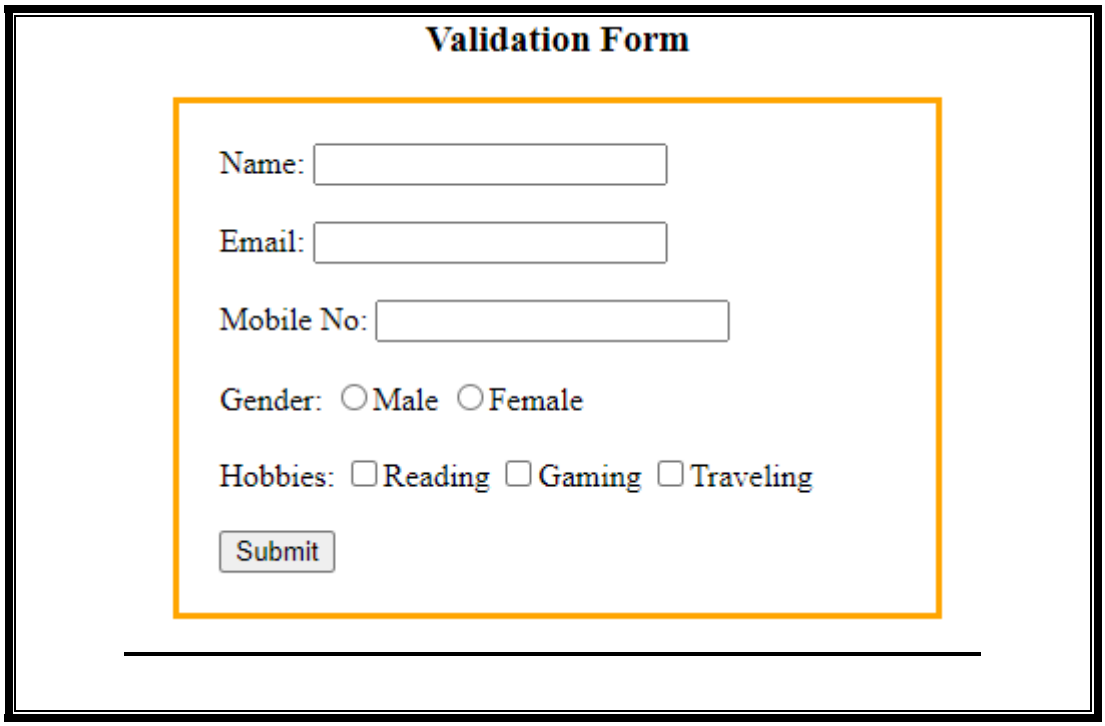
1.Create a form with the elements of Textboxes, Radio buttons, Checkboxes, and so on. Write JavaScript code to validate the format in email, and mobile number in 10 characters, If a textbox has been left empty, popup an alert indicating when email, mobile number and textbox has been left empty.

```
<!DOCTYPE html>
<html>
<head>
   <title>Form Validation</title>
</head>
<body>
<h3 style="text-align:center">Validation Form</h3>

   <form id="myForm"  style="WIDTH:25%; MARGIN:0 AUTO;border:solid orange;margintop:3%; padding:20px">


      <label>Name:</label>
      <input type="text" id="name" required><br><br>

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

      <label>Mobile No:</label>
      <input type="text" id="mobile"><br><br>

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

      <label>Hobbies:</label>
      <input type="checkbox" name="hobby" value="reading">Reading
      <input type="checkbox" name="hobby" value="gaming">Gaming
      <input type="checkbox" name="hobby" value="traveling">Traveling<br><br>

      <input type="button" value="Submit" onclick="validateForm()">
```

```
</form>

   <script>
      function validateForm() {
         var name = document.getElementById("name").value;
         var email = document.getElementById("email").value;
         var mobile = document.getElementById("mobile").value;

         if (name === "" || email === "" || mobile === "") {
            alert("Please fill in all required fields.");
            return;
         }

         var emailPattern = "[a-zA-Z0-9]+@[a-zA-Z]+.[a-z]{2,3}";
         var mobilePattern = "^[7-9]{1}[0-9]{9}$";

         if (!email.match(emailPattern)) {
            alert("Invalid email format.");
            return;
         }

         if (!mobile.match(mobilePattern)) {
            alert("Mobile number must be 10 digits.");
            return;
         }

      }
   </script>
</body>
</html>
</html>
```

