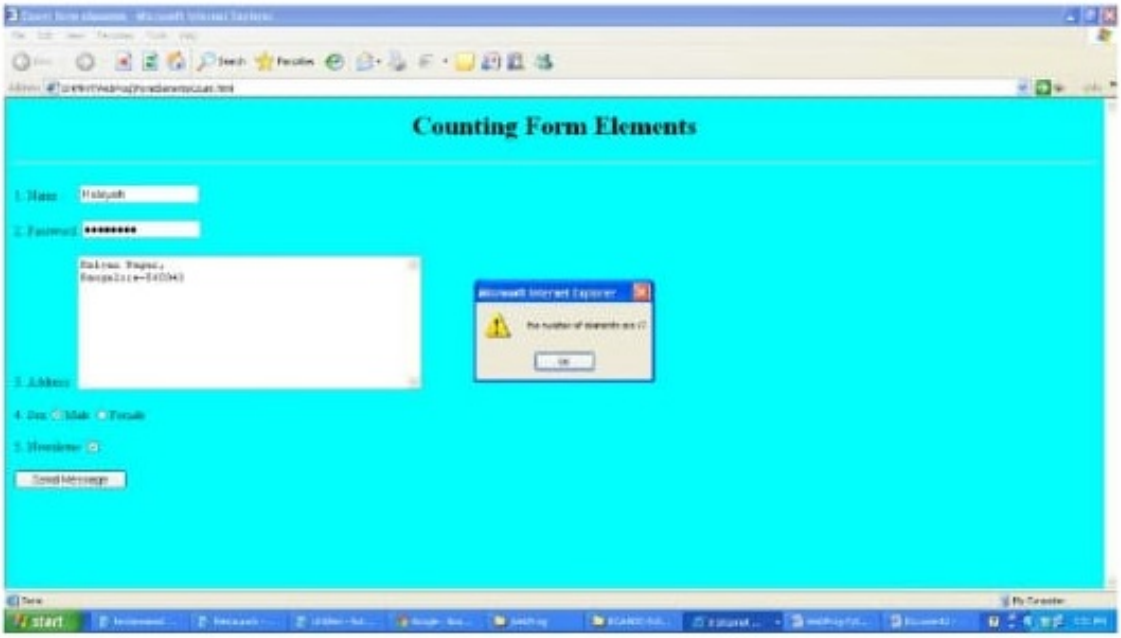
1) Create a form with the elements of Textboxes, Radio buttons, Checkboxes, and so on. Write JavaScript code to validate the format in email, and mobile number in 10 characters, If a textbox has been left empty, popup an alert indicating when email, mobile number and textbox has been left empty.

Ans:-

```
<!DOCTYPE html>
<html>
<head>
<title>Form Validation</title>
</head>
<body>
<form id="myForm">
<label for="name">Name:</label>
<input type="text" id="name" name="name"><br><br>

<label for="email">Email:</label>
<input type="text" id="email" name="email"><br><br>

<label for="mobile">Mobile Number:</label>
<input type="text" id="mobile" name="mobile"><br><br>

<label>Gender:</label>
<input type="radio" id="male" name="gender" value="Male">Male
<input type="radio" id="female" name="gender" value="Female">Female<br><br>

<label>Hobbies:</label>
<input type="checkbox" id="reading" name="hobbies" value="Reading">Reading
<input type="checkbox" id="traveling" name="hobbies" value="Traveling">Traveling<br><br>

<input type="submit" value="Submit">
</form>
```

```
<script>
document.getElementById("myForm").addEventListener("submit", function(event) {
event.preventDefault();

        // Validation for email format
        var email = document.getElementById("email").value;
        var emailPattern = /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}$/;

        // Validation for mobile number length (assuming 10 characters)
        var mobile = document.getElementById("mobile").value;

        // Check if any required field is left empty
        var name = document.getElementById("name").value;

        if (name === "" || email === "" || mobile === "") {
alert("Please fill in all required fields.");
        } else if (!emailPattern.test(email)) {
alert("Invalid email format. Please enter a valid email address.");
        } else if (mobile.length !== 10 || isNaN(mobile)) {
alert("Mobile number should be 10 digits numeric.");
        } else {
           // Form is valid, you can submit it or perform further actions here
alert("Form submitted successfully!");
        }
      });
</script>
</body>
</html>
```

