

<b>EXP NO: 1</b>	<b>WRITE A HTML PROGRAM FOR CREATION OF FORMS LINKS AND TABLES</b>
<b>DATE: 23/1/25</b>	

### **AIM:**

To write a html program for creation of forms links and tables

### **ALGORITHM:**

**Step 1:** Start the HTML document using `<!DOCTYPE html>` and open `<html>` and `<head>` tags.

**Step 2:** Set the title of the webpage using the `<title>` tag inside `<head>`.

**Step 3:** Open the `<body>` tag to begin adding visible content.

**Step 4:** Create a form using the `<form>` tag with action and method attributes.

**Step 5:** Add input fields such as `<input type="text">` and `<input type="email">` inside the form.

**Step 6:** Include a submit button using `<input type="submit">`.

**Step 7:** Create hyperlinks using `<a href="URL">Link Text</a>`.

**Step 8:** Design a table using `<table>`, and add rows with `<tr>`, headers with `<th>`, and data with `<td>`.

**Step 9:** Close all opened tags properly: `</form>`, `</table>`, `</body>`, and `</html>`.

### **SOURCE CODE:**

```
<!DOCTYPE html>

<html>

<head>

    <title>HTML Forms, Links, and Tables Example</title>

    <style>

        body {

            font-family: Arial, sans-serif;

            margin: 20px;

        }

        table {
```

```
border-collapse: collapse;

width: 60%;

margin-top: 20px;

}

table, th, td {

border: 1px solid #444;

}

th, td {

padding: 10px;

text-align: left;

}

form {

margin-bottom: 20px;

}

</style>

</head>

<body>

<h2>Registration Form</h2>

<form action="#" method="post">

<label for="name">Name:</label><br>

<input type="text" id="name" name="name" required><br><br>

<label for="email">Email:</label><br>

<input type="email" id="email" name="email" required><br><br>

<input type="submit" value="Register">

</form>
```

<h2>Useful Links</h2>

<ul>

<li><a href="https://www.w3schools.com" target="\_blank">Visit W3Schools</a></li>

<li><a href="https://www.mozilla.org" target="\_blank">Visit Mozilla</a></li>

</ul>

<h2>Participant Table</h2>

<table>

<tr>

<th>S.No</th>

<th>Name</th>

<th>Email</th>

</tr>

<tr>

<td>1</td>

<td>Alice Johnson</td>

<td>alice@example.com</td>

</tr>

<tr>

<td>2</td>

<td>Bob Smith</td>

<td>bob@example.com</td>

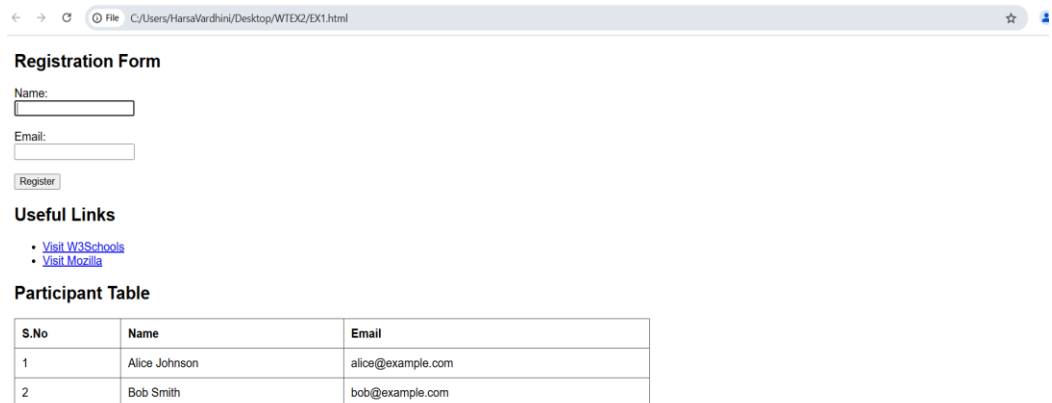
</tr>

</table>

</body>

</html>

## OUTPUT:



The screenshot shows a web browser window with the address bar displaying "C:/Users/HarsaVardhini/Desktop/WTEX2/EX1.html". The page content includes a "Registration Form" with input fields for "Name:" and "Email:", and a "Register" button. Below this is a "Useful Links" section with two links: "Visit W3Schools" and "Visit Mozilla". At the bottom is a "Participant Table" with three columns: "S.No", "Name", and "Email". The table contains two rows of data.

S.No	Name	Email
1	Alice Johnson	alice@example.com
2	Bob Smith	bob@example.com

## RESULT:

Thus, the HTML webpage containing hyperlinks, forms, and tables is successfully created. The functionalities were implemented and verified with proper structure and formatting using basic HTML tags.

<b>EXP NO: 2</b>	<b>DESIGN A WEBSITE USING HTML TO CREATE A BASIC TEXT FORMATTING , IMAGES .</b>
<b>DATE: 30/1/25</b>	

### **AIM:**

To create a website using html to create a basic textformatting and images

### **ALGORITHM:**

**Step 1:** Start the HTML document using `<!DOCTYPE html>` and open `<html>`, `<head>`, and `<body>` tags.

**Step 2:** Set the character encoding and viewport settings using `<meta>` tags inside `<head>`.

**Step 3:** Add the title of the webpage using the `<title>` tag.

**Step 4:** Create a main heading using the `<h1>` tag.

**Step 5:** Add multiple paragraphs using `<p>`, and apply formatting tags like `<b>`, `<i>`, `<u>`, `<mark>`, `<del>`, and `<small>`.

**Step 6:** Insert a subheading using `<h2>` and display an image using the `<img>` tag with `src` and `alt` attributes.

**Step 7:** Create another subheading and add a hyperlink using the `<a>` tag with `href` and `target="_blank"`.

**Step 8:** Add a bulleted list using the `<ul>` tag with items inside `<li>` tags.

**Step 9:** Close all opened tags properly, including `</body>` and `</html>`.

### **SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>Welcome to My Creative Webpage</title>
```

```
</head>
```

<body>

<!-- Heading -->

<h1>Discover the Beauty of Simplicity</h1>

<!-- Paragraphs with text formatting -->

<p><b>Welcome</b> to a space where creativity meets simplicity. This webpage showcases how <i>beautiful design</i> can be achieved with <u>basic HTML elements</u>.</p>

<p>Every great journey begins with a single step. Just like <mark>every well-crafted webpage</mark> starts with a structured layout and a creative touch.</p>

<p><b><i>Innovation</i></b> is not about complexity; it's about making things <small>meaningful</small> and <b>impactful</b>. <del>Overthinking</del> is unnecessary—just start building!</p>

<!-- Image -->

<h2>A Glimpse of Elegance</h2>



<!-- Hyperlink -->

<h2>Stay Inspired</h2>

<p>Explore more amazing content at <a href="https://www.example.com" target="\_blank">Example Website</a> and keep learning!</p>

<!-- List -->

<h2>Keys to a Stunning Webpage</h2>

<ul>

<li>Minimalism - Less is more.</li>

<li>Typography - Choose fonts wisely.</li>

<li>Visual Balance - Keep it clean and structured.</li>

</ul>

</body>

</html>

## OUTPUT:

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### Discover the Beauty of Simplicity

Welcome to a space where creativity meets simplicity. This webpage showcases how *beautiful design* can be achieved with basic HTML elements.

Every great journey begins with a single step. Just like **every well-crafted webpage** starts with a structured layout and a creative touch.

**Innovation** is not about complexity; it's about making things meaningful and **impactful**. **Overthinking** is unnecessary—just start building!

#### A Glimpse of Elegance



#### Stay Inspired

Explore more amazing content at [Example Website](#) and keep learning!

#### Keys to a Stunning Webpage

- Minimalism - Less is more.
- Typography - Choose fonts wisely.
- Visual Balance - Keep it clean and structured.

## RESULT:

Thus, the HTML webpage title is successfully created. It demonstrates the use of text formatting tags, image embedding, hyperlinks, and unordered lists to build a clean and creative webpage layout using basic HTML elements.

<b>EXP NO: 3</b>	<b>CREATE A WEBPAGE WITH HTML5</b>
<b>DATE: 6/2/25</b>	

**i)To embed an image in a webpage**

**ii)To fix the hotspot**

**iii)Show all the related information when the hotspot is clicked**

### **AIM:**

To create a webpage using HTML5 that embeds an image with interactive hotspots and displays related information upon clicking them.

### **ALGORITHM:**

**Step 1:** Start the HTML document with `<!DOCTYPE html>` and open `<html>` and `<head>` tags.

**Step 2:** Set the character encoding and viewport using `<meta>` tags inside the `<head>` tag.

**Step 3:** Define the title of the webpage with `<title>` tag.

**Step 4:** Inside the `<body>`, use the `<img>` tag to embed the image and define the `usemap` attribute linking it to the image map.

**Step 5:** Define an image map using the `<map>` tag with a unique name and add `<area>` tags inside it.

**Step 6:** Set the coordinates of each hotspot using the `coords` attribute of the `<area>` tag and specify the `href` attribute to link to the related information.

**Step 7:** Ensure the image map's defined regions are clickable and properly configured to display or redirect information when clicked.

**Step 8:** Close all the tags properly with `</body>` and `</html>`.

### **SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```



```
<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Image Map</title>

</head>

<body>

    <h1>Interactive World Map</h1>

    <p>Click on different continents to learn more.</p>

    <!-- Image with an image map -->

    <!-- Image Map Definition -->

    <map name="worldmap">

        <!-- Europe -->

        <area shape="rect" coords="350,80,450,180"
href="https://en.wikipedia.org/wiki/Europe" target="_blank" alt="Europe">

        <!-- Asia -->

        <area shape="rect" coords="460,80,660,280" href="https://en.wikipedia.org/wiki/Asia"
target="_blank" alt="Asia">

