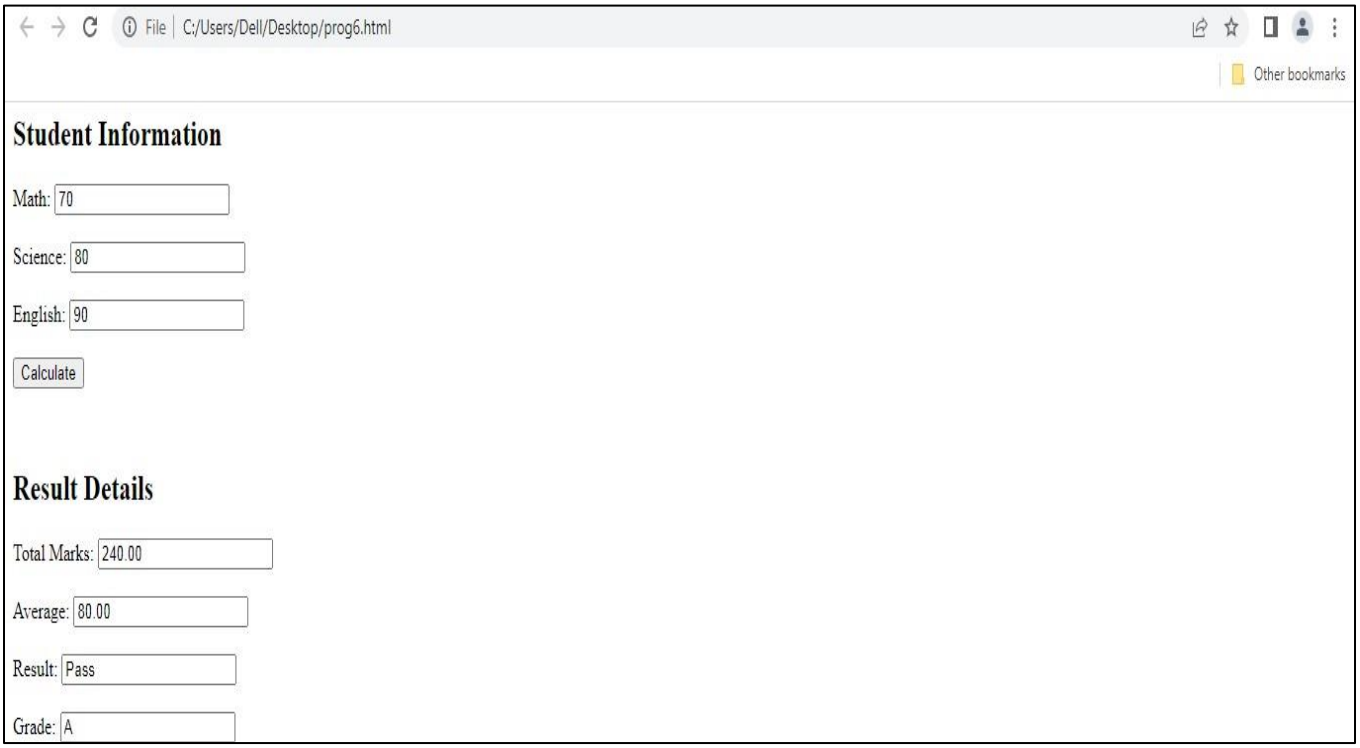
Program 06

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>
```

Output:


File | C:/Users/Dell/Desktop/prog6.html
Other bookmarks
Student Information
Math: 70
Science: 80