Output

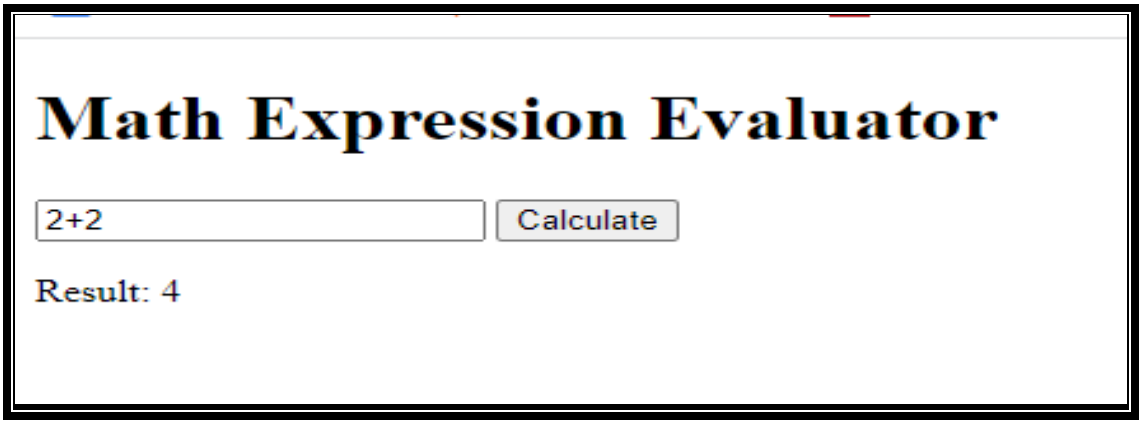


. 2. Develop an HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluate the expression and Display the result.

```
<!DOCTYPE html>
<html>
<head>
   <title>Math Expression Evaluator</title>
</head>
<body>
   <h1>Math Expression Evaluator</h1>
   <form id="calculator-form">
      <input type="text" id="expression" placeholder="Enter a mathematical expression"
required>
      <button type="button" onclick="calculate()">Calculate</button>
   </form>

   <p>Result: <span id="result">---</span></p>

   <script>
      function calculate()
```

```
    {

        const expression = document.getElementById("expression").value;

        try {
            const result = eval(expression);
            document.getElementById("result").textContent = result;
          }

    catch (error)
          {
            document.getElementById("result").textContent = "Error";
          }
     }
  </script>
</body>
</html>
```

output

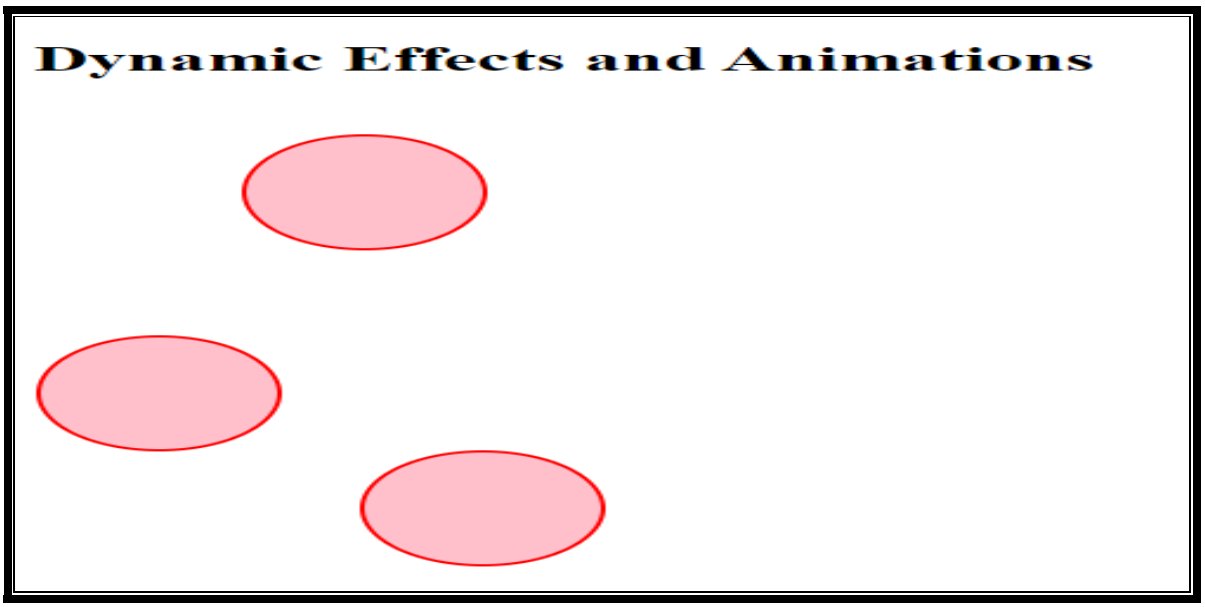


3. Create a page with dynamic effects. Write the code to include layers and basic animation.

```
<!DOCTYPE html>
<html>
<head>
    <title>Dynamic Effects and Animations</title>
    <style>
        .layer {
            position: absolute;
            width: 100px;
            height: 100px;
            background-color: pink;
            border: 2px solid red;
            border-radius: 50%;
            transition: transform 0.5s ease;
        }
    </style>
</head>
<body>
    <h1>Dynamic Effects and Animations</h1>

    <!-- Layers with basic animations -->
    <div class="layer" id="layer1" onmouseover="moveLayer(this)"></div>
    <div class="layer" id="layer2" onmouseover="moveLayer(this)"></div>
    <div class="layer" id="layer3" onmouseover="moveLayer(this)"></div>
```

```
    <script>
        // Function to move and animate a layer
        function moveLayer(layer) {
            const maxX = window.innerWidth - 120;  // Max X position
            const maxY = window.innerHeight - 120; // Max Y position

            // Generate random X and Y positions within the window
            const randomX = Math.floor(Math.random() * maxX);
            const randomY = Math.floor(Math.random() * maxY);

            // Move the layer to the random position
            layer.style.transform = `translate(${randomX}px, ${randomY}px)`;
        }
    </script>
</body>
</html>
```