OUTPUT: -



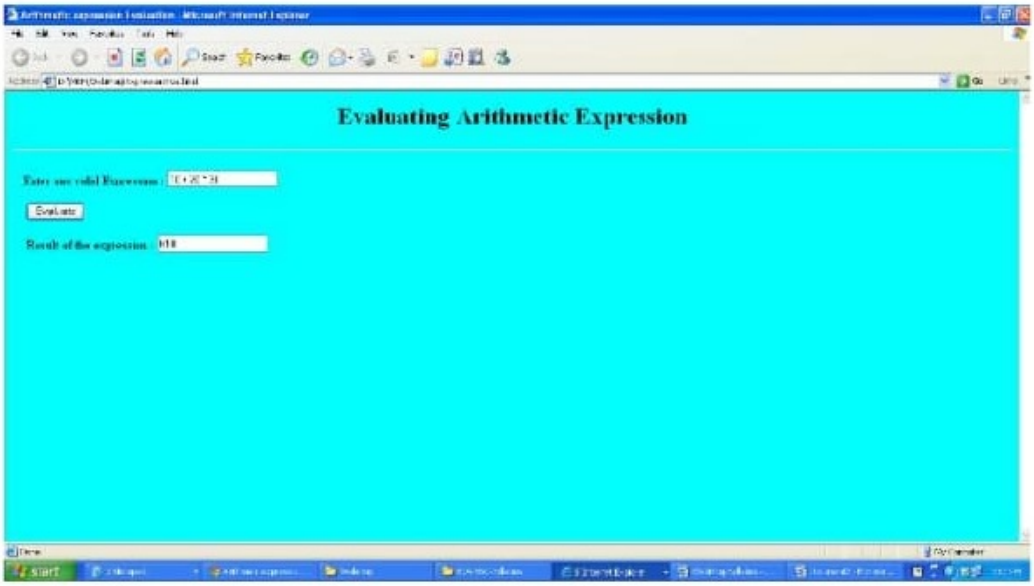
2). Develop an HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluate the expression and Display the result.

Ans: -

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Again</title>
</head>
<body>
<input type="number" id="col1">
<br>
<select id="col2">
<option value="+">+</option>
<option value="-">-</option>
<option value="*">*</option>
<option value="/">/</option>
</select>
<br>
<input type="number" id="col3">
<br>
<button onclick="cal()">Calculate</button>
<input type="" readonly  id="res">
</body>

<script>
    function cal()
    {
      var opt1= document.getElementById("col1").value;
```

```
    var opt2= document.getElementById("col3").value;
    var check= document.getElementById("col2").value;
    if(check=="+")
    {
      var res=parseInt(opt1)+parseInt(opt2);
    }

    if(check=="-")
    {
      var res=parseInt(opt1)-parseInt(opt2);
    }

    if(check=="*")
    {
      var res=parseInt(opt1)*parseInt(opt2);
    }

    if(check=="/")
    {
      var res=parseInt(opt1)/parseInt(opt2);
    }

document.getElementById("res").value=res;
   }

</script>
</html>
```

OutPut: -



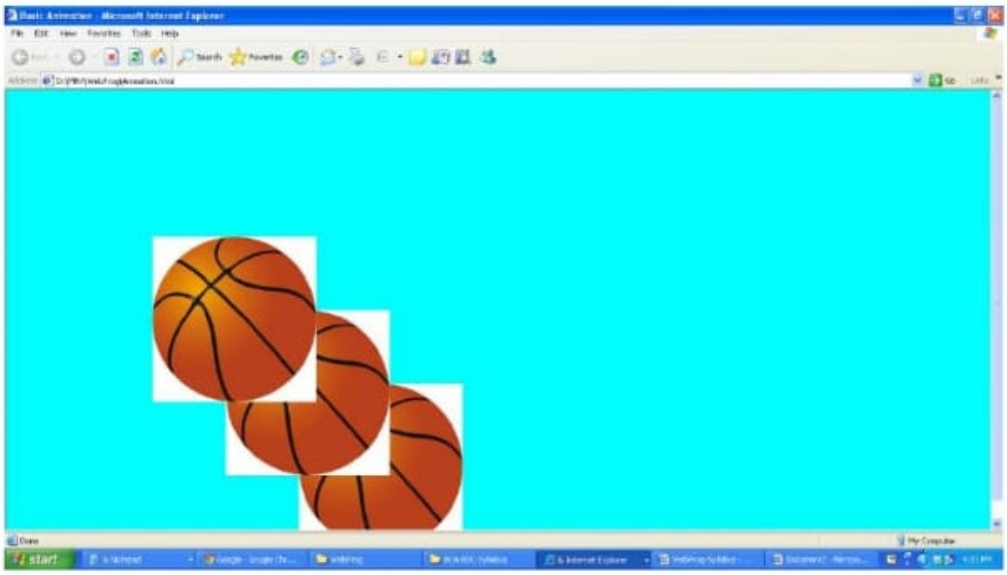
3) Create a page with dynamic effects. Write the code to include layers and basic animation.

Ans:-