English: 90
Calculate
Result Details
Total Marks: 240.00
Average: 80.00
Result: Pass
Grade: A

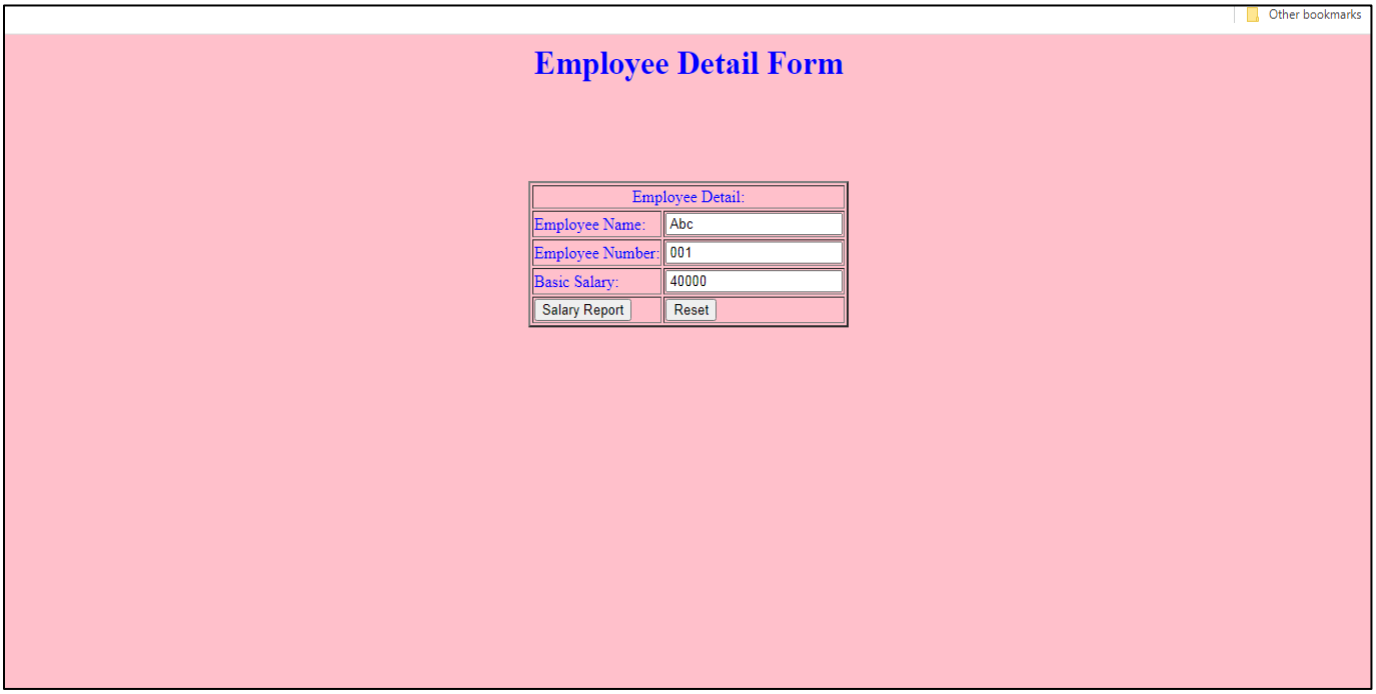
Program 07

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:

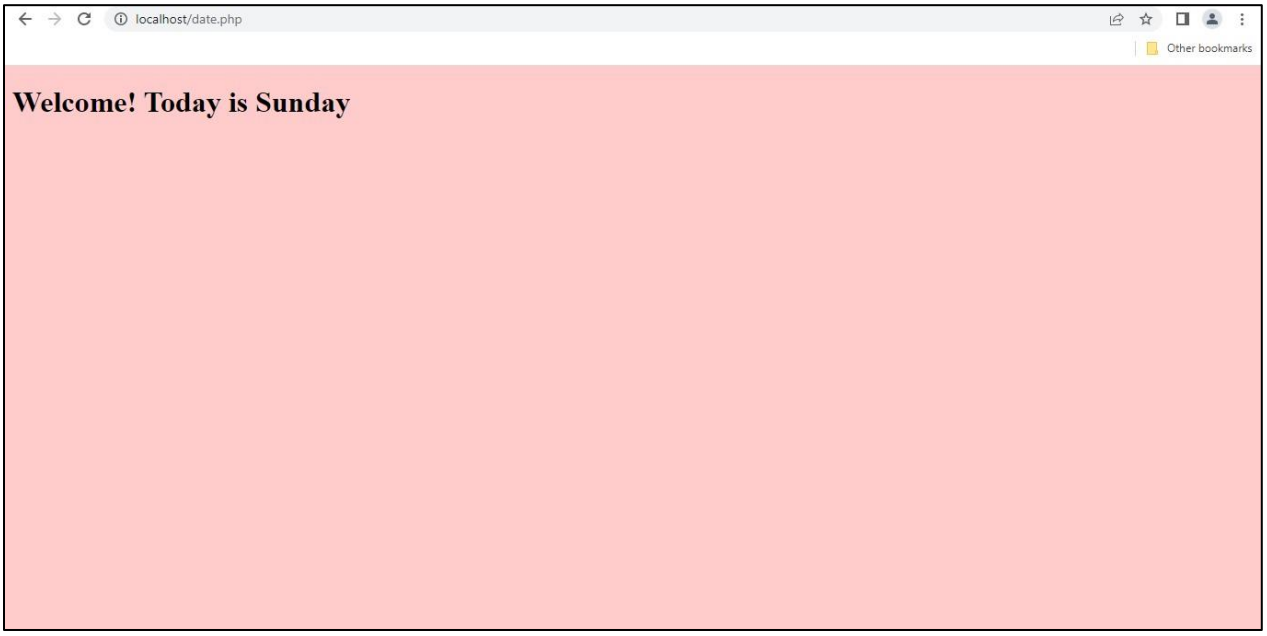


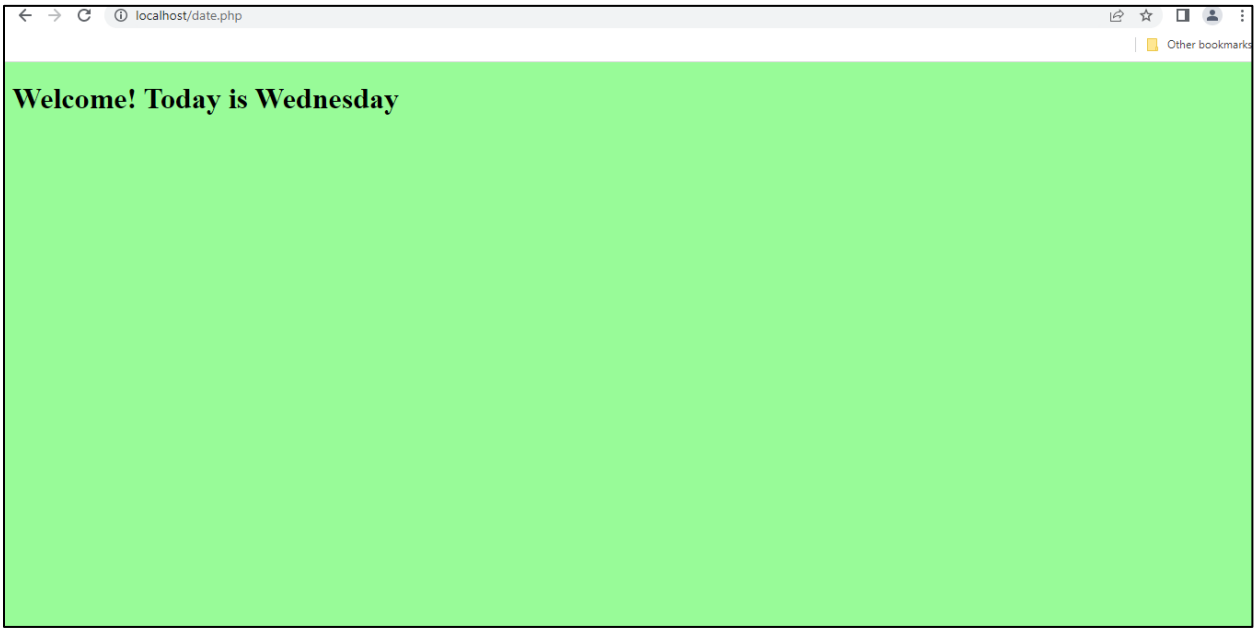
Program 08

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' => '#ffebcd',
    '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>
```