        <!-- Africa -->
```

```
<area shape="rect" coords="370,200,500,380"
href="https://en.wikipedia.org/wiki/Africa" target="_blank" alt="Africa">
```

```
<!-- North America -->
```

```
<area shape="rect" coords="50,50,250,250"
href="https://en.wikipedia.org/wiki/North_America" target="_blank" alt="North America">
```

```
<!-- South America -->
```

```
<area shape="rect" coords="180,280,300,450"
href="https://en.wikipedia.org/wiki/South_America" target="_blank" alt="South America">
```

```
<!-- Australia -->
```

```
<area shape="rect" coords="650,320,780,450"
href="https://en.wikipedia.org/wiki/Australia" target="_blank" alt="Australia">
```

```
</map>
```

```
<p>Clicking on any hotspot will take you to Wikipedia for more details about that
continent.</p>
```

```
</body>
```

```
</html>
```

## OUTPUT:

### Interactive World Map

Click on different continents to learn more.



Clicking on any hotspot will take you to Wikipedia for more details about that continent.

Europe

Article Talk

From Wikipedia, the free encyclopedia

*This article is about the continent. For other uses, see [Europe \(disambiguation\)](#).*

**Europe** is a continent<sup>[1]</sup> located entirely in the Northern Hemisphere and mostly in the Eastern Hemisphere. It is bordered by the Arctic Ocean to the north, the Atlantic Ocean to the west, the Mediterranean Sea to the south, and Asia to the east. Europe shares the landmass of Eurasia with Asia, and of Afro-Eurasia with both Africa and Asia.<sup>[9][10]</sup> Europe is commonly considered to be separated from Asia by the watershed of the Ural Mountains, the Ural River, the Caspian Sea, the Greater Caucasus, the Black Sea, and the waterway of the Bosphorus Strait.<sup>[11]</sup>

Europe covers approx. 10,186,000 square kilometres (3,933,000 sq mi), or 2% of Earth's surface (6.8% of Earth's land area), making it the second-smallest continent (using the seven-continent model). Politically, Europe is divided into about fifty sovereign states, of which Russia is the largest and most populous, spanning 39% of the continent and comprising 15% of its population. Europe had a total population of about 745 million (about 10% of the world population) in 2021; the third-largest after Asia and Africa.<sup>[1][2]</sup> The European climate is affected by warm Atlantic currents, such as the Gulf Stream, which produce a temperate climate, tempering winters and summers, on much of the continent. Further from the sea, seasonal differences are more noticeable producing more continental climates.

The culture of Europe consists of a range of national and regional cultures, which form

**Europe**

Show national borders  
Hide national borders  
Show all

**Area** 10,186,000 square kilometres (3,933,000 sq mi) (6th)<sup>[2]</sup>

**Population** 745,173,774 (2021; 3rd)<sup>[1][2]</sup>

**Density** 72.9/km<sup>2</sup> (188/sq mi) (2nd)

Appearance

Text

Small  
Standard  
Large

Width

Standard  
Wide

Color (beta)

Automatic  
Light  
Dark

## RESULT:

Thus, the HTML5 webpage with an embedded image map is successfully created. The interactive hotspots were defined and linked to show related information when clicked, providing a seamless user experience with clickable areas on the image.

<b>EXP NO: 4</b>	<b>CREATE A WEBPAGE WITH ALL TYPES OF CSS</b>
<b>DATE: 13/2/25</b>	

### **AIM:**

To design a professional webpage using **HTML5** and **CSS** (internal, external, and inline) that showcases various CSS features including styling, layout, and responsiveness.

### **ALGORITHM:**

**Step 1:** Start the HTML document with `<!DOCTYPE html>` and open `<html>`, `<head>`, and `<body>` tags.

**Step 2:** Set metadata such as character encoding and viewport using `<meta>` tags inside the `<head>`.

**Step 3:** Define the title of the webpage using the `<title>` tag.

**Step 4:** Link an external CSS file using the `<link rel="stylesheet">` tag for global styles.

**Step 5:** Add internal CSS inside `<style>` tags to customize specific elements like headings and spans.

**Step 6:** Create a header section using `<header>` with a `<h1>` and `<p>` for the main title and subtitle.

**Step 7:** Embed an image in the hero section using `<img>` and apply inline CSS for responsive sizing.

**Step 8:** Overlay text on the hero image using a `<div>` with styled `<h2>` and `<p>` elements.

**Step 9:** Add a content section with `<h2>` and `<p>` tags, using `<span class="highlight">` to emphasize text.

**Step 10:** Build a features section with multiple `<div class="feature-box">` blocks describing key CSS topics.

**Step 11:** Create a footer using `<footer>` and include a copyright notice.

**Step 12:** Close all open tags (`</body>`, `</html>`) to complete the webpage structure.

### **SOURCE CODE:**

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Professional CSS Webpage</title>


  <!-- External CSS -->

  <link rel="stylesheet" href="stylesex4.css">

  <!-- Internal CSS -->

  <style>

    h2 {

      color: #2a2a2b;

      text-align: center;

      margin-top: 30px;

      font-size: 28px;

    }

    .highlight {

      background-color: yellow;

      padding: 5px;

      font-weight: bold;

    }

  </style>

</head>
```

<body>

<!-- Header Section -->

<header>

<h1>Welcome to the World of CSS</h1>

<p>Mastering CSS for Modern Web Development</p>

</header>

<!-- Hero Section with Inline CSS -->

<section class="hero">



<div class="hero-text">

<h2 style="color: white; font-size: 35px;">CSS: The Heart of Web Styling</h2>

<p style="color: white;">Discover how CSS enhances design, responsiveness, and animations.</p>

<a href="#" class="btn">Explore More</a>

</div>

</section>

<!-- Content Section -->

<section class="content">

<h2>Why Learn CSS?</h2>

<p>CSS (Cascading Style Sheets) allows you to design professional web pages by <span class="highlight">adding styles, animations, and responsiveness</span>.</p>

<p>With CSS, you can create visually appealing layouts and improve user experience.</p>

</section>

<!-- Features Section -->

<section class="features">

<div class="feature-box">

<h3>CSS Selectors</h3>

<p>Target elements with different selectors for precise styling.</p>

</div>

<div class="feature-box">

<h3>CSS Grid & Flexbox</h3>

<p>Create dynamic layouts with ease.</p>

</div>

<div class="feature-box">

<h3>CSS Animations</h3>

<p>Enhance UI with animations and transitions.</p>

</div>

</section>

<!-- Footer -->

<footer>

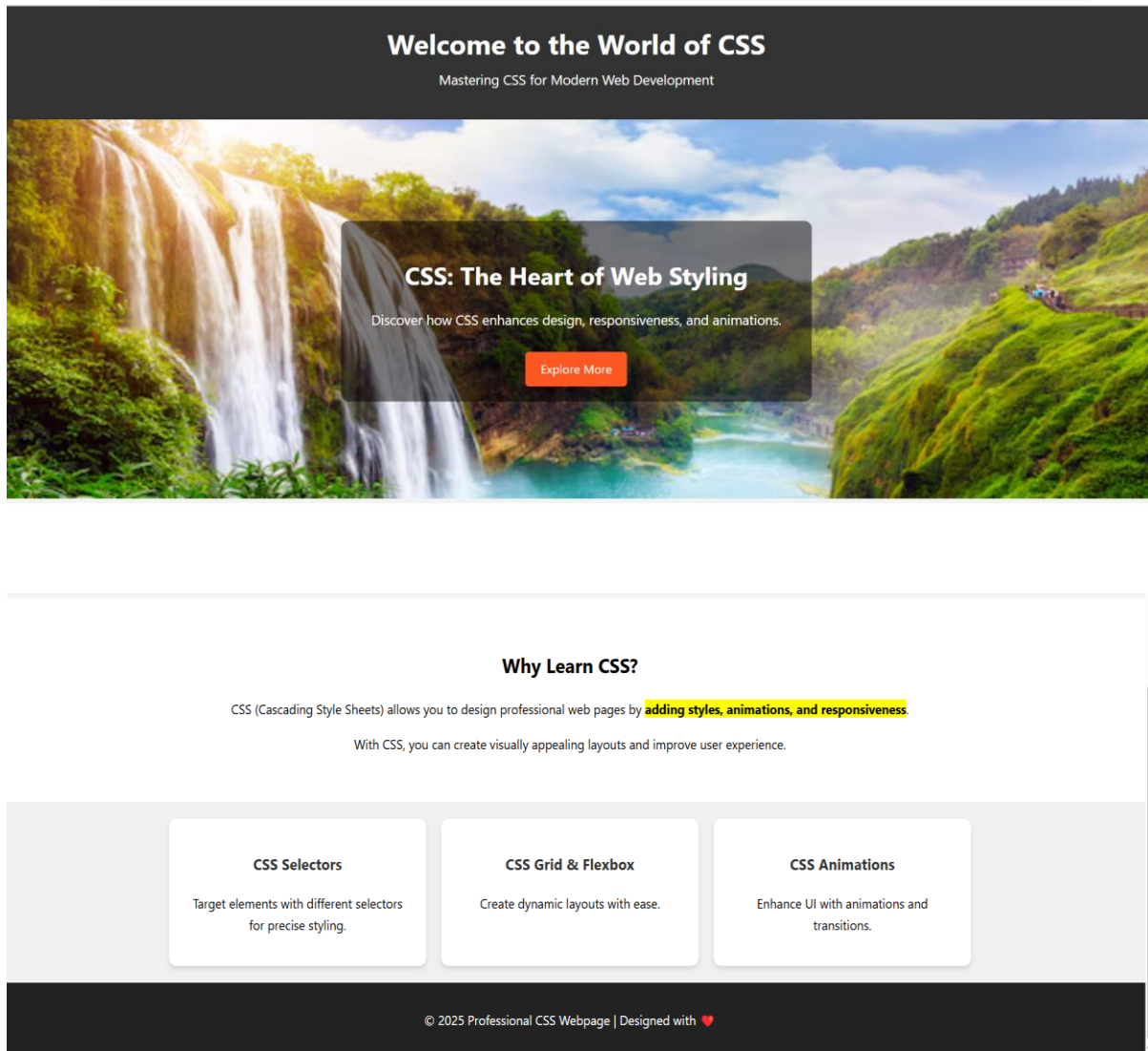
<p>&copy; 2025 Professional CSS Webpage </p>

</footer>

</body>

</html>

## OUTPUT:



## RESULT:

Thus, the professional HTML5 webpage integrated with internal, external, and inline CSS is successfully created. The webpage demonstrates structured layout, custom styling, and responsiveness, showcasing core concepts of CSS effectively.

