**Problem Statement :** Create a student registration form with HTML5 validation for name, email, and age inputs. Medium: Build a responsive banking UI with deposit/withdrawal buttons and balance display. Hard: Develop an admin dashboard with CSS Grid layout and dynamic theme switching.

# EXP – 1 (code)

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Student Registration Form</title>
  <!-- Tailwind CSS CDN -->
  <script src="https://cdn.tailwindcss.com"></script>
  <style>
    /* Custom font for a clean look */
    body {
      font-family: 'Inter', sans-serif;
      background-color: #f0f4f8; /* Light gray background */
      display: flex;
      justify-content: center;
      align-items: center;
      min-height: 100vh;
      padding: 20px;
    }
  </style>
```
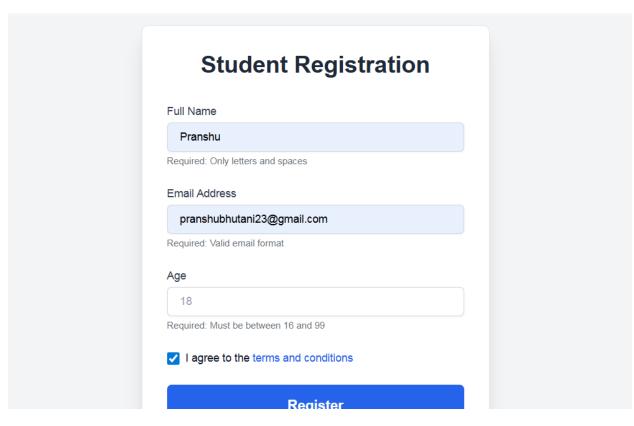
```html
</head>
<body class="bg-gray-100 flex items-center justify-center min-h-screen p-4">
    <div class="bg-white p-8 rounded-lg shadow-xl w-full max-w-md border border-gray-200">
        <h2 class="text-3xl font-bold text-center text-gray-800 mb-8">Student Registration</h2>
        <form id="registrationForm" class="space-y-6">
            <div>
                <label for="name" class="block text-sm font-medium text-gray-700 mb-1">Full Name</label>
                <input type="text" id="name" name="name" placeholder="John Doe"
                    class="mt-1 block w-full px-4 py-2 border border-gray-300 rounded-md shadow-sm focus:ring-blue-500 focus:border-blue-500 sm:text-sm transition duration-150 ease-in-out"
                    required pattern="[A-Za-z\s]+" title="Name should only contain letters and spaces">
                <p class="text-xs text-gray-500 mt-1">Required: Only letters and spaces</p>
            </div>

            <div>
                <label for="email" class="block text-sm font-medium text-gray-700 mb-1">Email Address</label>
                <input type="email" id="email" name="email" placeholder="john.doe@example.com"
                    class="mt-1 block w-full px-4 py-2 border border-gray-300 rounded-md shadow-sm focus:ring-blue-500 focus:border-blue-500 sm:text-sm transition duration-150 ease-in-out"
                    required>
                <p class="text-xs text-gray-500 mt-1">Required: Valid email format</p>
            </div>

            <div>
                <label for="age" class="block text-sm font-medium text-gray-700 mb-1">Age</label>
                <input type="number" id="age" name="age" placeholder="18"
                    class="mt-1 block w-full px-4 py-2 border border-gray-300 rounded-md shadow-sm focus:ring-blue-500 focus:border-blue-500 sm:text-sm transition duration-150 ease-in-out"
                    required min="16" max="99">
```

```html
        <p class="text-xs text-gray-500 mt-1">Required: Must be between 16 and 99</p>
      </div>


      <div class="flex items-center">
        <input id="terms" name="terms" type="checkbox" required
            class="h-4 w-4 text-blue-600 focus:ring-blue-500 border-gray-300 rounded">
        <label for="terms" class="ml-2 block text-sm text-gray-900">
          I agree to the <a href="#" class="text-blue-600 hover:text-blue-800 font-medium">terms and conditions</a>
        </label>
      </div>