Output:


localhost/date.php
Other bookmarks
Welcome! Today is Sunday


localhost/date.php
Other bookmarks
Welcome! Today is Wednesday

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;
}
?>
```

Output:

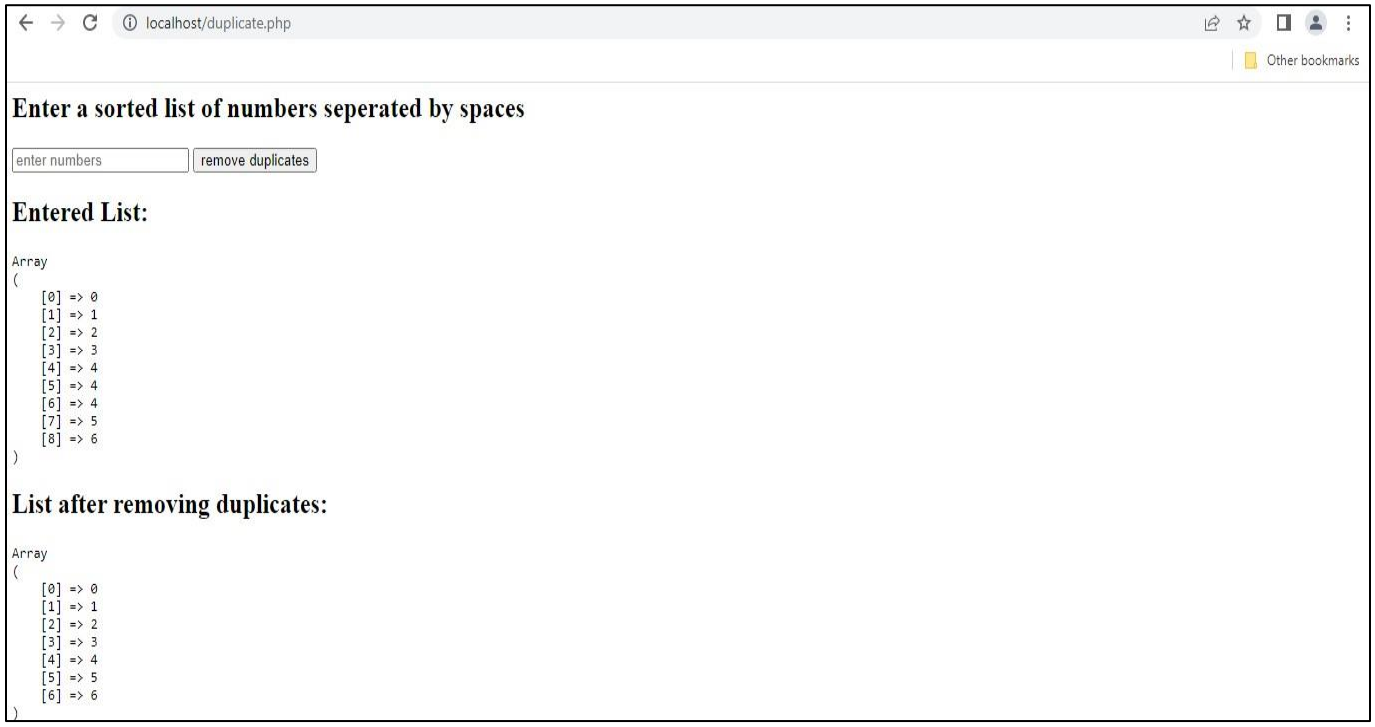

localhost/prime.php
Other bookmarks
Prime numbers from 1 to 50:
2 , 3 , 5 , 7 , 11 , 13 , 17 , 19 , 23 , 29 , 31 , 37 , 41 , 43 , 47 ,
Fibonacci series for first 12 numbers:
0 1 1 2 3 5 8 13 21 34 55 89

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>
```

Output:


localhost/duplicate.php
Other bookmarks
Enter a sorted list of numbers seperated by spaces
enter numbers
remove duplicates
Entered List:
Array
(
[0] => 0
[1] => 1
[2] => 2
[3] => 3
[4] => 4
[5] => 4
[6] => 4
[7] => 5
[8] => 6
)
List after removing duplicates:
Array
(
[0] => 0
[1] => 1
[2] => 2
[3] => 3
[4] => 4
[5] => 5
[6] => 6
)