<b>EXP NO: 5</b>	
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**AIM:**

To design a Scientific Calculator using HTML, CSS, and JavaScript.

**ALGORITHM:**

**Step 1:** Create the HTML structure with a display and calculator buttons.

**Step 2:** Style the calculator layout and buttons using CSS for better user interface.

**Step 3:** Implement appendToDisplay(value) to add clicked button values to the input field.

**Step 4:** Implement clearDisplay() to reset the input display when needed.

**Step 5:** Implement calculateResult() to evaluate the mathematical expression.

**Step 6:** Use try-catch block in calculateResult() to handle invalid expressions.

**Step 7:** Add scientific functions like sqrt, pow, sin, cos, tan, log, exp, and pi.

**Step 8:** Assign onclick events to all calculator buttons to trigger JavaScript functions.

**SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>Document</title>
```

```
  <style>
```

```
    body {
```

```
      display: flex;
```

```
      justify-content: center;
```

```
    align-items: center;

    height: 100vh;

    background-color: #f4f4f4;
}

.calculator {

    width: 300px;

    background: #fff;

    padding: 20px;

    border-radius: 10px;

    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

    text-align: center;
}

input {

    width: 100%;

    height: 50px;

    text-align: right;

    font-size: 1.5em;

    margin-bottom: 10px;
}

.buttons {

    display: grid;

    grid-template-columns: repeat(4, 1fr);

    gap: 5px;
```

```
}

button {

    height: 50px;

    font-size: 1.2em;

    border: none;

    cursor: pointer;

    background: #eee;

    border-radius: 5px;

}

button:active {

    background: #ddd;

}

.equal {

    background: #28a745;

    color: white;

}

.clear {

    background: #dc3545;

    color: white;

}

</style>

</head>

<body>
```

```
<div class="calculator">

  <input type="text" id="display" disabled>

  <div class="buttons">

    <button onclick="clearDisplay()" class="clear">C</button>

    <button onclick="appendToDisplay('(')">(</button>

    <button onclick="appendToDisplay(')')">)</button>

    <button onclick="appendToDisplay('/')">/</button>

    <button onclick="appendToDisplay('7')">7</button>

    <button onclick="appendToDisplay('8')">8</button>

    <button onclick="appendToDisplay('9')">9</button>

    <button onclick="appendToDisplay('*')">*</button>

    <button onclick="appendToDisplay('4')">4</button>

    <button onclick="appendToDisplay('5')">5</button>

    <button onclick="appendToDisplay('6')">6</button>

    <button onclick="appendToDisplay('-')">-</button>

    <button onclick="appendToDisplay('1')">1</button>

    <button onclick="appendToDisplay('2')">2</button>

    <button onclick="appendToDisplay('3')">3</button>

    <button onclick="appendToDisplay('+)">+</button>

    <button onclick="appendToDisplay('0')">0</button>

    <button onclick="appendToDisplay('.')">.</button>

    <button onclick="calculateResult()" class="equal">=</button>

    <button onclick="appendToDisplay('Math.sqrt()'">√</button>
```

```

        <button onclick="appendToDisplay('Math.pow()')>x^y</button>

        <button onclick="appendToDisplay('Math.sin()')>sin</button>

        <button onclick="appendToDisplay('Math.cos()')>cos</button>

        <button onclick="appendToDisplay('Math.tan()')>tan</button>

        <button onclick="appendToDisplay('Math.log()')>log</button>

        <button onclick="appendToDisplay('Math.exp()')>e^x</button>

        <button onclick="appendToDisplay('Math.PI')> $\pi$ </button>

    </div>

</div>

</body>

<script>

    function appendToDisplay(value){

        document.getElementById("display").value+=value;

    }

    function clearDisplay(){

        document.getElementById("display").value="";

    }

    function calculateResult(){

        try{

            document.getElementById("display").value=
eval(document.getElementById("display").value);

        }

        catch(e){

            alert("Invalid Expression");

```

```
        clearDisplay();
    }
}
</script>

</html>
```

### OUTPUT:



### RESULT:

Thus, a scientific calculator is designed using JavaScript successfully and verified.

<b>EXP NO: 6</b>	<b>REGISTRATION FORM USING HTML, CSS, AND JAVASCRIPT VALIDATION</b>
<b>DATE: 04/04/25</b>	

**AIM:**

To design a Registration Form using HTML, CSS (Bootstrap), and JavaScript validation.

**ALGORITHM:**

**Step 1:** Create the HTML structure with input fields for name, email, mobile, password, and confirm password.

**Step 2:** Use Bootstrap and custom CSS to style the form and improve user interface.

**Step 3:** Extract Head Size as X (independent variable) and Brain Weight as y (dependent variable).

**Step 4:** Use regular expressions to validate name, email, mobile number, and password formats.

**Step 5:** Check if password and confirm password fields match.

**Step 6:** Display corresponding error messages for invalid inputs dynamically.

**Step 7:** Prevent form submission if any validation fails and allow it if all inputs are valid.

**SOURCE CODE:**

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Registration Form</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
```

```
<style>

  body {

    background-color: #f4f4f4;

    font-family: Arial, sans-serif;

  }

  .container {

    max-width: 450px;

    background: #fff;

    padding: 20px;

    border-radius: 8px;

    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

    margin-top: 50px;

  }

  .error {

    color: red;

    font-size: 14px;

  }

</style>

</head>

<body>

  <div class="container">
```



```
<h3 class="text-center">Registration Form</h3>
```

```
<form id="regForm" onsubmit="return validateForm()">
```

```
<div class="mb-3">
```

```
<label class="form-label">Full Name</label>
```

```
<input type="text" class="form-control" id="name">
```

```
<span class="error" id="nameError"></span>
```

```
</div>
```

```
<div class="mb-3">
```

```
<label class="form-label">Email</label>
```

```
<input type="email" class="form-control" id="email">
```

```
<span class="error" id="emailError"></span>
```

```
</div>
```

```
<div class="mb-3">
```

```
<label class="form-label">Mobile Number</label>
```

```
<input type="text" class="form-control" id="mobile">
```

```
<span class="error" id="mobileError"></span>
```

```
</div>
```

```
<div class="mb-3">
```

```
<label class="form-label">Password</label>
```

```
<input type="password" class="form-control" id="password">
```

```
<span class="error" id="passwordError"></span>
```

```
</div>
```

```
<div class="mb-3">
```

```
<label class="form-label">Confirm Password</label>
```

```
<input type="password" class="form-control" id="confirmPassword">
```

```
<span class="error" id="confirmPasswordError"></span>
```

```
</div>
```

```
<button type="submit" class="btn btn-primary w-100">Register</button>
```

```
</form>
```

```
</div>
```

```
<script>
```

```
function validateForm() {
```

```
    let valid = true;
```

```
    let name = document.getElementById("name").value.trim();
```

```
    let email = document.getElementById("email").value.trim();
```

```
    let mobile = document.getElementById("mobile").value.trim();
```

```

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

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


let nameRegex = /^[A-Za-z\s]{3,}$/;

let emailRegex = /^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$/;

let mobileRegex = /^[6-9]\d{9}$/;

let passwordRegex = /^(?=.*[A-Za-z])(?=.*\d).{6,}$/;


document.getElementById("nameError").innerText = nameRegex.test(name) ? ""
: "Name must be at least 3 letters";


document.getElementById("emailError").innerText = emailRegex.test(email) ? ""
: "Invalid email format";


document.getElementById("mobileError").innerText = mobileRegex.test(mobile)
? "" : "Enter a valid 10-digit mobile number";


document.getElementById("passwordError").innerText =
passwordRegex.test(password) ? "" : "Min 6 chars with at least one letter & number";


document.getElementById("confirmPasswordError").innerText = password ===
confirmPassword ? "" : "Passwords do not match";


return nameRegex.test(name) && emailRegex.test(email) &&
mobileRegex.test(mobile) && passwordRegex.test(password) && password ===
confirmPassword;

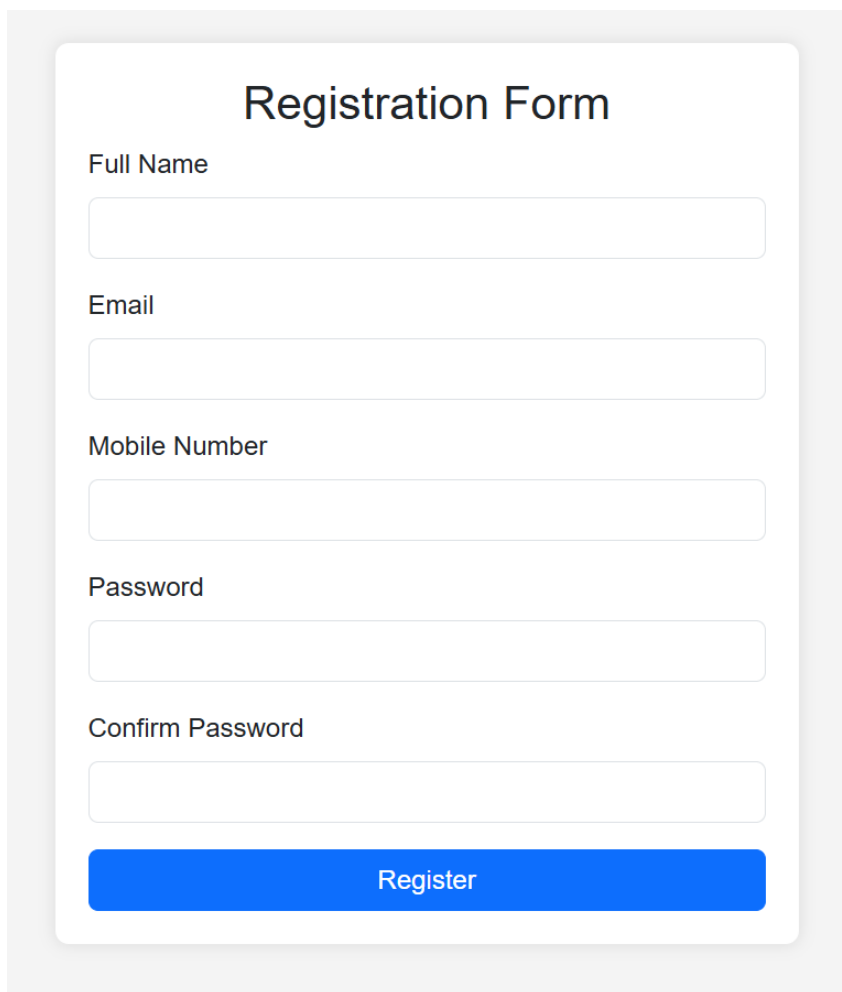
}

</script>