Output

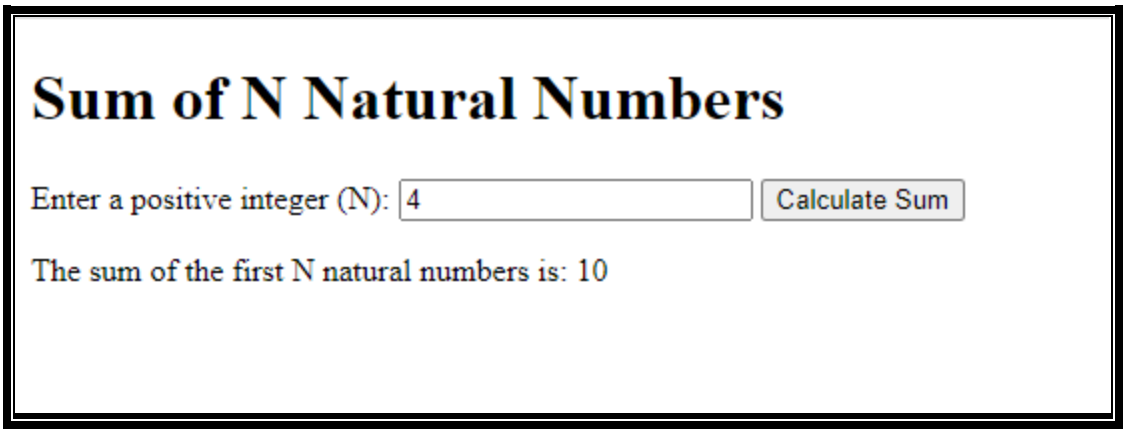


4.write a JavaScript code to find the sum of N natural Numbers. (Use user defined function)

```
<!DOCTYPE html>
<html>
<head>
    <title>Sum of N Natural Numbers</title>
</head>
<body>
    <h1>Sum of N Natural Numbers</h1>


<form>
    <label for="n">Enter a positive integer (N): </label>
    <input type="number" id="n">
    <button type="button" onclick="calculateSum()">Calculate Sum</button>
</form>
```

```
<p id="result">The sum of the first N natural numbers is: <span id="sum">---</span></p>

<script>
   function calculateSum() {
       const n = parseInt(document.getElementById("n").value);

       if (n >= 1) {
           const sum = sumOfNaturalNumbers(n);
           document.getElementById("sum").textContent = sum;
       }
  else {
           document.getElementById("sum").textContent = "Please enter a positive integer (N >=
1).";
       }
   }

   function sumOfNaturalNumbers(n) {
                return (n * (n + 1)) / 2;
   }
   </script>
</body>
</html>
```

Output



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

```
// Arrays to store the names of days and months
const daysOfWeek = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"];
const monthsOfYear = ["January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November", "December"];

// Get the current date
const currentDate = new Date();

// Extract day, month, and year components
const currentDay = daysOfWeek[currentDate.getDay()];
const currentMonth = monthsOfYear[currentDate.getMonth()];
const currentYear = currentDate.getFullYear();

// Create a sentence with the current date in words
```

```
const currentDateInWords = `${currentDay}, ${currentMonth}
  ${currentDate.getDate()}, ${currentYear}`;


// Display the result
console.log("Current Date in Words:", currentDateInWords);
```