      <button type="submit"
          class="w-full flex justify-center py--3 px--4 border border-transparent rounded-md shadow-sm text-lg font-semibold text-white bg-blue-600 hover:bg-blue-700 focus:outline-none focus:ring-2 focus:ring-offset-2 focus:ring-blue-500 transition duration-150 ease-in-out transform hover:scale-105">
        Register
      </button>
    </form>
    <div id="messageBox" class="hidden mt-6 p-4 rounded-md text-sm text-center" role="alert"></div>
  </div>


  <script>
    document.getElementById('registrationForm').addEventListener('submit', function(event) {
      event.preventDefault(); // Prevent default form submission


      const messageBox = document.getElementById('messageBox');
      messageBox.classList.add('hidden'); // Hide previous messages


      if (this.checkValidity()) {
```

```javascript
      // Form is valid, process data (e.g., send to server)

      const formData = new FormData(this);

      const data = {};

      for (let [key, value] of formData.entries()) {

        data[key] = value;

      }

      console.log('Form Data:', data);


      messageBox.textContent = 'Registration successful! Check console for data.';

      messageBox.classList.remove('hidden', 'bg-red-100', 'text-red-700');

      messageBox.classList.add('bg-green-100', 'text-green-700');

      this.reset(); // Clear the form

    } else {

      // Form is invalid, browser will show default validation messages

      messageBox.textContent = 'Please fill out all required fields correctly.';

      messageBox.classList.remove('hidden', 'bg-green-100', 'text-green-700');

      messageBox.classList.add('bg-red-100', 'text-red-700');

    }

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

# EXP 2 (code)

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Banking UI</title>
    <!-- Tailwind CSS CDN -->
    <script src="https://cdn.tailwindcss.com"></script>
    <style>
        /* Custom font for a modern look */
        body {
            font-family: 'Inter', sans-serif;
            background-color: #e2e8f0; /* Light blue-gray background */
```

```css
      display: flex;

      justify-content: center;

      align-items: center;

      min-height: 100vh;

      padding: 20px;

    }

    .container {

      background-color: #ffffff;

      border-radius: 1rem; /* rounded-xl */

      box-shadow: 0 10px 15px -3px rgba(0, 0, 0, 0.1), 0 4px 6px -2px rgba(0, 0, 0, 0.05); /* shadow-xl */

      padding: 2.5rem; /* p-10 */

      width: 100%;

      max-width: 28rem; /* max-w-md */

      border: 1px solid #cbd5e0; /* border-gray-300 */

    }

    .button-gradient {

      background-image: linear-gradient(to right, #4CAF50, #66BB6A); /* Green gradient */

    }

    .button-gradient:hover {

      background-image: linear-gradient(to right, #66BB6A, #4CAF50);

    }

    .button-gradient-red {

      background-image: linear-gradient(to right, #EF4444, #DC2626); /* Red gradient */

    }

    .button-gradient-red:hover {

      background-image: linear-gradient(to right, #DC2626, #EF4444);

    }

  </style>

</head>
```

```html
<body class="bg-gray-200 flex items-center justify-center min-h-screen p-4">

  <div class="container">

    <h2 class="text-4xl font-extrabold text-center text-gray-800 mb-8">

      <span class="text-green-600">My</span> Bank

    </h2>


    <div class="bg-blue-600 text-white p-6 rounded-lg shadow-md mb-8 flex flex-col items-center justify-center">

      <p class="text-sm font-medium opacity-80">Current Balance</p>

      <p id="balanceDisplay" class="text-5xl font-bold mt-2">$1000.00</p>

    </div>


    <div class="grid grid-cols-1 md:grid-cols-2 gap-6 mb-8">

      <div class="bg-green-50 p-6 rounded-lg shadow-sm border border-green-200">

        <h3 class="text-xl font-semibold text-green-800 mb-4">Deposit Funds</h3>

        <input type="number" id="depositAmount" placeholder="Amount"

            class="w-full px-4 py-2 border border-green-300 rounded-md shadow-sm focus:ring-green-500 focus:border-green-500 transition duration-150 ease-in-out mb-4 text-gray-800"

            min="0" step="0.01">

        <button id="depositButton"

             class="w-full py-3 px-4 rounded-md text-lg font-semibold text-white button-gradient hover:shadow-lg focus:outline-none focus:ring-2 focus:ring-offset-2 focus:ring-green-500 transition duration-200 ease-in-out transform hover:scale-105">