```

```
<script  
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></scri  
pt>  
  
</body>  
  
</html>
```

### OUTPUT:



The image shows a registration form titled "Registration Form". It contains five input fields: "Full Name", "Email", "Mobile Number", "Password", and "Confirm Password". Below these fields is a blue button labeled "Register". The form is styled with a light gray background and rounded corners.

### RESULT:

Thus, a registration form is designed using HTML,CSS and JavaScript successfully and verified.

<b>EXP NO: 7</b>	<b>A SIMPLE WEB PAGE USING BOOTSTRAP</b>
<b>DATE: 04/04/25</b>	

**AIM:**

To design a fully responsive and modern web page using Bootstrap 5 and Font Awesome with smooth animations and an elegant layout.

**ALGORITHM:**

**Step 1:** Start with the HTML5 boilerplate structure

**Step 2:** Link Bootstrap CSS and Font Awesome icons from CDN

**Step 3:** Design a navigation bar using Bootstrap's navbar component.

**Step 4:** Create a hero section with a background image and animated welcome text.

**Step 5:** Build a features section using Bootstrap cards to showcase highlights.

**Step 6:** Create an image gallery using a Bootstrap grid layout with hover effects.

**Step 7:** Add a contact section with a call-to-action button linked to an email.

**Step 8:** Design a footer with social media icons and copyright information.

**Step 9:** Use Bootstrap's utility classes and custom CSS for styling, hover effects, and responsiveness.

**Step 10:** Link Bootstrap JavaScript at the bottom to enable collapsible navbar and other components.

**SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8" />
```

```
<meta name="viewport" content="width=device-width, initial-scale=1" />
```

```
<title>Enhanced Responsive Web Page</title>
```

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
```

```
<link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css"
rel="stylesheet">
```

```
<style>
```

```
body {

    font-family: 'Segoe UI', sans-serif;

    scroll-behavior: smooth;

    background-color: #f8f9fa;

}
```

```
.navbar {

    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);

}
```

```
.hero {

    background: url('https://images.unsplash.com/photo-1519389950473-47ba0277781c') no-
repeat center center/cover;

    color: white;

    padding: 120px 20px;

    text-align: center;

    animation: fadeIn 2s ease-in-out;

}
```

```
@keyframes fadeIn {  
  
  from { opacity: 0; transform: translateY(20px); }  
  
  to { opacity: 1; transform: translateY(0); }  
  
}
```

```
.card:hover {  
  
  transform: translateY(-5px);  
  
  transition: transform 0.3s ease;  
  
}
```

```
.feature-icon {  
  
  font-size: 2.5rem;  
  
  color: #0d6efd;  
  
}
```

```
.gallery img {  
  
  width: 100%;  
  
  height: 250px;  
  
  object-fit: cover;  
  
  border-radius: 8px;  
  
  transition: transform 0.3s ease;  
  
}
```

```
.gallery img:hover {  
    transform: scale(1.05);  
}
```

```
.footer {  
    background-color: #343a40;  
    color: #fff;  
    padding: 30px 0;  
}
```

```
.social-icons i {  
    font-size: 1.5rem;  
    margin: 0 10px;  
    color: white;  
    transition: color 0.3s;  
}
```

```
.social-icons i:hover {  
    color: #0d6efd;  
}
```

```
</style>
```

```
</head>
```



```
<body>

<!-- Navbar -->

<nav class="navbar navbar-expand-lg navbar-dark bg-primary sticky-top">

  <div class="container">

    <a class="navbar-brand" href="#">MySite</a>

    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav">

      <span class="navbar-toggler-icon"></span>

    </button>

    <div class="collapse navbar-collapse justify-content-end" id="navbarNav">

      <ul class="navbar-nav">

        <li class="nav-item"><a class="nav-link active" href="#home">Home</a></li>

        <li class="nav-item"><a class="nav-link" href="#features">Features</a></li>

        <li class="nav-item"><a class="nav-link" href="#gallery">Gallery</a></li>

        <li class="nav-item"><a class="nav-link" href="#contact">Contact</a></li>

      </ul>

    </div>

  </div>

</nav>

<!-- Hero Section -->

<section id="home" class="hero text-white">

  <div class="container">
```

```
<h1 class="display-4 fw-bold">Welcome to My Beautiful Website</h1>
```

```
<p class="lead">Fully responsive. Smooth, modern design with animations and rich  
visuals.</p>
```

```
<a href="#features" class="btn btn-light mt-3">Explore Features</a>
```

```
</div>
```

```
</section>
```

```
<!-- Features Section -->
```

```
<section id="features" class="py-5">
```

```
<div class="container">
```

```
<h2 class="text-center mb-5">Amazing Features</h2>
```

```
<div class="row g-4">
```

```
<div class="col-md-4">
```

```
<div class="card text-center p-3 shadow-sm h-100">
```

```
<div class="card-body">
```

```
<i class="fas fa-laptop-code feature-icon mb-3"></i>
```

```
<h5 class="card-title">Responsive Design</h5>
```

```
<p class="card-text">Adapts beautifully to mobile, tablet, and desktop screens.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="col-md-4">
```

```
<div class="card text-center p-3 shadow-sm h-100">
```

```
<div class="card-body">
```

***<i class="fas fa-magic feature-icon mb-3"></i>***

##### Modern Animations

Smooth, eye-catching transitions for a sleek experience.

<div class="col-md-4">

[illegible]

```
<div class="card-body">
```

*fas fa-bolt feature-icon mb-3*

##### Fast & Lightweight

Minimal and optimized code for faster performance.

&lt;/section&gt;

<!-- Gallery Section -->

&lt;section id="gallery" class="py-5 bg-light"&gt;

<div class="container">

## Image Gallery

```
<div class="row g-4 gallery">
```

```
  <div class="col-md-4"></div>
```

```
  <div class="col-md-4"></div>
```

```
  <div class="col-md-4"></div>
```

```
</div>
```

```
</div>
```

```
</section>
```

```
<!-- Contact Section -->
```

```
<section id="contact" class="py-5">
```

```
  <div class="container text-center">
```

```
    <h2 class="mb-4">Get in Touch</h2>
```

```
    <p>Have questions or want to work together? Email me at <a href="mailto:hansi1122012@gmail.com">hansi1122012@gmail.com</a></p>
```

```
    <a href="mailto:hansi1122012@gmail.com" class="btn btn-primary mt-2">Contact Now</a>
```

```
  </div>
```

```
</section>
```

```
<!-- Footer -->
```

```
<footer class="footer text-center">
```

```
  <div class="container">
```

```
<div class="social-icons mb-3">
```

```
<a href="#"><i class="fab fa-facebook-f"></i></a>
```

```
<a href="#"><i class="fab fa-twitter"></i></a>
```

```
<a href="#"><i class="fab fa-instagram"></i></a>
```

```
<a href="#"><i class="fab fa-github"></i></a>
```

```
</div>
```

```
<p class="mb-0">&copy; 2025 MySite. All rights reserved.</p>
```

```
</div>
```

```
</footer>
```

```
<!-- Bootstrap + Font Awesome -->
```