```
<html>

<head>

<title> Basic Animation </title>

<style>

#layer1 {position:absolute;top:50px;left:50px;}

#layer2 {position:absolute;top:50px;left:50px;}

#layer3 {position:absolute; top:50px;left:50px;}

</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 bgcolor="darkblue" text="white">


<div id="layer1"><imgsrc="C:\Users\MBL\Desktop\Paapu.jpg" onclick="moveImage('layer1')"
alt="MyImage"></div>


<div id="layer2"><imgsrc="C:\Users\MBL\Downloads\mm.jpg" onclick="moveImage('layer2')"
alt="MyImage"></div>
```

```
<div id="layer3"><imgsrc="C:\Users\MBL\Downloads\nn.jpg" onclick="moveImage('layer3')"
alt="MyImage"></div>

</body>

</html>
```

Output: -



4) Write a JavaScript code to find the sum of N natural Numbers. (Use user- defined function)?

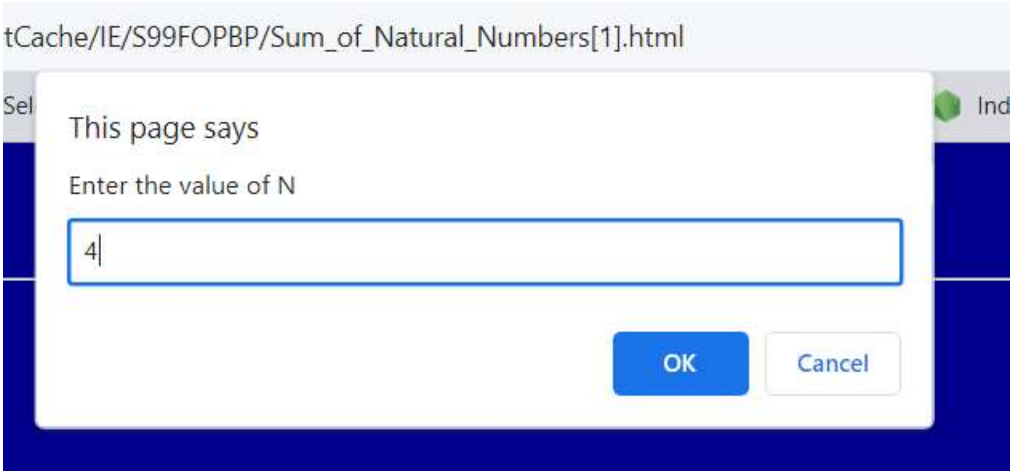
Ans:-

```
<html>
<head>
<title>Sum of Natural Numbers</title>
<script type="text/javascript">
function sum(){
var num=window.prompt("Enter the value of N")
var n=parseInt(num);
var sum=(n*(n+1))/2;
window.alert("Sum of First "+n+"Natural Numbers is:"+sum);
}
</script>
</head>
<body bgcolor="darkblue" text="white">
<h1 align="center"> Sum of Natural Numbers </h1>
<hr>
<center><form>
<input type="button" value="Find Sum of Natural Numbers" onclick="sum()"/>
</form>
</center>
</body>
</html>
```

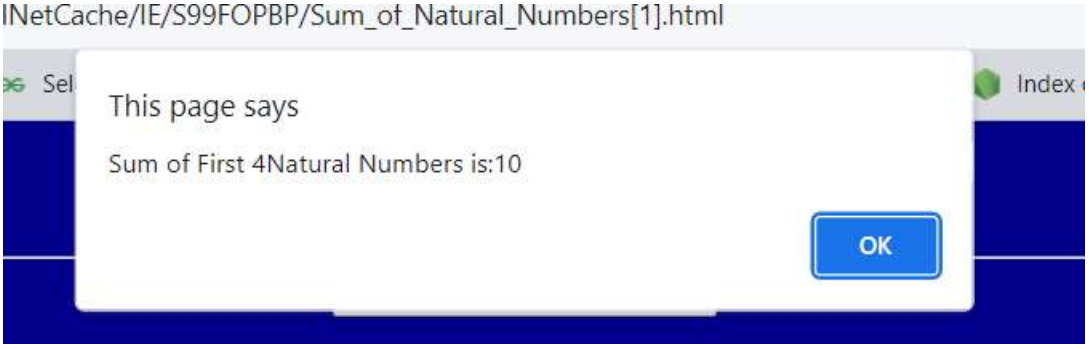
Output: -

step-1

Step-2



Step-3

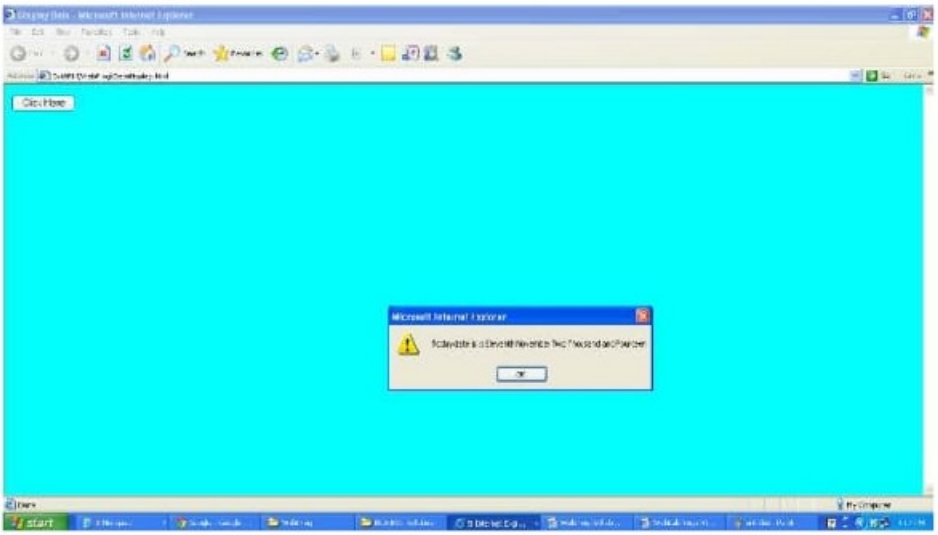


5). Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.

Ans :-<head>