output

Current Date in Words: Sunday, October 22, 2023

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

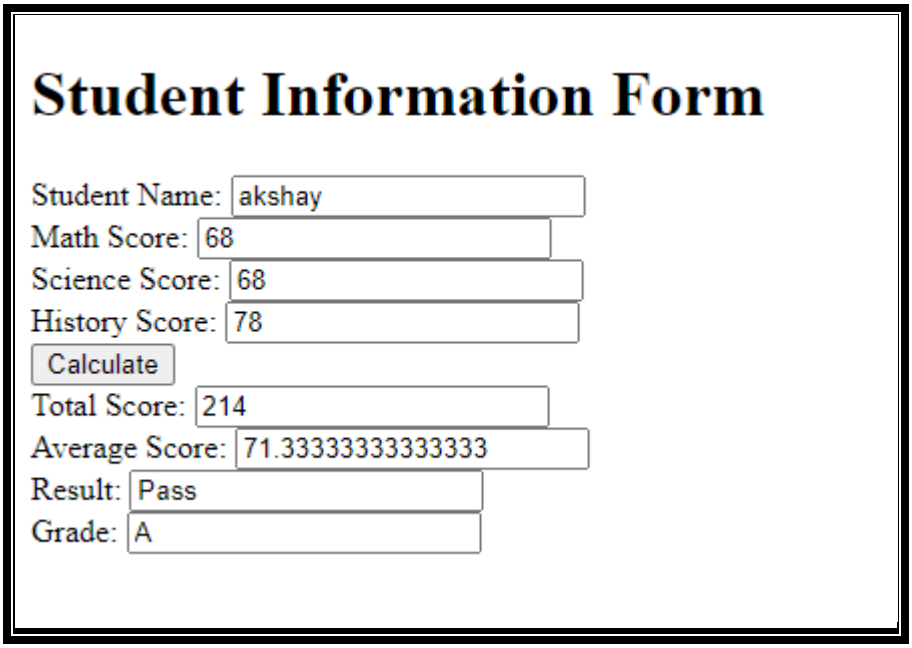
```
<!DOCTYPE html>
<html>
<head>
   <title>Student Information</title>
</head>
<body>
   <h1>Student Information Form</h1>
   <form id="student-form">
      <label for="name">Student Name:</label>
      <input type="text" id="name" required><br>


      <label for="math">Math Score:</label>
```

```
    <input type="number" id="math" required><br>

    <label for="science">Science Score:</label>
    <input type="number" id="science" required><br>

    <label for="history">History Score:</label>
    <input type="number" id="history" required><br>

    <button type="button" onclick="calculateResult()">Calculate</button><br>

    <label for="total">Total Score:</label>
    <input type="text" id="total" readonly><br>

    <label for="average">Average Score:</label>
    <input type="text" id="average" readonly><br>

    <label for="result">Result:</label>
    <input type="text" id="result" readonly><br>

    <label for="grade">Grade:</label>
    <input type="text" id="grade" readonly>
</form>

<script>
    function calculateResult() {
```

```
        const mathScore = parseInt(document.getElementById("math").value);
        const scienceScore = parseInt(document.getElementById("science").value);
        const historyScore = parseInt(document.getElementById("history").value);

        const totalScore = mathScore + scienceScore + historyScore;
        const averageScore = totalScore / 3;

        document.getElementById("total").value = totalScore;
        document.getElementById("average").value = averageScore;

        if (mathScore >= 40 && scienceScore >= 40 && historyScore >= 40)
{
            document.getElementById("result").value = "Pass";
            if (averageScore >= 70)
             {
                document.getElementById("grade").value = "A";
            }
         else if (averageScore >= 60) {
                document.getElementById("grade").value = "B";
            }
        else if (averageScore >= 50)
          {
                document.getElementById("grade").value = "C";
            }
       else {
```

```
                document.getElementById("grade").value = "D";
            }
        }
        else {
            document.getElementById("result").value = "Fail";
            document.getElementById("grade").value = "F";
        }
    }
  </script>
</body>
</html>
```