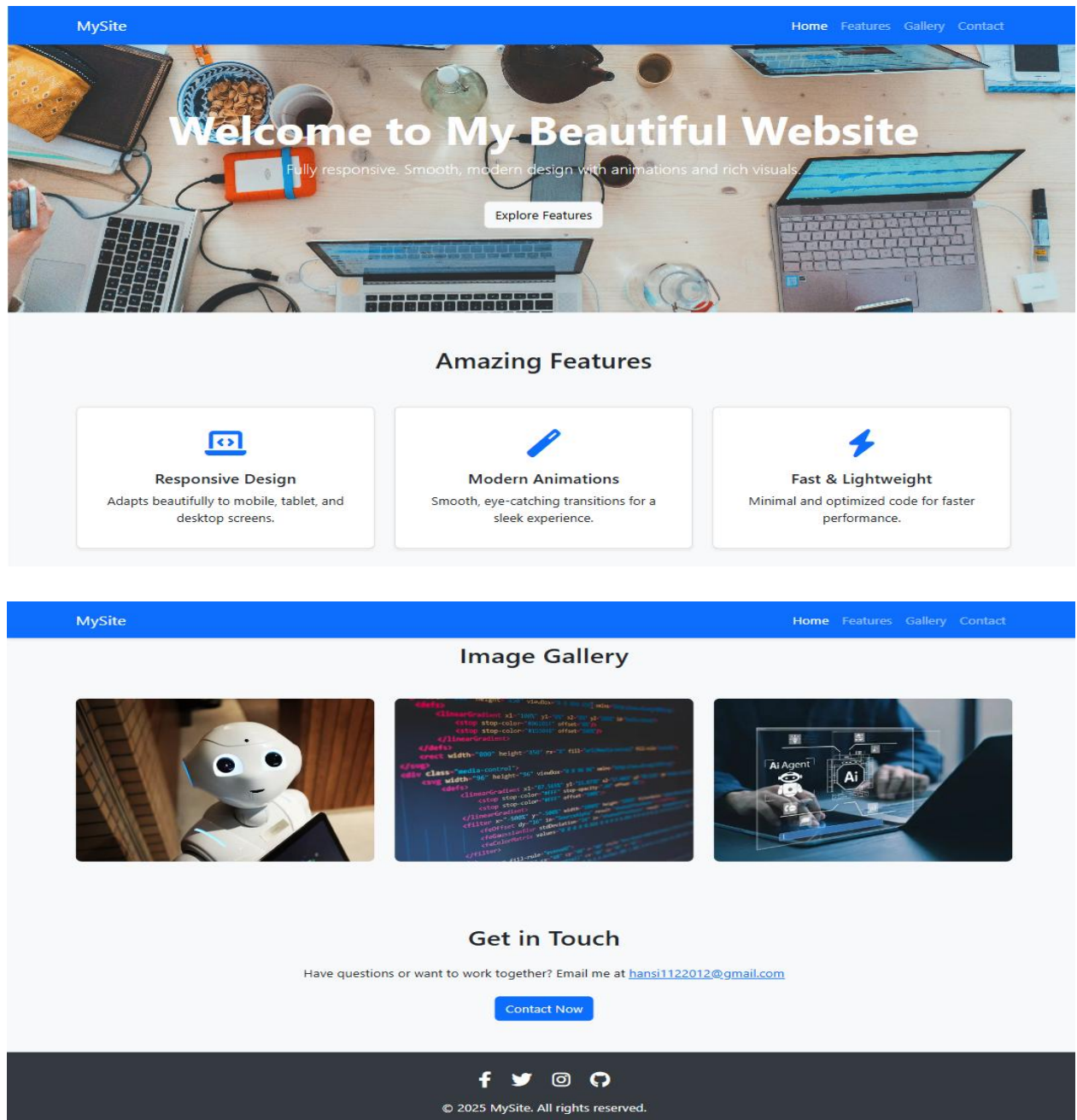
```
<script
```

```
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
```

```
</body>
```

```
</html>
```

## OUTPUT:



## RESULT:

Thus, a fully responsive and visually appealing web page was successfully designed using Bootstrap 5 and verified.

<b>EXP NO: 8</b>	<b>A RESPONSIVE WEB PAGE USING BOOTSTRAP'S GRID SYSTEM</b>
<b>DATE: 07/04/25</b>	

### **AIM:**

To design a responsive web page using Bootstrap's grid system for adaptive layout.

### **ALGORITHM:**

**Step 1:** Set up basic HTML structure with meta tags for responsiveness.

**Step 2:** Include Bootstrap CSS and JS libraries.

**Step 3:** Create a header with title and description.

**Step 4:** Define a container for grid-based content.

**Step 5:** Add a row with two columns for an image-text section.

**Step 6:** Add a row with three equal-width columns for cards.

**Step 7:** Add a row with four equal-width columns for smaller blocks.

**Step 8:** Include footer with copyright information.

**Step 9:** Test responsiveness across different screen sizes.

### **SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8" />
```

```
<meta name="viewport" content="width=device-width, initial-scale=1" />
```

```
<title>Bootstrap Grid Page</title>
```

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
```

```
<style>

body {

    font-family: 'Segoe UI', sans-serif;

}

.header {

    background-color: #007bff;

    color: white;

    padding: 40px 0;

    text-align: center;

}

.img-fluid {

    border-radius: 8px;

}

.card:hover {

    transform: translateY(-5px);

    transition: 0.3s ease;

}

</style>

</head>

<body>
```



```
<!-- Header -->
```

```
<div class="header">
```

```
<h1>Bootstrap Grid System</h1>
```

```
<p>Responsive layout using rows and columns</p>
```

```
</div>
```

```
<!-- Grid Section -->
```

```
<div class="container py-5">
```

```
<!-- Row 1 -->
```

```
<div class="row mb-4">
```

```
<div class="col-md-6">
```

```

```

```
</div>
```

```
<div class="col-md-6 d-flex align-items-center">
```

```
<div>
```

```
<h3>Responsive Columns</h3>
```

```
<p>This is a 2-column layout using Bootstrap's grid. On smaller screens, it stacks  
vertically.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<!-- Row 2 (3-column cards) -->
```

```
<div class="row text-center">
```

```
<div class="col-md-4 mb-4">
```

```
<div class="card shadow-sm h-100">
```

```
<div class="card-body">
```

```
<h5 class="card-title">Column One</h5>
```

```
<p class="card-text">This column spans 4/12 of the row on medium+ screens.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="col-md-4 mb-4">
```

```
<div class="card shadow-sm h-100">
```

```
<div class="card-body">
```

```
<h5 class="card-title">Column Two</h5>
```

```
<p class="card-text">Bootstrap handles spacing and responsiveness beautifully.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="col-md-4 mb-4">
```

```
<div class="card shadow-sm h-100">
```

```
<div class="card-body">
```

```
<h5 class="card-title">Column Three</h5>
```

```
<p class="card-text">Cards stay side by side or stack depending on screen width.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<!-- Row 3 (4 columns) -->
```

```
<div class="row text-center">
```

```
<div class="col-sm-6 col-lg-3 mb-4">
```

```
<div class="p-3 bg-light border rounded">1/4 Width</div>
```

```
</div>
```

```
<div class="col-sm-6 col-lg-3 mb-4">
```

```
<div class="p-3 bg-light border rounded">1/4 Width</div>
```

```
</div>
```

```
<div class="col-sm-6 col-lg-3 mb-4">
```

```
<div class="p-3 bg-light border rounded">1/4 Width</div>
```

```
</div>
```

```
<div class="col-sm-6 col-lg-3 mb-4">
```

```
<div class="p-3 bg-light border rounded">1/4 Width</div>
```

```
</div>
```

</div>

</div>

<!-- Footer -->

<footer class="text-center py-4 bg-dark text-white">

&copy; 2025 Bootstrap Grid Demo

</footer>

<!-- Bootstrap Script -->

<script

src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>

OUTPUT:

## Bootstrap Grid System

Responsive layout using rows and columns



### Responsive Columns

This is a 2-column layout using Bootstrap's grid. On smaller screens, it stacks vertically.

#### Column One

This column spans 4/12 of the row on medium+ screens.

#### Column Two

Bootstrap handles spacing and responsiveness beautifully.

#### Column Three

Cards stay side by side or stack depending on screen width.

1/4 Width

1/4 Width

1/4 Width

1/4 Width

© 2025 Bootstrap Grid Demo

## Bootstrap Grid System

Responsive layout using rows and columns



### Responsive Columns

This is a 2-column layout using Bootstrap's grid. On smaller screens, it stacks vertically.

#### Column One

This column spans 4/12 of the row on medium+ screens.

#### Column Two

Bootstrap handles spacing and responsiveness beautifully.

#### Column Three

Cards stay side by side or stack depending on screen width.

1/4 Width

1/4 Width

1/4 Width

1/4 Width


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ROLL NO: 221801053

PAGENO:45

## Bootstrap Grid System

Responsive layout using rows and columns



### Responsive Columns

This is a 2-column layout using Bootstrap's grid. On smaller screens, it stacks vertically.

#### Column One

This column spans 4/12 of the row on medium+ screens.

#### Column Two

Bootstrap handles spacing and responsiveness beautifully.

#### Column Two

Bootstrap handles spacing and responsiveness beautifully.

#### Column Three

Cards stay side by side or stack depending on screen width.

1/4 Width

1/4 Width

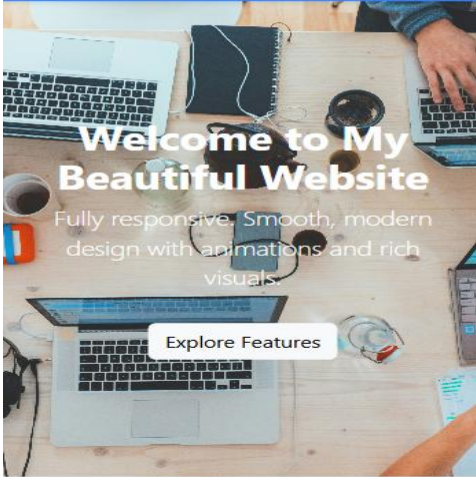
1/4 Width

1/4 Width

© 2025 Bootstrap Grid Demo

## MySite

- Home
- Features
- Gallery
- Contact




## Welcome to My Beautiful Website

Fully responsive. Smooth, modern design with animations and rich visuals.

Explore Features


## MySite

- Amazing Features




### Responsive Design

Adapts beautifully to mobile, tablet, and desktop screens.



### Modern Animations

Smooth, eye-catching transitions for a sleek experience.





### Fast & Lightweight

Minimal and optimized code for faster

## MySite

- Image Gallery





## MySite

- Get in Touch

Have questions or want to work together?  
Email me at [hansi1122012@gmail.com](mailto:hansi1122012@gmail.com)

Contact Now



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**RESULT:** Thus, the python program to implement Single Layer Perceptron has been executed successfully.

<b>EXP NO: 9</b>	<b>DESIGN A WEBPAGE WITH DROPDOWN, NAVIGATION BAR AND PAGINATION</b>
<b>DATE: 06/03/25</b>	

### **AIM:**

To design a webpage with Dropdown, Navigation bar and Pagination.