```
<title>Date Display</title>

<script type="text/javascript">


var days=["First","second","third","fourth","fifth","sixth","seventh","Eighth","Ninth","Tenth",


"Eleventh","Twelfth","Thirteenth","Fourteenth","Fifteenth","Sixteenth","Seventeenth","Eighteenth","Nineteen
th","Twentyeth",

      "TwentyFirst","TwentySecond","TwentyThird","TwentyFourth","TwentyFifth",
"TwentySixth","TwentySeventh","TwentyEighth","TwentyNinth","Thirtyeth","ThirtyFirst"];


var months=["January","February","March","April","May","June","july","August","September",
"October","November","December"];


var year ="Two Thousand Twenty Three";


var dateObj=new Date();

var currMonth=dateObj.getMonth();

var currDate=dateObj.getDate();

var currYear=dateObj.getFullYear();


if(currYear=2020)

alert("Today's Date is:"+days[currDate-1]+" "+months[currMonth]+" "+year);

else

alert("Today's Date is:"+days[currDate-1]+" "+months[currMonth]+" "+currYear);

</script>

</head>

</html>
```

Output: -



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

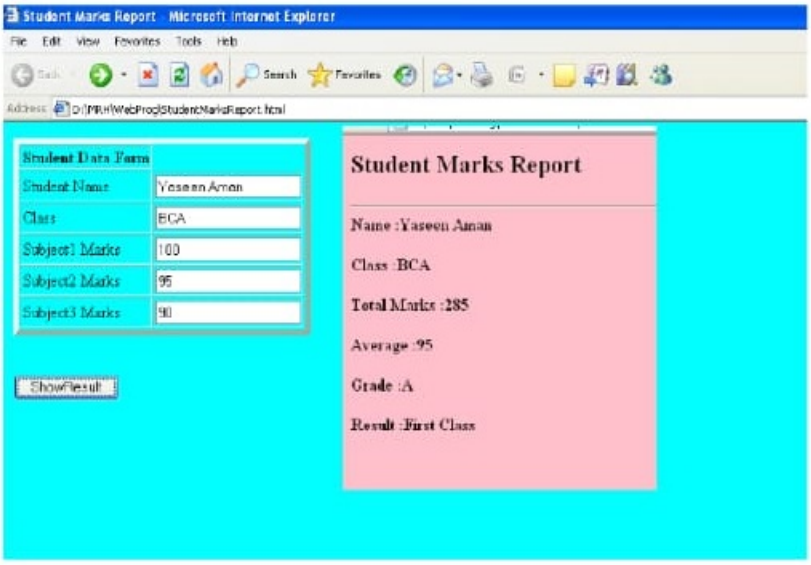
Ans:-<html>