Output

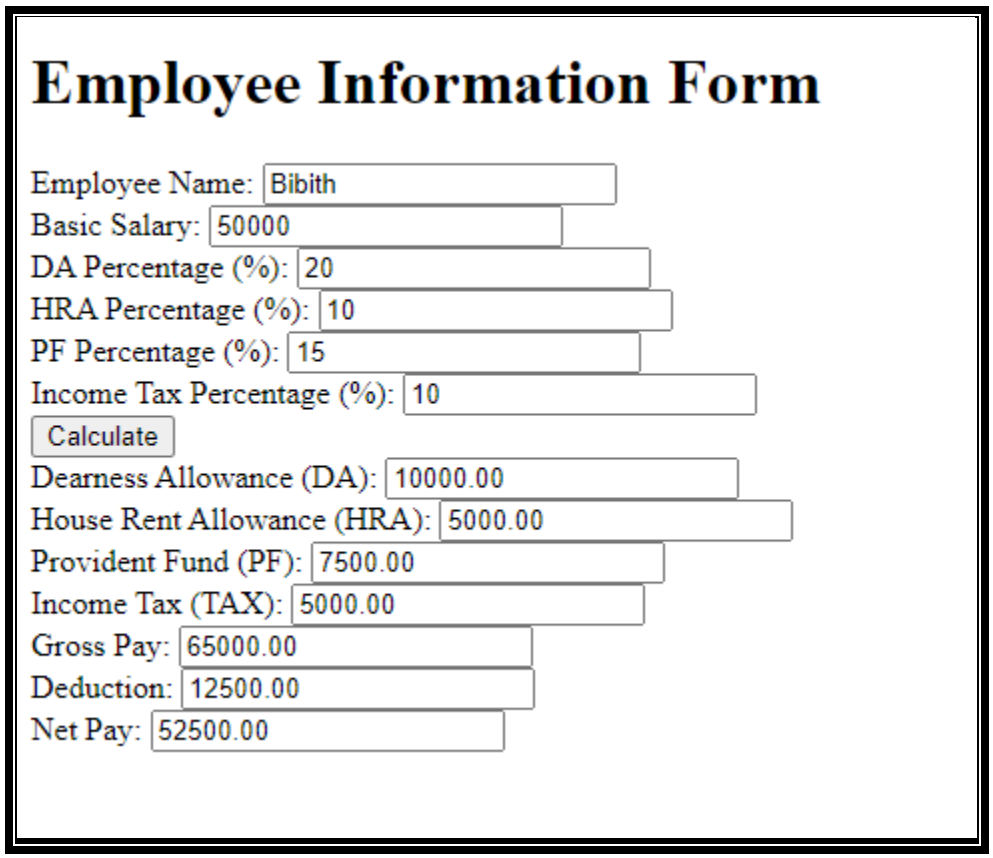


7. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.

```
<!DOCTYPE html>
<html>
<head>
  <title>Employee Information</title>
</head>
<body>
  <h1>Employee Information Form</h1>
  <form id="employee-form">
    <label for="name">Employee Name:</label>
    <input type="text" id="name" required><br>

    <label for="basic">Basic Salary:</label>
    <input type="number" id="basic" required><br>

    <label for="daPercentage">DA Percentage (%):</label>
    <input type="number" id="daPercentage" required><br>

    <label for="hraPercentage">HRA Percentage (%):</label>
    <input type="number" id="hraPercentage" required><br>

    <label for="pfPercentage">PF Percentage (%):</label>
    <input type="number" id="pfPercentage" required><br>

    <label for="taxPercentage">Income Tax Percentage (%):</label>
    <input type="number" id="taxPercentage" required><br>

    <button type="button" onclick="calculateSalary()">Calculate</button><br>

    <label for="da">Dearness Allowance (DA):</label>
    <input type="text" id="da" readonly><br>

    <label for="hra">House Rent Allowance (HRA):</label>
    <input type="text" id="hra" readonly><br>
```

```
    <label for="pf">Provident Fund (PF):</label>
    <input type="text" id="pf" readonly><br>

    <label for="tax">Income Tax (TAX):</label>
    <input type="text" id="tax" readonly><br>

    <label for="grossPay">Gross Pay:</label>
    <input type="text" id="grossPay" readonly><br>

    <label for="deduction">Deduction:</label>
    <input type="text" id="deduction" readonly><br>

    <label for="netPay">Net Pay:</label>
    <input type="text" id="netPay" readonly>
</form>

<script>
    function calculateSalary() {
        const basicSalary = parseFloat(document.getElementById("basic").value);
        const daPercentage = parseFloat(document.getElementById("daPercentage").value);
        const hraPercentage = parseFloat(document.getElementById("hraPercentage").value);
        const pfPercentage = parseFloat(document.getElementById("pfPercentage").value);
        const taxPercentage = parseFloat(document.getElementById("taxPercentage").value);

        // Calculate DA, HRA, PF, TAX
        const da = (daPercentage / 100) * basicSalary;
        const hra = (hraPercentage / 100) * basicSalary;
        const pf = (pfPercentage / 100) * basicSalary;
        const tax = (taxPercentage / 100) * basicSalary;

        // Calculate Gross Pay and Deduction
        const grossPay = basicSalary + da + hra;
        const deduction = pf + tax;

        // Calculate Net Pay
        const netPay = grossPay - deduction;
```

```
        document.getElementById("da").value = da.toFixed(2);
        document.getElementById("hra").value = hra.toFixed(2);
        document.getElementById("pf").value = pf.toFixed(2);
        document.getElementById("tax").value = tax.toFixed(2);
        document.getElementById("grossPay").value = grossPay.toFixed(2);
        document.getElementById("deduction").value = deduction.toFixed(2);
        document.getElementById("netPay").value = netPay.toFixed(2);
    }
  </script>
</body>
</html>
```



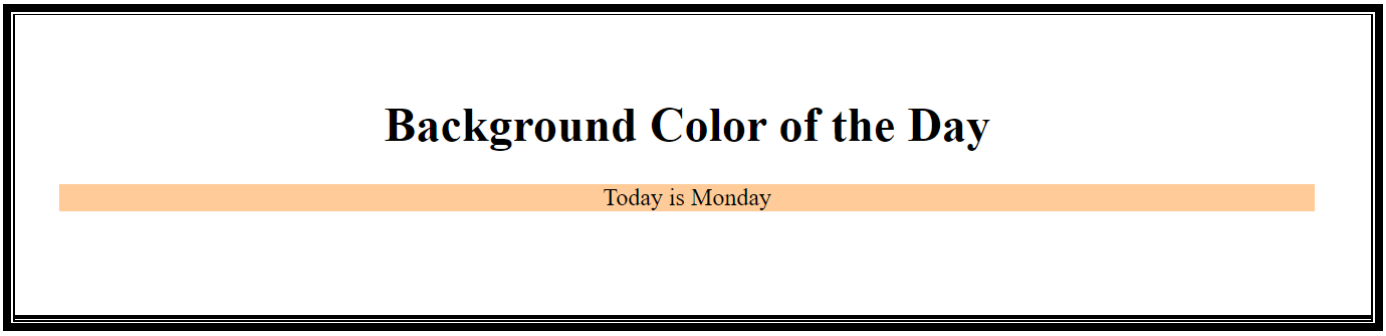
8.**Write a program in PHP to change background color based on day of the week using if else if statements and using arrays .**

```
<!DOCTYPE html>
<html>
<head>
```

```
    <title>Change Background Color by Day of the Week</title>
    <style>
        body {
            text-align: center;
            font-size: 24px;
            padding: 50px;
        }
    </style>
</head>
<body>
    <?php
    // Array to store background colors for each day of the week
    $backgroundColors = array(
        "Sunday" => "#ff6666",
        "Monday" => "#ffcc99",
        "Tuesday" => "#99ff99",
        "Wednesday" => "#66b3ff",
        "Thursday" => "#ff99cc",
        "Friday" => "#ffff99",
        "Saturday" => "#cc99ff"
    );

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