### **ALGORITHM:**

- Step 1:** Create a responsive HTML structure using Bootstrap 4 layout.
- Step 2:** Add a dark-themed Bootstrap navbar with brand name and toggler.
- Step 3:** Insert navbar links including Home, About, and a dropdown for Services.
- Step 4:** Define dropdown items under Services using Bootstrap dropdown classes.
- Step 5:** Add a container with welcome heading and paragraph content.
- Step 6:** Insert Bootstrap pagination component with Previous, numbered pages, and Next.
- Step 7:** Include Bootstrap and jQuery CDN links for styling and interactivity.
- Step 8:** Add JavaScript to dynamically switch active pagination and update content.
- Step 9:** Test navbar toggle, dropdown, and pagination functionality on various screen sizes.
- Step 10:** Style and organize the layout using Bootstrap utility classes for clean design.

### **SOURCE CODE:**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Perfect Webpage</title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
  <style>
    body {
      background-color: #f4f6f8;
      font-family: 'Segoe UI', sans-serif;
```

```

    }

    .navbar {
        box-shadow: 0 2px 6px rgba(0,0,0,0.1);
    }

    .item-card {
        border: 1px solid #dee2e6;
        border-radius: 10px;
        padding: 20px;
        background: white;
        margin-bottom: 20px;
        transition: 0.3s;
    }

    .item-card:hover {
        box-shadow: 0 4px 12px rgba(0,0,0,0.1);
    }

    .pagination {
        justify-content: center;
    }

    footer {
        background: #343a40;
        color: white;
        padding: 20px 0;
        text-align: center;
        margin-top: 50px;
    }
</style>
</head>
<body>

<!-- Navigation Bar -->
<nav class="navbar navbar-expand-lg navbar-dark bg-dark">

```



```

<a class="navbar-brand" href="#">MySite</a>

<button class="navbar-toggler" type="button" data-toggle="collapse" data-
target="#navbarNav">

  <span class="navbar-toggler-icon"></span>

</button>

<div class="collapse navbar-collapse" id="navbarNav">
  <ul class="navbar-nav mr-auto">
    <li class="nav-item active"><a class="nav-link" href="#">Home</a></li>
    <li class="nav-item"><a class="nav-link" href="#">About</a></li>
    <li class="nav-item dropdown">
      <a class="nav-link dropdown-toggle" href="#" id="servicesDropdown" role="button"
data-toggle="dropdown">
        Services
      </a>
      <div class="dropdown-menu">
        <a class="dropdown-item" href="#">Design</a>
        <a class="dropdown-item" href="#">Development</a>
        <a class="dropdown-item" href="#">SEO</a>
      </div>
    </li>
    <li class="nav-item"><a class="nav-link" href="#">Contact</a></li>
  </ul>
</div>
</nav>

<div class="container mt-5">
  <h3 class="mb-4 text-center">Our Portfolio (Paginated Items)</h3>
  <div id="item-list" class="row">
  </div>
  <nav>
    <ul class="pagination" id="pagination">
    </ul>

```

```

</nav>
</div>
<footer>
  <div class="container">
    <p>© 2025 MySite. All rights reserved.</p>
  </div>
</footer>
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.5.2/dist/js/bootstrap.bundle.min.js"></script>
<script>
  const items = Array.from({ length: 24 }, (_, i) => `Item ${i + 1}`);
  const itemsPerPage = 6;
  let currentPage = 1
  function renderItem() {
    const start = (currentPage - 1) * itemsPerPage;
    const end = start + itemsPerPage;
    const currentItems = items.slice(start, end);
    const itemList = document.getElementById('item-list');
    itemList.innerHTML = "";
    currentItems.forEach(item => {
      const col = document.createElement('div');
      col.className = 'col-md-4';
      col.innerHTML = `
        <div class="item-card">
          <h5>${item}</h5>
          <p>This is a short description for ${item}. Explore more about our awesome
work.</p>
        </div>`;
      itemList.appendChild(col);
    });
  }
}

```

```

function renderPagination() {
    const totalPages = Math.ceil(items.length / itemsPerPage);
    const pagination = document.getElementById('pagination');
    pagination.innerHTML = "";

    // Previous Button
    pagination.innerHTML += `
        <li class="page-item ${currentPage === 1 ? 'disabled' : ""}>
            <a class="page-link" href="#" onclick="changePage(${currentPage -
1})">Previous</a>
        </li>`;

    // Page Numbers
    for (let i = 1; i <= totalPages; i++) {
        pagination.innerHTML += `
            <li class="page-item ${i === currentPage ? 'active' : ""}>
                <a class="page-link" href="#" onclick="changePage(${i})">${i}</a>
            </li>`;
    }

    // Next Button
    pagination.innerHTML += `
        <li class="page-item ${currentPage === totalPages ? 'disabled' : ""}>
            <a class="page-link" href="#" onclick="changePage(${currentPage + 1})">Next</a>
        </li>`;
    }

    function changePage(page) {
        const totalPages = Math.ceil(items.length / itemsPerPage);
        if (page >= 1 && page <= totalPages) {

```

```

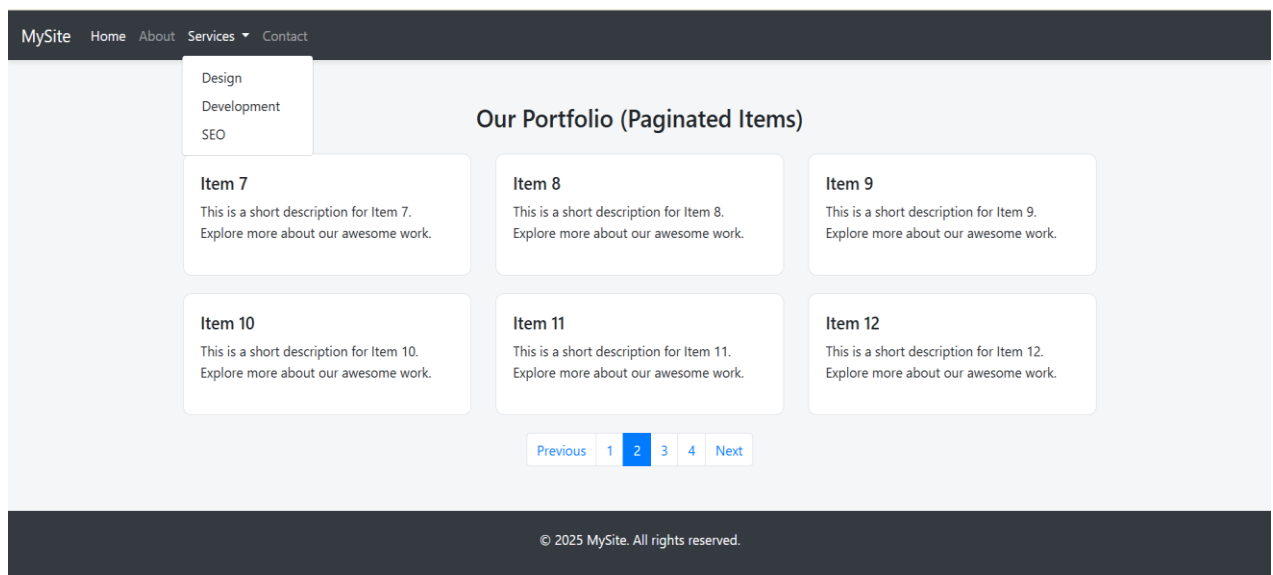
        currentPage = page;
        renderItems();
        renderPagination();
    }
}

// Initial Load
renderItems();
renderPagination();
</script>

</body>
</html>

```

## OUTPUT:



## RESULT:

Thus, a webpage with Dropdown, Navigation bar and Pagination is designed successfully and verified.

<b>EXP NO: 10</b>	<b>DESIGN WEBPAGE USING JQUERY SELECTOR</b>
<b>DATE: 27/03/25</b>	

**AIM:**

To design a web page using jQuery selector.

**ALGORITHM:**

**Step 1:** Create a structured HTML layout with headings, paragraphs, and div elements having various classes and attributes.

**Step 2:** Include jQuery library and Google Fonts via CDN in the <head>.

**Step 3:** Define CSS styles for layout, typography, buttons, and highlight effects.

**Step 4:** Add multiple buttons with unique IDs to trigger different selector actions.

**Step 5:** Wrap all content inside a styled container for better presentation.

**Step 6:** Use \$(document).ready() to ensure jQuery runs after the DOM loads.

**Step 7:** Use jQuery element selector to toggle highlights on all paragraphs.

**Step 8:** Use class, attribute, child, and pseudo selectors (e.g., .note, [data-custom], :nth-child, :not) to target specific elements.

**Step 9:** Assign click event handlers to each button to apply corresponding visual effects.

**SOURCE CODE:**

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <title>Advanced jQuery Selectors Demo</title>

  <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

  <link href="https://fonts.googleapis.com/css2?family=Roboto&display=swap"
rel="stylesheet">

  <style>

    body {
```

```
    font-family: 'Roboto', sans-serif;

    background-color: #f8f9fa;

    padding: 40px;
}

.container {

    max-width: 800px;

    margin: auto;

    background-color: #ffffff;

    padding: 30px;

    border-radius: 10px;

    box-shadow: 0 0 15px rgba(0,0,0,0.1);
}

h2, h3 {

    color: #343a40;

    margin-bottom: 20px;
}

p, div {

    font-size: 17px;

    margin-bottom: 10px;
}

.note {

    color: #6c757d;

    font-style: italic;
}

.highlight {

    background-color: yellow;

    font-weight: bold;
}
```

```
.custom {
    color: darkgreen;
    font-weight: bold;
}

.special {
    color: red;
    font-weight: bold;
}

button {
    padding: 10px 15px;
    margin: 10px 5px;
    background-color: #007bff;
    color: white;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

button:hover {
    background-color: #0056b3;
}

</style>

</head>

<body>

<div class="container">

    <h2>Advanced jQuery Selector Demonstration</h2>

    <p>This is the first paragraph.</p>
```

```
<p class="note">This is a note paragraph.</p>

<div>This is a general div.</div>

<div data-custom="true">This div has a custom data attribute.</div>

<h3 class="note">This is a heading with class "note".</h3>

<div class="note">This is another note div.</div>


<button id="highlightParagraphs">Highlight Paragraphs</button>

<button id="highlightNotes">Highlight Notes</button>

<button id="highlightCustom">Highlight Data Attribute</button>

<button id="highlightNth">Highlight Every 2nd Paragraph</button>

<button id="highlightNotNote">Highlight Non-Note Paragraphs</button>

<button id="highlightChild">Highlight First Child Div</button>

</div>


<script>

$(document).ready(function(){

    // Element selector

    $("#highlightParagraphs").click(function(){

        $("p").toggleClass("highlight");

    });

    // Class selector

    $("#highlightNotes").click(function(){

        $(".note").toggleClass("highlight");

    });

    // Attribute selector

    $("#highlightCustom").click(function(){

        $('[data-custom]').toggleClass("custom");

    });

});
```



```

// nth-child selector
$("#highlightNth").click(function(){
    $("p:nth-child(2)").toggleClass("special");
});

// not selector
$("#highlightNotNote").click(function(){
    $("p:not(.note)").toggleClass("highlight");
});

// child selector
$("#highlightChild").click(function(){
    $("div:first-child").toggleClass("special");
});
});
</script>
</body>
</html>