```
<head>
<title>Student Data Example</title>
<script type="text/javascript">
function showResults()
{

var name=document.getElementById("name").value;
var cls=document.getElementById("class").value;
var marks1=parseInt(document.getElementById("sub1").value);
var marks2=parseInt(document.getElementById("sub2").value);
var marks3=parseInt(document.getElementById("sub3").value);
var total=marks1+marks2+marks3; var avg=total/3;

var grade,result;

if(marks1>=40 && marks2>=40 &&marks3>=40)
{
if( avg>=75){
grade="A+";
result="Distinction"
}
else if(avg<75 &&avg>=60){
grade="A";
result="First Class"
}
else if(avg<60 &&avg>=50){
```

```
grade="B";
result="Second Class"
}
else{
grade="C";
result="Third class";
}
}
else
{
grade="D";
result="Fail";
}
document.write("<h2>Results</h2>");
document.write("<b> NAME         :"+name+"</b><br/><br/>");
document.write("<b> CLASS :"+cls+"</b><br/><br/>");
document.write("<b> TOTAL MARKS :"+total+"</b><br/><br/>");
document.write("<b> AVERAGE :"+avg+"</b><br/><br/>");
document.write("<b> GRADE :"+grade+"</b><br/><br/>");
document.write("<b> RESULT :"+result+"</b><br/><br/>");
}
</script>
</head>
<body bgcolor="darkblue" text="white">
<form>
<table border="10">
<tr>
```

```
<td colspan="2" align="center">Student Details</td></tr>
<tr>
<td>Student Name:</td>
<td><input type="text" id="name"/></td>
</tr>
<tr>
<td>Class:</td>
<td><input type="text" id="class"/></td>
</tr>
<tr>
<td>Subject1 Marks:</td>
<td><input type="text" id="sub1"/></td>
</tr>
<tr>
<td>Subject2 Marks:</td>
<td><input type="text" id="sub2"/></td>
</tr>
<tr>
<td>Subject3 Marks:</td>
<td><input type="text" id="sub3"/></td>
</tr>
</table>

<br/><input type="button" value="View Results" onclick="showResults()"/></form>
</body>
</html>
```

Output: -


Student Marks Report - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Search
Favorites
Address D:\MRH\WebProg\StudentMarksReport.html
Student Data Form
Student Name
Yaseen Aman
Class
BCA
Subject1 Marks
100
Subject2 Marks
95
Subject3 Marks
90
ShowResult
Student Marks Report
Name :Yaseen Aman
Class :BCA
Total Marks :285
Average :95
Grade :A
Result :First Class

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

Ans:-<html>

<head>

<title>EMPLOYEE SALARY DETAILS</title>

<script type="text/javascript">

function showSalary(){

var empname=document.getElementById("empname").value; var empno=document.getElementById("empno").value;

var basic=parseInt(document.getElementById("basic").value);

//hra is 40% of basic

var hra=basic*0.4;

//da is 60% of basic

var da=basic*0.6;

var gross=basic+hra+da;

//pf is 13% of gross

var pf=gross*0.13;

//tax is 20% of gross

var tax=gross*0.2;

var deductions=pf+tax;

var netsalary=gross-deductions;

document.write("<table border='5' bgcolor='lightgreen' >"); document.write("<tr><td colspan='2' align='center'>Employee Salary Breakup

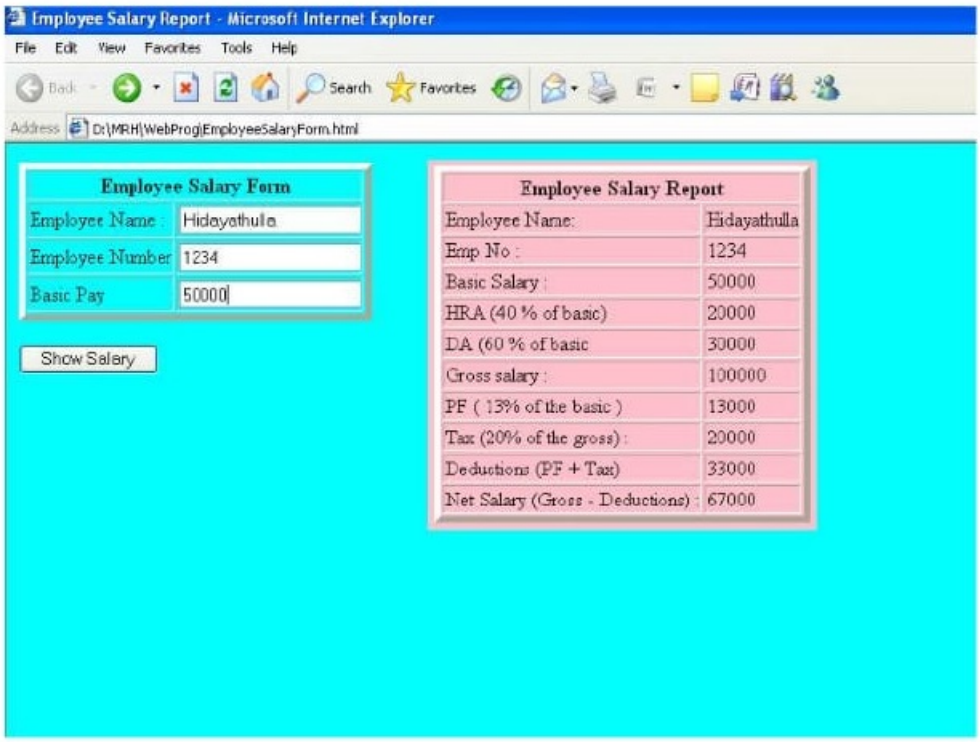
Details</td></tr>");

document.writeln("<tr><td>Emp Name:</td><td>"+empname+"</td></tr>"); document.writeln("<tr><td>Emp No:</td><td>"+empno+"</td></tr>"); document.writeln("<tr><td>Basic Salary:</td><td>"+basic+"</td></tr>"); document.writeln("<tr><td>HRA (40% of

