1.Create a Simple Webpage Using HTML

```
<html>
<head>
  <title>MY FIRST WEB PAGE</title>
</head>


<body style=background-color:pink>


  <h3 style=text-align:center;color:red;font-size:50;>

  SAHYADRI COLLEGE</h3><hr>

  <center><h3><b>sahyadri college of engineering and management<hr></b>

  </center></h3>

   <h5 style=;color:pink;font-size:20;><b>

   <a href="https://sahyadri.edu.in/Home/contactUs">Contact Us</a>
<p style=;color:black;font-size:12;>Sahyadri College of Engineering & Management offer
...</p>

<br>

<a href="https://sahyadri.edu.in/Home/Admission"> Admission </a>

<p style=;color:black;font-size:12;>Sahyadri College of Engineering & Management offer
...</p>

<br>

</body>

</html>
```

Output:

SAHYADRI COLLEGE

sahyadri college of engineering and management

Contact Us

Sahyadri College of Engineering & Management offer ...

Admission

Sahyadri College of Engineering & Management offer ...

2. Use frames to Include Images and Videos

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Webpage with Frames</title>
</head>
<frameset cols="50%,50%">
   <frame src="images_frame.html" name="images_frame">
   <frame src="videos_frame.html" name="videos_frame">
   <noframes>
     <body>
        <p>This page requires a browser that supports frames.</p>
     </body>
   </noframes>
</frameset>
</html>
```

Images_frame.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Images Frame</title>
```

```
</head>

<body>

    <h2>Images</h2>

    <img src="image1.jpg" alt="Image 1">

    <img src="image2.jpg" alt="Image 2">

<!-- Add more image tags as needed -->

</body>

</html>
```

Videos_frame.html

```
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <title>Videos Frame</title>

</head>

<body>

    <h2>Videos</h2>

    <video width="320" height="240" controls>

        <source src="video1.mp4" type="video/mp4">

        Your browser does not support the video tag.

    </video>

 </body>

</html>
```
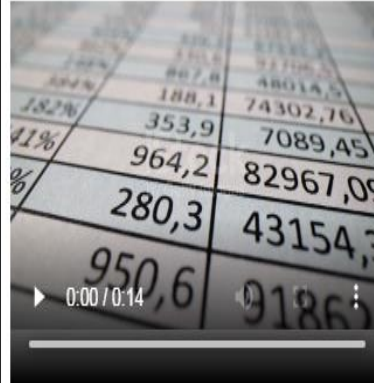
Output:

Images

Videos

3. Add a cascading style sheet for designing the web page

A. Use different font, styles: In the style definition you define how each selector should work (font, color etc.). Then, in the body of your pages, you refer to these selectors to activate the styles.

<u>styles.css</u>

```
h1
{
color:red;
font-family:caStellar;
font-size:22pt;
text-decoration:underline;
}
h2
{
color:blue;
font-family:Chiller;
font-size:18pt;
text-decoration:overline;
}
p
{
color:magenta;
font-family:Trebuchet MS;
font-size:14pt;
font-style:italic;
}
```

fontstyles.html

```
<html>
<head>
<title>Usage of different font,styles and colors </title>
<link rel="stylesheet" type="text/css" href="styles.css"/>
</head>
<body>
<h1>This header is in red</h1>
<h2>This header is in blue</h2>
<p>This is normal text</p>
</body>
</html>
```

B. Set a background image for the page

bg_image.html

```
<html>
<head>
 <title>Setting background image</title>
 <style type="text/css">
body
 {
 background-image:url("image1.jpg");
  background-repeat:no-repeat
```

```
}
</style>
</html></head>
<body text="#ee78a2">
 <h1>Life is beautiful!!!</h1>
</body>
```

Output:

This header is in red

This header is in blue

This is normal text

Background image:

4. Design a dynamic web page with validation using JavaScript

scripts.js

```javascript
function validateForm() {

    var name = document.getElementById("name").value;

    var email = document.getElementById("email").value;

    var password = document.getElementById("password").value;

    var emailPattern = /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,6}$/;


    if (name == "") {

        alert("Name must be filled out");

        return false;

    }


    if (email == "" || !emailPattern.test(email)) {

        alert("Please enter a valid email address");

        return false;

    }
if (password == "" || password.length < 6) {
        alert("Password must be at least 6 characters long");
        return false;
    }
window.location.href = "success.html";
    return false;

}
```

form.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Validation Form</title>
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <h2>Simple Validation Form</h2>
    <form id="myForm" onsubmit="return validateForm()">
        <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="password">Password:</label>
        <input type="password" id="password" name="password"><br><br>