```

## OUTPUT:

### Advanced jQuery Selector Demonstration

**This is the first paragraph.**

*This is a note paragraph.*

**This is a general div.**

**This div has a custom data attribute.**

**This is a heading with class "note".**

**This is another note div.**

Highlight Paragraphs

Highlight Notes

Highlight Data Attribute

Highlight Every 2nd Paragraph

Highlight Non-Note Paragraphs

Highlight First Child Div

## RESULT:

Thus, a web page using jQuery selector is designed successfully and verified.

<b>EXP NO: 11</b>	<b>CREATE A SIMPLE WEB PAGE USING JQUERY EFFECTS</b>
<b>DATE: 03/04/25</b>	

**AIM:**

To create a simple web page using jQuery Effects.

**ALGORITHM:**

**Step 1:** Start with a basic HTML structure including <head> and <body>.

**Step 2:** Link jQuery and Google Fonts in the <head> section.

**Step 3:** Style the layout using CSS for body, container, buttons, and effect box.

**Step 4:** Create a centered container with a heading and multiple buttons for effects.

**Step 5:** Add a <div> element (#effectBox) to show visual changes from jQuery.

**Step 6:** Use \$(document).ready() to initialize jQuery when the page is loaded.

**Step 7:** Attach click() events to each button to trigger a specific jQuery effect like fadeToggle, slideUp, hide, show, etc.

**Step 8:** Use animate() to apply combined width, height, and opacity transitions.

**Step 9:** Use toggleClass() to switch styles dynamically for highlighting.

**SOURCE CODE:**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <title>Advanced jQuery Effects</title>
```

```
  <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
```

```
  <link href="https://fonts.googleapis.com/css2?family=Roboto&display=swap"
rel="stylesheet">
```

```
  <style>
```

```
    body { font-family: 'Roboto', sans-serif;
```

```
          background: #f4f7fa;
```

```
          padding: 40px;
```

```
}  
.container {  
    max-width: 750px;  
    margin: auto;  
    background: #fff;  
    padding: 30px;  
    border-radius: 10px;  
    box-shadow: 0 4px 15px rgba(0,0,0,0.1);  
    text-align: center;  
}  
h2 { color: #333;  
    margin-bottom: 25px;  
}  
button {  
    margin: 10px;  
    padding: 12px 20px;  
    border: none;  
    background-color: #007bff;  
    color: #fff;  
    border-radius: 6px;  
    cursor: pointer;  
    font-size: 15px;  
    transition: 0.3s;  
}  
button:hover {  
    background-color: #0056b3;  
}  
#effectBox {  
    width: 100%;  
    max-width: 500px;
```

```

    height: 150px;
    background: #d1ecf1;
    margin: 20px auto;
    padding: 20px;
    font-size: 18px;
    line-height: 1.5;
    border-radius: 8px;
    box-shadow: 0 4px 10px rgba(0,0,0,0.1);
    transition: all 0.4s ease-in-out;
}

.highlighted {
    background-color: #ffc107 !important;
    color: #000;
    transform: scale(1.05);
}
</style>
</head>
<body>
<div class="container">
    <h2>Advanced jQuery Effects</h2>
    <button id="fadeToggle">Fade Toggle</button>
    <button id="fadeIn">Fade In</button>
    <button id="fadeOut">Fade Out</button>
    <button id="slideToggle">Slide Toggle</button>
    <button id="slideUp">Slide Up</button>
    <button id="slideDown">Slide Down</button>
    <button id="hide">Hide</button>
    <button id="show">Show</button>
    <button id="toggle">Toggle</button>
    <button id="animateBtn">Animate</button>

```

```
<button id="highlightBtn">Highlight Toggle</button>

<div id="effectBox">

    This is a dynamic content box. Click any button above to try different effects!

</div>

</div>

<script>

$(document).ready(function(){

    $("#fadeToggle").click(function(){

        $("#effectBox").fadeToggle("slow");

    });

    $("#fadeIn").click(function(){

        $("#effectBox").fadeIn("slow");

    });

    $("#fadeOut").click(function(){

        $("#effectBox").fadeOut("slow");

    });

    $("#slideToggle").click(function(){

        $("#effectBox").slideToggle("slow");

    });

    $("#slideUp").click(function(){

        $("#effectBox").slideUp("slow");

    });

    $("#slideDown").click(function(){

        $("#effectBox").slideDown("slow");

    });

    $("#hide").click(function(){

        $("#effectBox").hide("slow");

    });

    $("#show").click(function(){

        $("#effectBox").show("slow");

    });

});

</script>
```

```
});  
$("#toggle").click(function(){  
    $("#effectBox").toggle("slow");  
});  
$("#animateBtn").click(function(){  
    $("#effectBox").animate({  
        width: "toggle",  
        height: "toggle",  
        opacity: "toggle"  
    }, 1000);  
});  
$("#highlightBtn").click(function(){  
    $("#effectBox").toggleClass("highlighted");  
});  
});  
</script>  
</body>  
</html>
```

## OUTPUT:



## RESULT:

Thus, a simple web page was successfully designed using jQuery effects and verified.

<b>EXP NO: 12</b>	<b>DESIGN A WEB PAGE TO CALCULATE FACTORIAL OF A NUMBER USING PHP</b>
<b>DATE: 10/04/25</b>	

**AIM:**

To design a web page to calculate factorial of a number using PHP.

**ALGORITHM:**

**Step 1:** Create an HTML form to accept a number as input from the user.

**Step 2:** Set the form's method to POST and action to the same PHP file.

**Step 3:** Check if the form is submitted using `$_SERVER["REQUEST_METHOD"] == "POST"`.

**Step 4:** Retrieve the input number using `$_POST["num"]`.

**Step 5:** Initialize a variable factorial to 1.

**Step 6:** If the input number is negative, display an error message.

**Step 7:** Otherwise, use a for loop to multiply numbers from 1 to the input number.

**Step 8:** After the loop ends, display the calculated factorial result.

**Step 9:** Embed the PHP code below the HTML form to process and display the result on the same page.

**SOURCE CODE:**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Factorial Calculator</title>
  <style>
    body {
      font-family: 'Segoe UI', sans-serif;
      background-color: #f0f8ff;
      display: flex;
      justify-content: center;
```



```
    align-items: center;
    height: 100vh;
}
.container {
    background-color: white;
    padding: 30px 40px;
    border-radius: 10px;
    box-shadow: 0 0 15px rgba(0,0,0,0.2);
    text-align: center;
    width: 350px;
}
h2 {
    color: #007bff;
    margin-bottom: 20px;
}
input[type="number"] {
    width: 80%;
    padding: 10px;
    margin-bottom: 15px;
    border-radius: 5px;
    border: 1px solid #ccc;
    font-size: 16px;
}
input[type="submit"] {
    background-color: #007bff;
    color: white;
    border: none;
    padding: 10px 20px;
    font-size: 16px;
    border-radius: 5px;
```

```

        cursor: pointer;
    }
    input[type="submit"]:hover {
        background-color: #0056b3;
    }
    .result {
        margin-top: 20px;
        font-size: 18px;
        font-weight: bold;
        color: green;
    }
    .error {
        color: red;
    }
</style>
</head>
<body>
    <div class="container">
        <h2>Factorial Calculator</h2>
        <form method="post" action="">
            <input type="number" name="num" placeholder="Enter a number" required>
            <br>
            <input type="submit" value="Calculate">
        </form>

        <?php
        if ($_SERVER["REQUEST_METHOD"] == "POST") {
            $num = $_POST["num"];
            if (!is_numeric($num)) {
                echo "<div class='error'>Please enter a valid number.</div>";
            }
        }
    }

```

```
    } elseif ($num < 0) {  
        echo "<div class='error'>Factorial is not defined for negative numbers.</div>";  
    } else {  
        $factorial = 1;  
        for ($i = 1; $i <= $num; $i++) {  
            $factorial *= $i;  
        }  
        echo "<div class='result'>Factorial of $num is $factorial</div>";  
    }  
}  
?  
</div>  
</body>  
</html>
```

**OUTPUT:**

The screenshot displays two identical web forms for calculating factorials. Each form consists of a title 'Factorial Calculator' in blue, a text input field, a blue 'Calculate' button, and a green output message. In the top form, the input is '6' and the output is 'Factorial of 6 is 720'. In the bottom form, the input is '3' and the output is 'Factorial of 3 is 6'. A vertical scrollbar is visible on the left side of the page.