```
Basic):</td><td>"+hra+"</td></tr>"); document.writeln("<tr><td>DA (60% of
Basic):</td><td>"+da+"</td></tr>"); document.writeln("<tr><td>Gross
Salary:</td><td>"+gross+"</td></tr>"); document.writeln("<tr><td>PF (13% of
Basic):</td><td>"+pf+"</td></tr>"); document.writeln("<tr><td>Tax (20% of
Basic):</td><td>"+tax+"</td></tr>"); document.writeln("<tr><td>Deductions
(PF+TAX):</td><td>"+deductions+"</td></tr>"); document.writeln("<tr><td><b>Net Salary(Gross-
Deductions):</b></td>"); document.writeln("<td><b>"+netsalary+"</b></td></tr>");
document.writeln("</table>");


}

</script>

</head>

<body bgcolor="darkblue" text="white">

<form>

<table border="5">


<tr><td colspan="2" align="center">EMPLOYEE DETAILS</td></tr><tr>

<td>Employee Name:</td>

<td><input type="text" id="empname"/></td>

</tr>

<tr>


<td>Employee Number:</td>

<td><input type="text" id="empno"/></td>

</tr>

<tr>

<td>Basic Pay:</td>

<td><input type="text" id="basic"/></td>

</tr>

</table>
```

```
<br/><input type="button" value="Show Salary Details" onClick="showSalary()"/></form>

</body>

</html>
```

Output:-



-

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

```
<?php
 $today=date("l");
 $bg_color_array = array('blue','black','red','pink','gray','yellow','green');

 if($today == "Sunday") $bg_color = $bg_color_array[0];
 elseif($today == "Monday")  $bg_color = $bg_color_array[1];
 elseif($today == "Tuesday") $bg_color = $bg_color_array[2];
 elseif($today == "Wednesday")  $bg_color = $bg_color_array[3];
 elseif($today == "Thursday")  $bg_color = $bg_color_array[1];
 elseif($today == "Friday") $bg_color = $bg_color_array[2];
 elseif($today == "Saturday")  $bg_color = $bg_color_array[3];

echo "<body bgcolor=$bg_color>Welcome to my Homepapge</body>";
?>
```

Output:

9) Write a simple program in PHP for
i) generating Prime number

```
<?php

  $num=10;

  for($n=1;$n<=$num;$n++)
  {
     $flag=true;
     if($n<=1) $flag=false;
     for($i=2;$i<=$n/2;$i++)
     {
        if(($n%$i)==0)
        {
          $flag=false;
          break;
        }
     }
     if($flag) echo $n."\n";
  }
?>
```

Output:

```
Prime Numbers are: 2357
```

ii) generate Fibonacci series.