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

    <script src="scripts.js"></script>
</body>
</html>
```

styless.css

```
body {
    font-family: Arial, sans-serif;
}

form {
    max-width: 300px;
```

```css
    margin: auto;
    padding: 1em;
    border: 1px solid #ccc;
    border-radius: 1em;
}

label {
    margin-top: 1em;
    margin-bottom: .5em;
    color: #333333;
    display: block;
}

input[type="text"],
input[type="password"] {
    width: 100%;
    padding: .5em;
    box-sizing: border-box;
    border: 1px solid #ccc;
    border-radius: 4px;
}

input[type="submit"] {
    padding: 0.7em;
    color: #fff;
    background-color: #007BFF;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

input[type="submit"]:hover {
    background-color: #0056b3;
}
```

success.html

```
<!DOCTYPE html>
<html>
<head>
<title>Submission Successful</title>
</head>
<body>
<h1>Thank you for registering!</h1>
<p>Your submission was successful.</p>
</body>
</html>
```

Output:

Simple Validation Form

Name: smitha

Email: smitha@gmail.com

Password: ••••••••

Submit

Thank you for registering!

Your submission was successful.

5. Design an html having a text box and four buttons viz. factorial, Fibonacci, prime, and palindrome. when a button is pressed an appropriate JavaScript function should be called to display

a. factorial of that number

b. Fibonacci series up to that number

c. Prime numbers up to that number

d. is it palindrome or not.

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Number Operations</title>
   <script src="scripts.js"></script>
   <style>
     body {
        font-family: Arial, sans-serif;
        margin: 20px;
     }
     .container {
        max-width: 400px;
        margin: 0 auto;
```

```
      text-align: center;
    }
    input, button {
      margin: 10px;
      padding: 10px;
      font-size: 16px;
    }
    .result {
      margin-top: 20px;
      font-size: 18px;
      color: #333;
    }
  </style>
</head>
<body>
  <div class="container">
    <h2>Number Operations</h2>
    <input type="text" id="number" placeholder="Enter a number">
    <br>
    <button onclick="calculateFactorial()">Factorial</button>
    <button onclick="generateFibonacci()">Fibonacci</button>
    <button onclick="listPrimes()">Prime</button>
    <button onclick="checkPalindrome()">Palindrome</button>
    <div class="result" id="result"></div>
  </div>
```

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

scripts.js

```javascript
function calculateFactorial() {
    let number = parseInt(document.getElementById("number").value);
    if (isNaN(number) || number < 0) {
        alert("Please enter a valid non-negative number");
        return;
    }


    let factorial = 1;
    for (let i = 1; i <= number; i++) {
        factorial *= i;
    }


    document.getElementById("result").innerText = `Factorial of ${number} is ${factorial}`;
}


function generateFibonacci() {
    let number = parseInt(document.getElementById("number").value);
    if (isNaN(number) || number < 1) {
        alert("Please enter a valid positive number");
        return;
    }
```

```javascript
  let fibonacci = [0, 1];

  for (let i = 2; i < number; i++) {

    fibonacci[i] = fibonacci[i - 1] + fibonacci[i - 2];

  }



  document.getElementById("result").innerText = `Fibonacci series up to ${number}:
${fibonacci.slice(0, number).join(", ")}`;

}



function listPrimes() {

  let number = parseInt(document.getElementById("number").value);

  if (isNaN(number) || number < 2) {

    alert("Please enter a valid number greater than 1");

    return;

  }



  let primes = [];

  for (let i = 2; i <= number; i++) {

    let isPrime = true;

    for (let j = 2; j * j <= i; j++) {

      if (i % j === 0) {

        isPrime = false;

        break;

      }

    }

    if (isPrime) {
```

```
      primes.push(i);

    }

  }


  document.getElementById("result").innerText = `Prime numbers up to ${number}:
${primes.join(", ")}`;

}


function checkPalindrome() {

  let number = document.getElementById("number").value;

  if (number === "") {

    alert("Please enter a valid number");

    return;

  }


  let reversed = number.split("").reverse().join("");

  let isPalindrome = (number === reversed);


  document.getElementById("result").innerText = `${number} is ${isPalindrome ? "" : "not
"}a palindrome`;’

}
```

Output:

Number Operations

5

| Factorial | Fibonacci | Prime |

Palindrome

Factorial of 5 is 120

Number Operations

5

| Factorial | Fibonacci | Prime |

Palindrome

5 is a palindrome

Number Operations

5

| Factorial | Fibonacci | Prime |

Palindrome

Fibonacci series up to 5: 0, 1, 1, 2, 3

Number Operations

5

| Factorial | Fibonacci | Prime |

Palindrome

Prime numbers up to 5: 2, 3, 5

6. Write JavaScript programs on Event Handling

a. Validation of registration form

b. Open a Window from the current window

c. Change color of background at each click of button or refresh of a page

d. Display calendar for the month and year selected from combo box

e. On mouse over event

a. Validation of registration form

scripts.js

```
function validateForm() {

    var name = document.getElementById("name").value;

    var email = document.getElementById("email").value;

    var password = document.getElementById("password").value;

    var emailPattern = /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,6}$/;


    if (name == "") {

        alert("Name must be filled out");

        return false;

    }


    if (email == "" || !emailPattern.test(email)) {

        alert("Please enter a valid email address");
```

```
        return false;

    }
if (password == "" || password.length < 6) {
        alert("Password must be at least 6 characters long");
        return false;
    }
window.location.href = "success.html";
    return false;

}
```

form.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Validation Form</title>
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <h2>Simple Validation Form</h2>
    <form id="myForm" onsubmit="return validateForm()">
        <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="password">Password:</label>
        <input type="password" id="password" name="password"><br><br>

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

```html
    </form>

    <script src="scripts.js"></script>
</body>
</html>
```

styless.css

```css
body {
    font-family: Arial, sans-serif;
}

form {
    max-width: 300px;
    margin: auto;
    padding: 1em;
    border: 1px solid #ccc;
    border-radius: 1em;
}

label {
    margin-top: 1em;
    margin-bottom: .5em;
    color: #333333;
    display: block;
}

input[type="text"],
input[type="password"] {
    width: 100%;
    padding: .5em;
    box-sizing: border-box;
    border: 1px solid #ccc;
    border-radius: 4px;
}

input[type="submit"] {
```

```
    padding: 0.7em;
    color: #fff;
    background-color: #007BFF;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

input[type="submit"]:hover {
    background-color: #0056b3;
}
```

Output:

Simple Validation Form

Name: smitha

Email: smitha@gmail.com

Password: ••••••••

Submit

b. Open a Window from the current window

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Open a New Window</title>
    <script src="openWindow.js"></script>
</head>
<body>
    <button onclick="openNewWindow()">Open New Window</button>
</body>
</html>
```

openWindow.js

```
function openNewWindow() {
    window.open("https://www.example.com", "_blank", "width=800,height=600");
}
```

Output:

Open New Window

c. Change color of background at each click of button or refresh of a page

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Change Background Color</title>
    <script src="changeColor.js"></script>
</head>
<body onload="changeBackgroundColor()">
    <button onclick="changeBackgroundColor()">Change Background Color</button>
</body>
</html>
```

changeColor.js

```
function getRandomColor() {
    var letters = '0123456789ABCDEF';
    var color = '#';
    for (var i = 0; i < 6; i++) {
        color += letters[Math.floor(Math.random() * 16)];
    }
    return color;
}
```

```
function changeBackgroundColor() {

    document.body.style.backgroundColor = getRandomColor();

}
```

Output:

Change Background Color

d. Display calendar for the month and year selected from combo box

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Display Calendar</title>
   <script src="displayCalendar.js"></script>
</head>
<body>
   <label for="month">Month:</label>
   <select id="month" onchange="displayCalendar()">
      <option value="0">January</option>
      <option value="1">February</option>
      <option value="2">March</option>
      <option value="3">April</option>
      <option value="4">May</option>
      <option value="5">June</option>
      <option value="6">July</option>
      <option value="7">August</option>
      <option value="8">September</option>
      <option value="9">October</option>
      <option value="10">November</option>
      <option value="11">December</option>
```

```html
    </select>


    <label for="year">Year:</label>

    <input type="number" id="year" value="2023" onchange="displayCalendar()">


    <div id="calendar"></div>
</body>
</html>
```

displayCalendar.js

```javascript
function displayCalendar() {

    var month = document.getElementById("month").value;

    var year = document.getElementById("year").value;

    var firstDay = new Date(year, month, 1).getDay();

    var daysInMonth = new Date(year, parseInt(month) + 1, 0).getDate();

    var calendar =
"<table><tr><th>Sun</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thu</th><th>Fri</th><th>Sat</th></tr><tr>";


    for (var i = 0; i < firstDay; i++) {

        calendar += "<td></td>";