**RESULT:**

Thus, designing a web page to calculate factorial of a number using PHP has been executed successfully.



```
.calculator {  
    background: #fff;  
    padding: 30px;  
    max-width: 400px;  
    margin: auto;  
    border-radius: 10px;  
    box-shadow: 0 0 15px rgba(0,0,0,0.2);  
}  
  
h2 {  
    text-align: center;  
    margin-bottom: 20px;  
    color: #333;  
}  
  
input[type="number"], select {  
    width: 100%;  
    padding: 10px;  
    margin: 10px 0;  
    border: 1px solid #ccc;  
    border-radius: 5px;  
}  
  
input[type="submit"] {  
    background-color: #28a745;  
    color: white;  
    padding: 12px;  
    border: none;  
    width: 100%;  
    border-radius: 5px;  
    cursor: pointer;  
}  
  
input[type="submit"]:hover {
```

```
        background-color: #218838;
    }

    .result {
        margin-top: 20px;
        text-align: center;
        font-weight: bold;
        color: #007bff;
    }

    .error {
        color: red;
        font-weight: bold;
        text-align: center;
    }
</style>
</head>
<body>

<div class="calculator">
    <h2>Arithmetic Calculator</h2>
    <form method="post" action="">
        Number 1:
        <input type="number" name="num1" step="any" required>

        Number 2:
        <input type="number" name="num2" step="any" required>

        Operation:
        <select name="operation" required>
            <option value="">--Select Operation--</option>
            <option value="add">Addition (+)</option>
```

```

        <option value="sub">Subtraction (-)</option>
        <option value="mul">Multiplication (×)</option>
        <option value="div">Division (÷)</option>
    </select>

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

<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $num1 = $_POST["num1"];
    $num2 = $_POST["num2"];
    $op = $_POST["operation"];

    if (!is_numeric($num1) || !is_numeric($num2)) {
        echo "<div class='error'>Please enter valid numbers.</div>";
    } else {
        switch($op) {
            case "add": $res = $num1 + $num2; break;
            case "sub": $res = $num1 - $num2; break;
            case "mul": $res = $num1 * $num2; break;
            case "div":
                if ($num2 != 0) {
                    $res = $num1 / $num2;
                } else {
                    $res = "Cannot divide by zero";
                }
                break;
            default: $res = "Invalid operation";
        }
    }
}

```



```
        echo "<div class='result'>Result: $res</div>";
    }
}
?>
</div>

</body>
</html>
```

### OUTPUT:

### Arithmetic Calculator

Number 1:

Number 2:

Operation:

Subtraction (-)

Calculate

Result: -32

### Arithmetic Calculator

Number 1:

Number 2:

Operation:

Addition (+)

Calculate

Result: 58

## Arithmetic Calculator

Number 1:

Number 2:

Operation:

Calculate

Result: 585

## Arithmetic Calculator

Number 1:

Number 2:

Operation:

Calculate

Result: 0.28888888888889

### RESULT:

Thus, a webpage to perform arithmetic operations using PHP has been executed successfully.

<b>EXP NO: 15</b>	<b>PHP PROGRAM USING REGULAR EXPRESSIONS</b>
<b>DATE: 26/04/25</b>	

**AIM:**

To design and implement a PHP-based web form that validates user inputs using regular expressions and logic checks.

**ALGORITHM:**

**Step 1:** Start the HTML form and accept input fields for username, DOB, mobile, Aadhar, password, PIN code, and PAN number.

**Step 2:** On form submission, collect form data using the \$\_POST method in PHP.

**Step 3:** Initialize an empty array to store validation error messages.

**Step 4:** Validate the username using a regular expression to allow 4–15 characters (letters, digits, underscores).

**Step 5:** Calculate the user's age from DOB and check if it is 18 or above.

**Step 6:** Validate the mobile number to ensure it starts with 6–9 and is 10 digits long.

**Step 7:** Validate the Aadhar number to ensure it has exactly 12 digits.

**Step 8:** If no validation errors, display a success message; otherwise, display all error messages.

**SOURCE CODE:**

```
<!DOCTYPE html>
<html>
<head>
  <title>Enhanced Form Validation</title>
  <style>
    body {
      font-family: Arial;
      padding: 20px;
    }
  </style>
</head>
<body>
```

```

        .error {
            color: red;
        }
        .success {
            color: green;
        }
    </style>
</head>
<body>

<h2>User Registration Form</h2>

<form method="post">
    Username: <input type="text" name="username"><br><br>
    Date of Birth: <input type="date" name="dob"><br><br>
    Mobile Number: <input type="text" name="mobile"><br><br>
    Aadhar Number: <input type="text" name="aadhar"><br><br>
    Password: <input type="password" name="password"><br><br>
    PIN Code: <input type="text" name="pincode"><br><br>
    PAN Number: <input type="text" name="pan"><br><br>

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

<?php
if (isset($_POST['submit'])) {
    $username = $_POST['username'];
    $dob = $_POST['dob'];
    $mobile = $_POST['mobile'];
    $aadhar = $_POST['aadhar'];
    $password = $_POST['password'];

```

```

$pincode = $_POST['pincode'];
$pan = $_POST['pan'];

$errors = [];

// Username (4-15 characters, letters, digits, _)
if (!preg_match('/^[a-zA-Z0-9_]{4,15}$/', $username)) {
    $errors[] = "Invalid Username";
}

// DOB (age must be 18+)
$today = new DateTime();
$birthDate = new DateTime($dob);
$age = $today->diff($birthDate)->y;
if ($age < 18) {
    $errors[] = "You must be at least 18 years old.";
}

// Mobile
if (!preg_match('/^[6-9]\d{9}$/', $mobile)) {
    $errors[] = "Invalid Mobile Number";
}

// Aadhar
if (!preg_match('/^\d{12}$/', $aadhar)) {
    $errors[] = "Invalid Aadhar Number";
}

// Password (min 6 chars, at least 1 letter and 1 number)
if (!preg_match('/^(?=.*[A-Za-z])(?=.*\d)[A-Za-z\d]{6,}$/', $password)) {
    $errors[] = "Password must be at least 6 characters with letters and numbers";
}

```

```

    }

    // PIN Code
    if (!preg_match('/^[1-9][0-9]{5}$/', $pincode)) {
        $errors[] = "Invalid PIN Code";
    }

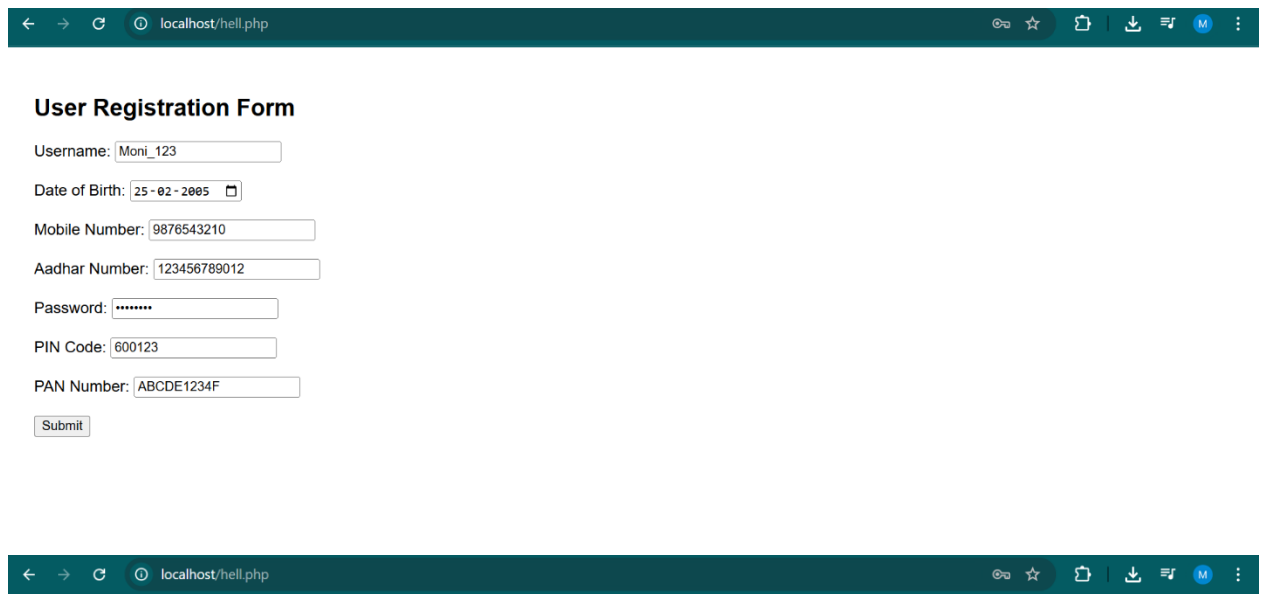
    // PAN Number
    if (!preg_match('/^[A-Z]{5}[0-9]{4}[A-Z]{1}$/', $pan)) {
        $errors[] = "Invalid PAN Number";
    }

    // Output
    if (empty($errors)) {
        echo "<p class='success'>All inputs are valid!</p>";
    } else {
        foreach ($errors as $error) {
            echo "<p class='error'>$error</p>";
        }
    }
}
?>

</body>
</html>

```

## OUTPUT:



The screenshot shows a web browser window with the address bar displaying 'localhost/hell.php'. The page title is 'User Registration Form'. The form contains the following fields and values:

- Username:
- Date of Birth:
- Mobile Number:
- Aadhar Number:
- Password:
- PIN Code:
- PAN Number:

A 'Submit' button is located at the bottom of the form.

## User Registration Form

Username:

Date of Birth:

Mobile Number:

Aadhar Number:

Password:

PIN Code:

PAN Number:

All inputs are valid!

## RESULT:

The PHP script successfully validates all user inputs and provides appropriate error or success messages based on the entered data.