```
<?php

  $num=10;
  $a=0;
  $b=1;

  for($i=1;$i<=$num;$i++)
  {
     echo $a."\n";
     $c=$a+$b;
     $a=$b;
     $b=$c;
  }
?>
```

Output:

Fibonacci Series are:0 1 1 2 3 5 8 13 21 34

10) Write a PHP program to remove duplicates from a sorted list

```
<?php
  header('Content-type:text:plain');
  $nums=array(10,10,20,30,30,40,50);
  print_r($nums);
  echo "\nAfer removing duplicates\n";
  $nums_unique=array_unique($nums);
  print_r($nums_unique);
?>
```

Output:

```
Array
(
    [0] => 10
    [1] => 10
    [2] => 20
    [3] => 30
    [4] => 30
    [5] => 40
    [6] => 50
)

Afer removing duplicates
Array
(
    [0] => 10
    [2] => 20
    [3] => 30
    [5] => 40
    [6] => 50
)
```

11) Write a PHP Script to print the following pattern on the Screen:

```
*****
 ***
  *
```

```
<?php
  header('Content-type:text:plain');
  $n=5;
  $stars=7;
  $space=0;

  for($i=1;$i<=$n;$i++)
  {
     for($j=0;$j<$space;$j++) echo" ";
     for($j=1;$j<=$stars;$j++) echo"*";
     $stars-=2;
     $space++;
     echo "\n";
  }
?>
```

Output:

```
*******
 *****
  ***
   *
```

12) Write a simple program in PHP for Searching of data by different criteria

```
<?php

// Sample data array
$data = array(
          array('name' =>'Ram','age' => 25,'city' =>'Ayodhya'),
          array('name' =>'Krishna','age' => 30,'city' =>'Mathura'),
          array('name' =>'Radha','age' => 28,'city' =>'Barsana'),
           array('name' =>'Seetha','age' => 28,'city' =>'Janakpur')
         );

// Function to search data by a specific criteria
function searchData($data, $criteria, $searchValue) {
   $results = array();
   foreach ($data as $item) {
      if ($item[$criteria] == $searchValue) {
         $results[] = $item;
      }
   }
   return $results;
}

// searching by name
$searchByName = searchData($data, 'name', 'Ram');
print_r($searchByName);
echo "</br>";

//  searching by age
$searchByAge = searchData($data, 'age', 28);
print_r($searchByAge);
echo "</br>";

//  searching by city
$searchByCity = searchData($data, 'city', 'Mathura');
print_r($searchByCity);
?>
```

Output:

```
Array ( [0] => Array ( [name] => Ram [age] => 25 [city] => Ayodhya ) )
Array ( [0] => Array ( [name] => Radha [age] => 28 [city] => Barsana ) [1] => Array ( [name] => Seetha [age] => 28 [city] => Janakpur ) )
Array ( [0] => Array ( [name] => Krishna [age] => 30 [city] => Mathura ) )
```

13) Write a function in PHP to generate captcha code

```
<?php
function generateCaptcha($length = 6) {
   $characters = '0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ';
   $captcha = '';
   $charactersLength = strlen($characters);

   for ($i = 0; $i < $length; $i++) {
      $captcha .= $characters[rand(0, $charactersLength - 1)];
   }

   return $captcha;
}

// Example usage:
$captcha = generateCaptcha();
echo "Generated CAPTCHA: " . $captcha;
?>
```

Output:

Generated CAPTCHA: SuRIv0

14) Write a Program to store and read image from Database.

SaveImage.php:

```
<?php

// create connection
$conn=new mysqli("localhost","root","","prg16");

 // check connection
if($conn->connect_error) die("Connection failed: ".$conn->connect_error);

 // Get the image content
  $image =addslashes(file_get_contents('night.jpg'));


 // query to insert
  $sql = "INSERT INTO imagedemo (image) VALUES ('$image')";

  if ($conn->query($sql) === TRUE) echo "New record created successfully";
  else echo "Error: " . $sql . "<br>" . $conn->error;



$conn->close();
?>
```

Output:

New record created successfully

Read Image.php:

```
<?php

// create connection
$conn=new mysqli("localhost","root","","prg16");

 // check connection
```

```
if($conn->connect_error) die("Connection failed: ".$conn->connect_error);

 // Get the image content
  $image =addslashes(file_get_contents('texture.jpg'));


 // query to insert
  $sql = "SELECT image FROM imagedemo";

  $result=$conn->query($sql);


  if ($result->num_rows > 0) {
   // Output data of each row
   while ($row = $result->fetch_assoc()) {
      // Display the image
      echo '<img src="' . base64_encode($row['image']) . '" />';
      echo "</br></br>";
   }
} else {
   echo "0 results";
}

 $conn->close();
?>
```

Output:

16) Write a program in PHP to add, update and delete using student database.

Add.php

```
<?php

// create connection
 $conn=new mysqli("localhost","root","","prg16");

 // check connection
 if($conn->connect_error) die("Connection failed: ".$conn->connect_error);

 // query to insert
 $sql = "INSERT INTO student (id,name,age,gender) VALUES (101, 'Ram',21,'Male')";

   if ($conn->query($sql) === TRUE) echo "New record created successfully";
   else echo "Error: " . $sql . "<br>" . $conn->error;