    }
    for (var day = 1; day <= daysInMonth; day++) {

        calendar += "<td>" + day + "</td>";

        if ((firstDay + day) % 7 == 0) {
```

```
        calendar += "</tr><tr>";

    }

  }

  calendar += "</tr></table>";


  document.getElementById("calendar").innerHTML = calendar;

}
```

Output:

Month: June   ⌄ Year: 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

e. On mouse over event

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Mouse Over Event</title>
   <script src="mouseOverEvent.js"></script>
   <style>
      .hover-box {
         width: 200px;
         height: 100px;
         border: 1px solid black;
         text-align: center;
         line-height: 100px;
         margin-top: 20px;
      }
   </style>
</head>
<body>
   <div class="hover-box" onmouseover="mouseOver()" onmouseout="mouseOut()">Hover
over me!</div>
   <div id="message"></div>
</body>
```
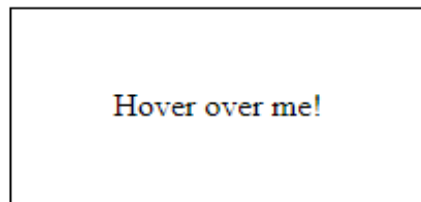
</html>

mouseOverEvent.js

```
function mouseOver() {

    document.getElementById("message").innerText = "Mouse is over the box!";

}


function mouseOut() {

    document.getElementById("message").innerText = "";

}
```


Output:

Hover over me!

Mouse is over the box!

7.Demonstrate a simple web application using PHP,MYSQL

CREATE TABLE users (

id INT(11) AUTO_INCREMENT PRIMARY KEY, username

VARCHAR(50) NOT NULL,

email VARCHAR(100) NOT NULL, password

VARCHAR(255) NOT NULL

 );

register.php

```
<!DOCTYPE html>
<html>
<head>
<title>User Registration</title>
</head>
<body>
<h2>Register</h2>
<form method="post" action="register.php">
Username: <input type="text" name="username" required><br><br> Email:
<input type="email" name="email" required><br><br>
Password: <input type="password" name="password" required><br><br>
<input type="submit" name="register" value="Register">
</form>
</body>
```

</html>

```php
<?php
if (isset($_POST['register'])) {
$username = $_POST['username'];
$email = $_POST['email'];
$password = password_hash($_POST['password'], PASSWORD_DEFAULT);


$conn = new mysqli('localhost', 'root', '', 'simple_web_app'); if
($conn->connect_error) {
die('Connection Failed: ' . $conn->connect_error);
  }


$stmt = $conn->prepare("INSERT INTO users (username, email, password) VALUES (?,
 ?, ?)");
$stmt->bind_param("sss", $username, $email, $password);


if ($stmt->execute()) {
echo "Registration successful!";
} else {
echo "Error: " . $stmt->error;
  }


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

```
 }
 ?>
```

login.php

```
<!DOCTYPE html>
<html>
<head>
<title>User Login</title>
</head>
<body>
<h2>Login</h2>
<form method="post" action="login.php">
Username: <input type="text" name="username" required><br><br> Password:
<input type="password" name="password" required><br><br>
<input type="submit" name="login" value="Login">
</form>
</body>
</html>

<?php
if (isset($_POST['login'])) {
$username = $_POST['username'];
$password = $_POST['password'];

$conn = new mysqli('localhost', 'root', '', 'simple_web_app'); if
```

```php
($conn->connect_error) {
die('Connection Failed: ' . $conn->connect_error);
 }

$stmt = $conn->prepare("SELECT * FROM users WHERE username=?");
$stmt->bind_param("s", $username);
$stmt->execute();
$result = $stmt->get_result();
$user = $result->fetch_assoc();

if ($user && password_verify($password, $user['password'])) { echo
"Login successful! Welcome, " . $user['username'];

} else {

echo "Invalid username or password.";
 }
$stmt->close();
$conn->close();
 }
 ?>
```

Output:

Register

Username: [ ]

Email: [ ]

Password: [ ]

[Register]
Registration successful!

Login

Username: [ ]

Password: [ ]

[Login]
Login successful! Welcome, divyaLogin successful! Welcome, divya