```
    // Set the background color based on the current day
    if (array_key_exists($currentDay, $backgroundColors)) {
        $backgroundColor = $backgroundColors[$currentDay];
    } else {
        $backgroundColor = "#f2f2f2"; // Default background color
    }
    ?>

    <h1>Background Color of the Day</h1>

    <div style="background-color: <?php echo $backgroundColor; ?>">
        Today is <?php echo $currentDay; ?>
    </div>
</body>
</html>
```

Output



9.Write a simple program in PHP for i) generating Prime number ii) generate Fibonacci series.

```php
<?php
function isPrime($number) {
    if ($number <= 1) {
        return false;
    }
    if ($number <= 3) {
        return true;
    }
    if ($number % 2 == 0 || $number % 3 == 0) {
        return false;
    }
    for ($i = 5; $i * $i <= $number; $i += 6) {
        if ($number % $i == 0 || $number % ($i + 2) == 0) {
            return false;
        }
    }
    return true;
}

echo "Prime Numbers: ";
for ($i = 2; $i <= 50; $i++) {
    if (isPrime($i)) {
        echo $i . " ";
    }
}

echo "\nFibonacci Series: ";
$n = 10; // Number of Fibonacci numbers to generate
$a = 0;
$b = 1;
for ($i = 0; $i < $n; $i++) {
    echo $a . " ";
    $c = $a + $b;
    $a = $b;
    $b = $c;
}
?>
```

output

Prime Numbers: 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 Fibonacci Series: 0 1 1 2 3 5 8 13 21 34

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

```
<?php
function removeDuplicates($sortedList) {
    $length = count($sortedList);

    if ($length == 0) {
        return $sortedList;
    }

    $result = array($sortedList[0]);

    for ($i = 1; $i < $length; $i++) {
        if ($sortedList[$i] != $sortedList[$i - 1]) {
            $result[] = $sortedList[$i];
        }
    }

    return $result;
}

// Sample sorted list with duplicates
$sortedList = array(1, 2, 2, 3, 4, 4, 4, 5, 6, 6, 7);

// Call the removeDuplicates function
$uniqueList = removeDuplicates($sortedList);

echo "Original Sorted List: " . implode(", ", $sortedList) . "\n";
echo "List with Duplicates Removed: " . implode(", ", $uniqueList) . "\n";
?>
```

output

Original Sorted List: 1, 2, 2, 3, 4, 4, 4, 5, 6, 6, 7 List with Duplicates Removed: 1, 2, 3, 4, 5, 6,

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

```
<?php
$rows = 5; // Number of rows in the pattern

<?php
//$rows = 5; // Number of rows in the pattern

for ($i = 1; $i <= 5; $i++) {
   for ($j = 5; $j >= $i; $j--) {
      echo "*";
   }
   echo "\n";
}
?>
```

Output

*****
****
***
**
*

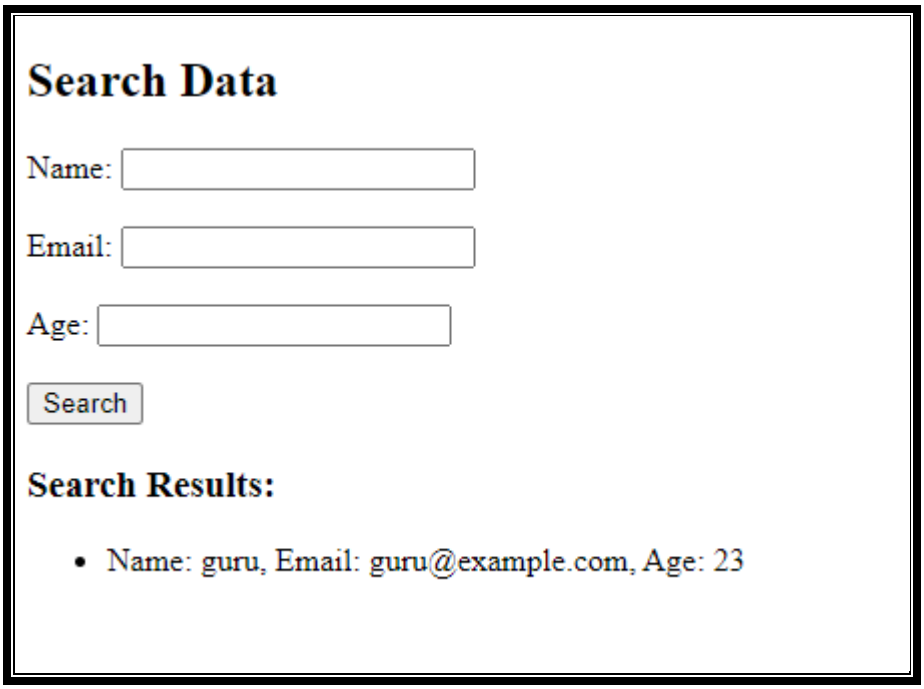
12. Write a simple program in PHP for Searching of data by different criteria.