 $conn->close();
?>
```

Output:

New record created successfully

Update.php

```
<?php

 // create connection
 $conn=new mysqli("localhost","root","","prg16");

 // check connection
 if($conn->connect_error) die("Connection failed: ".$conn->connect_error);

 // query to update
 $sql = "UPDATE student SET age=22 WHERE id=101";
```

```
  if ($conn->query($sql) === TRUE) echo "Record updated successfully";
  else echo "Error updating record: ". $conn->error;

 $conn->close();
?>
```

Output:

Record updated successfully

Delete.php

```
<?php

// create connection
 $conn=new mysqli("localhost","root","","prg16");

 // check connection
 if($conn->connect_error) die("Connection failed: ".$conn->connect_error);

 // query to delete
 $sql = "DELETE FROM student WHERE id=101";
  if ($conn->query($sql) === TRUE) echo "Record deleted successfully";
  else echo "Error deleting record: ". $conn->error;

 $conn->close();
?>
```

Output:

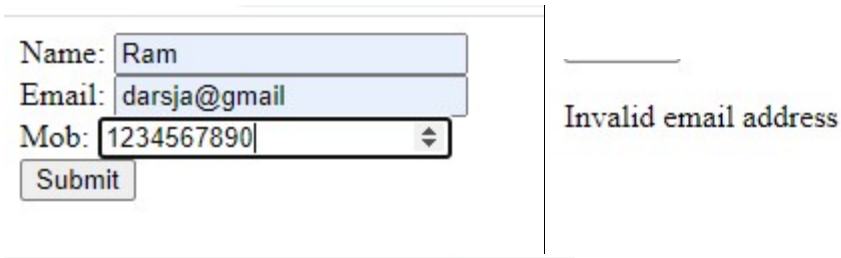
Record deleted successfully

17) Write a program in PHP to Validate Input

```
<?php
session_start();
?>


<!DOCTYPE html>
<html>
<head>
<title>Add Data</title>
</head>
<body>
<form action="validate.php" method="post">
      Name: <input type="text" name="name"><br>
      Email: <input type="text" name="email"><br>
      Mob:   <input type="number" name="mob"><br>
      <input type="submit" name="submit" value="Submit"/></br></br>
</form>
</body>
</html>

<?php
if(isset($_POST['submit'])){
 $name=$_POST['name'];
 $email=$_POST['email'];
 $mob=$_POST['mob'];

 if(empty($name) || empty($email) || empty($mob)){
   echo "<script> alert('Please Fill all the fields')</script>";
    exit();
 }

 if (!(filter_var($email, FILTER_VALIDATE_EMAIL)))
 {
  echo "Invalid email address";
  exit();
 }
 if (strlen($mob) != 10)
 {
  echo "Invalid phone number!";
  exit();
 }
```

```
 echo "<b><u>Entered Details:</u></b></br>";
 echo "$name </br>";
 echo "$email </br>";
 echo "$mob";

}
?>
```

Output:



18) Write a program in PHP for setting and retrieving a cookie

```
<?php
// Setting a cookie
$cookie_name = "user";
$cookie_value = "John Doe";
setcookie($cookie_name, $cookie_value, time() + (86400 * 30)); // Cookie set for 30 days

// Retrieving a cookie
if(isset($_COOKIE[$cookie_name])) {
   echo "Cookie '" . $cookie_name . "' has a value: " . $_COOKIE[$cookie_name];
} else {
   echo "Cookie named '" . $cookie_name . "' is not set!";
}
?>
```

Output:

Cookie 'user' has a value: John Doe

20) Write a program in PHP for exception handling for
i) divide by zero

```
<?php

 class DivideByZeroException extends Exception
 {
 }

 $a=6;
 $b=0;

 try
 {
    if($b==0) throw new DivideByZeroException("Division by Zero");
    $c=$a/$b;
    printf("Value of c: %d<br>",$c);
 }
 catch(DivideByZeroException $e)
 {
   printf("Exception: %s",$e->getMessage());
 }

?>
```

Output:

Exception: Division by Zero

ii) checking date format.

```
<?php

 $dateString = "2023-11-17";
try {
   $date = new DateTime($dateString);
   echo "Valid date format: " . $date->format('Y-m-d');
} catch (Exception $e) {
   echo "Invalid date format: " . $e->getMessage();
}
?>
```

Output:

```
Invalid date format: DateTime::__construct(): Failed to parse time string (2023-17-11) at position 6 (7): Unexpected character
```

s