          Deposit

        </button>

      </div>


      <div class="bg-red-50 p-6 rounded-lg shadow-sm border border-red-200">

        <h3 class="text-xl font-semibold text-red-800 mb-4">Withdraw Funds</h3>

        <input type="number" id="withdrawalAmount" placeholder="Amount"
```

```
                    class="w-full px-4 py-2 border border-red-300 rounded-md shadow-sm focus:ring-red-500
focus:border-red-500 transition duration-150 ease-in-out mb-4 text-gray-800"
                    min="0" step="0.01">
            <button id="withdrawalButton"
                    class="w-full py--3 px-4 rounded-md text-lg font-semibold text-white button-gradient-red
hover:shadow-lg focus:outline-none focus:ring-2 focus:ring-offset-2 focus:ring-red-500 transition
duration-200 ease-in-out transform hover:scale-105">
                Withdraw
            </button>
        </div>
    </div>
    <div id="messageBox" class="hidden mt-6 p-4 rounded-md text-sm text-center" role="alert"></div>
</div>

<script>
    let balance = 1000.00; // Initial balance
    const balanceDisplay = document.getElementById('balanceDisplay');
    const depositAmountInput = document.getElementById('depositAmount');
    const depositButton = document.getElementById('depositButton');
    const withdrawalAmountInput = document.getElementById('withdrawalAmount');
    const withdrawalButton = document.getElementById('withdrawalButton');
    const messageBox = document.getElementById('messageBox');

    // Function to update the balance display
    function updateBalanceDisplay() {
        balanceDisplay.textContent = `$${balance.toFixed(2)}`;
    }

    // Function to show messages in the message box
    function showMessage(message, type = 'info') {
```
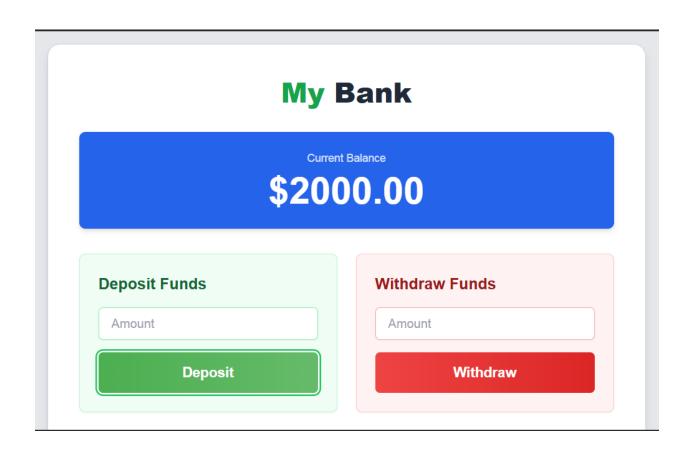
```javascript
        messageBox.textContent = message;

        messageBox.classList.remove('hidden', 'bg-green-100', 'text-green-700', 'bg-red-100', 'text-red-700', 'bg-blue-100', 'text-blue-700');

        if (type === 'success') {

            messageBox.classList.add('bg-green-100', 'text-green-700');

        } else if (type === 'error') {

            messageBox.classList.add('bg-red-100', 'text-red-700');

        } else { // info

            messageBox.classList.add('bg-blue-100', 'text-blue-700');

        }

        setTimeout(() => {

            messageBox.classList.add('hidden');

        }, 3000); // Hide message after 3 seconds

    }


    // Deposit function
    depositButton.addEventListener('click', () => {

        const amount = parseFloat(depositAmountInput.value);

        if (isNaN(amount) || amount <= 0) {

            showMessage('Please enter a valid positive deposit amount.', 'error');

            return;

        }

        balance += amount;

        updateBalanceDisplay();

        showMessage(`Successfully deposited $${amount.toFixed(2)}.`, 'success');

        depositAmountInput.value = ''; // Clear input

    });