```
<!DOCTYPE html>
<html>
<head>
   <title>Search Data</title>
</head>
<body>
   <h2>Search Data</h2>
   <form method="post" action="">

      <label>Name:</label>
      <input type="text" name="name">
      <br><br>

      <label>Email:</label>
      <input type="text" name="email">
```

```
    <br><br>

    <label>Age:</label>
    <input type="text" name="age">
    <br><br>

    <input type="submit" name="search" value="Search">
</form>

<?php
// Sample data array
$data = [
    ['name' => 'Guru', 'email' => 'guru@example.com', 'age' => 23],
    ['name' => 'Prajwal', 'email' => 'prajwal@example.com', 'age' => 25],
    ['name' => 'virat', 'email' => 'virat@example.com', 'age' => 35],

];

if (isset($_POST['search'])) {
    $searchName = $_POST['name'];
    $searchEmail = $_POST['email'];
    $searchAge = $_POST['age'];

    // Perform the search
    $results = [];

    foreach ($data as $item) {
        if (
            (empty($searchName) || stripos($item['name'], $searchName) !== false) &&
            (empty($searchEmail) || stripos($item['email'], $searchEmail) !== false) &&
            (empty($searchAge) || $item['age'] == $searchAge)
        ) {
            $results[] = $item;
        }
    }

    // Display the results
    if (!empty($results)) {
        echo "<h3>Search Results:</h3>";
        echo "<ul>";
```

```
            foreach ($results as $result) {
                echo "<li>Name: {$result['name']}, Email: {$result['email']}, Age:
{$result['age']}</li>";
            }
            echo "</ul>";
        } else {
            echo "No results found.";
        }
    }
    ?>
</body>
</html>
```

output



13. Write a function in PHP to generate captcha code.

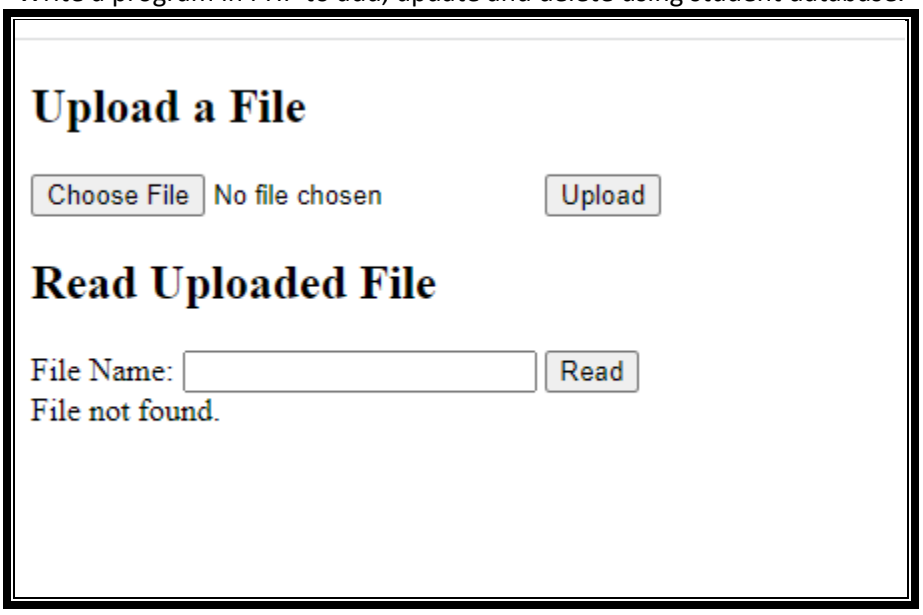
```
<?php
// Function to generate a random CAPTCHA code
function generateCaptchaCode($length = 6) {
    $characters =
'0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ';
    $captchaCode = '';

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

    return $captchaCode;
}

// Generate a CAPTCHA code and store it in a session variable
session_start();
$captchaCode = generateCaptchaCode();
$_SESSION['captcha_code'] = $captchaCode;

// Create an image with the CAPTCHA code and display it to the user
$width = 150;
$height = 50;
$image = imagecreatetruecolor($width, $height);
$bgColor = imagecolorallocate($image, 255, 255, 255);
$textColor = imagecolorallocate($image, 0, 0, 0);

imagefilledrectangle($image, 0, 0, $width, $height, $bgColor);

// You can choose a font file for your CAPTCHA text
$font = 'path_to_your_font.ttf';

imagettftext($image, 20, 0, 10, 30, $textColor, $font, $captchaCode);

header('Content-type: image/png');
imagepng($image);
imagedestroy($image);
?>
```

14. Write a program in PHP to read and write file using form control.

```
<!DOCTYPE html>
<html>
<head>
   <title>File Upload and Read</title>
</head>
<body>
   <h2>Upload a File</h2>
   <form method="post" action="" enctype="multipart/form-data">
      <input type="file" name="file" id="file">
      <input type="submit" name="upload" value="Upload">
   </form>

   <h2>Read Uploaded File</h2>
   <form method="get" action="">
      <label>File Name:</label>
      <input type="text" name="filename">
      <input type="submit" value="Read">
   </form>

   <?php

   if (isset($_POST['upload'])) {
      if ($_FILES['file']['error'] === UPLOAD_ERR_OK) {
         $tempFile = $_FILES['file']['tmp_name'];
         $uploadDir = 'uploads/';
         $targetFile = $uploadDir . $_FILES['file']['name'];

         if (!file_exists($uploadDir)) {
            mkdir($uploadDir, 0777, true);
         }

         if (move_uploaded_file($tempFile, $targetFile)) {
            echo "File uploaded successfully.";
         } else {
            echo "Error uploading the file.";
         }
      }
   }
```

```
    if (isset($_GET['filename'])) {
        $filename = 'uploads/' . $_GET['filename'];

        if (file_exists($filename)) {
            $fileContents = file_get_contents($filename);
            echo "<h3>File Contents:</h3>";
            echo "<pre>" . htmlspecialchars($fileContents) . "</pre>";
        } else {
            echo "File not found.";
        }
    }
    ?>
</body>
</html>
```

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



15. **Write a PHP program to Create a simple webpage of a college.**

```
<!DOCTYPE html>
<html>
<head>
   <title>College Name - Home</title>
   <style>
      body {
         font-family: Arial, sans-serif;
      }
      header {
         background-color: #007ACC;
         color: #fff;
         text-align: center;
         padding: 20px;
      }
      h1 {
         margin: 0;
      }
      nav {
         background-color: #333;
         color: #fff;
         padding: 10px;
      }
      nav a {
         color: #fff;
```

```
            text-decoration: none;
            margin-right: 20px;
        }
        .content {
            padding: 20px;
        }
        footer {
            background-color: #333;
            color: #fff;
            text-align: center;
            padding: 10px;
        }
    </style>
</head>
<body>
    <header>
        <h1>College Name</h1>
        <p>Empowering the Future</p>
    </header>
    <nav>
        <a href="#">Home</a>
        <a href="#">Programs</a>
        <a href="#">Admissions</a>
        <a href="#">About Us</a>
        <a href="#">Contact Us</a>
```

```
    </nav>
    <div class="content">
        <h2>Welcome to College Name</h2>
        <p>
            Welcome to College Name, where we are committed to providing a quality education and empowering the future.
        </p>
    </div>
    <footer>
        &copy; <?php echo date("Y"); ?> College Name
    </footer>
</body>
</html>
```

16. Write a program in PHP for exception handling for i) divide by zero ii) checking date format.

```
<!DOCTYPE html>
<html>
<head>
    <title>Exception Handling</title>
</head>
<body>
    <h2>Exception Handling</h2>
    <form method="post" action="">
        <label>Divide a Number by:</label>
        <input type="text" name="divider" placeholder="Enter a number">
        <input type="submit" name="divide" value="Divide">
        <br><br>

        <label>Check Date Format:</label>
        <input type="text" name="date" placeholder="YYYY-MM-DD">
        <input type="submit" name="check_date" value="Check Date Format">
```

```
    </form>

    <?php
    if ($_SERVER["REQUEST_METHOD"] == "POST") {
        try {
            if (isset($_POST["divide"])) {
                $divider = (int)$_POST["divider"];
                if ($divider === 0) {
                    throw new Exception("Cannot divide by zero.");
                }
                $result = 10 / $divider;
                echo "Result of 10 divided by $divider is $result.";
            }

            if (isset($_POST["check_date"])) {
                $date = $_POST["date"];
                if (!preg_match("/^\d{4}-\d{2}-\d{2}$/", $date) || !checkdate(substr($date, 5,
2), substr($date, 8, 2), substr($date, 0, 4))) {
                    throw new Exception("Invalid date format. Use YYYY-MM-DD format.");
                }
                echo "Date format is valid: $date";
            }
        } catch (Exception $e) {
            echo "Error: " . $e->getMessage();
        }
    }
    ?>
</body>
</html>
```

output

Exception Handling

Divide a Number by: Enter a number Divide

Check Date Format: YYYY-MM-DD Check Date Format

Date format is valid: 2000-01-23