    // Withdrawal function
```

```javascript
withdrawalButton.addEventListener('click', () => {

  const amount = parseFloat(withdrawalAmountInput.value);

  if (isNaN(amount) || amount <= 0) {

    showMessage('Please enter a valid positive withdrawal amount.', 'error');

    return;

  }

  if (amount > balance) {

    showMessage('Insufficient funds.', 'error');

    return;

  }

  balance -= amount;

  updateBalanceDisplay();

  showMessage(`Successfully withdrew $${amount.toFixed(2)}.`, 'success');

  withdrawalAmountInput.value = ''; // Clear input

});


  // Initial display update

  updateBalanceDisplay();
</script>
</body>
</html>
```

# EXP 3 (code)

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Admin Dashboard</title>
  <!-- Tailwind CSS CDN -->
  <script src="https://cdn.tailwindcss.com"></script>
  <style>
    /* Custom font for a modern dashboard feel */
    body {
      font-family: 'Inter', sans-serif;
```

```css
    transition: background-color 0.3s ease, color 0.3s ease;

}


/* Light Theme */
body.light-theme {

    background-color: #f3f4f6; /* bg-gray-100 */

    color: #1f2937; /* text-gray-900 */

}

.light-theme .card {

    background-color: #ffffff;

    border: 1px solid #e5e7eb; /* border-gray-200 */

    box-shadow: 0 4px 6px -1px rgba(0, 0, 0, 0.1), 0 2px 4px -1px rgba(0, 0, 0, 0.06); /* shadow-md */

}

.light-theme .header, .light-theme .sidebar {

    background-color: #ffffff;

    border-bottom: 1px solid #e5e7eb; /* border-gray-200 */

}

.light-theme .sidebar {

    border-right: 1px solid #e5e7eb;

}


/* Dark Theme */
body.dark-theme {

    background-color: #1a202c; /* bg-gray-900 */

    color: #e2e8f0; /* text-gray-200 */

}

.dark-theme .card {

    background-color: #2d3748; /* bg-gray-800 */

    border: 1px solid #4a5568; /* border-gray-700 */
```

```css
    box-shadow: 0 4px 6px -1px rgba(0, 0, 0, 0.2), 0 2px 4px -1px rgba(0, 0, 0, 0.12);

}

.dark-theme .header, .dark-theme .sidebar {

    background-color: #2d3748;

    border-bottom: 1px solid #4a5568;

}

.dark-theme .sidebar {

    border-right: 1px solid #4a5568;

}


/* CSS Grid Layout for Dashboard */

.dashboard-grid {

    display: grid;

    grid-template-columns: 1fr; /* Single column for mobile */

    grid-template-rows: auto 1fr auto; /* Header, Main, Footer */

    min-height: 100vh;

}


@media (min-width: 768px) { /* md breakpoint */

    .dashboard-grid {

        grid-template-columns: 250px 1fr; /* Sidebar, Main content */

        grid-template-rows: auto 1fr; /* Header, Main/Sidebar */

    }

    .header {

        grid-column: 1 / 3; /* Header spans both columns */

    }

    .sidebar {

        grid-column: 1 / 2; /* Sidebar in first column */

        grid-row: 2 / 3; /* Sidebar in second row */
```

```
      }

      .main-content {

        grid-column: 2 / 3; /* Main content in second column */

        grid-row: 2 / 3; /* Main content in second row */

      }

    }

  </style>

</head>

<body class="light-theme">

  <div class="dashboard-grid">

    <!-- Header -->

    <header class="header p-4 flex items-center justify-between shadow-sm rounded-b-lg">

      <h1 class="text-2xl font-bold text-blue-600">Admin Dashboard</h1>

      <div class="flex items-center space-x-4">

        <button id="themeToggle"

              class="px-4 py-2 rounded-full bg-blue-500 text-white font-semibold hover:bg-blue-600
focus:outline-none focus:ring-2 focus:ring-blue-500 focus:ring-offset-2 transition duration-200 ease-in-
out transform hover:scale-105">

            Toggle Theme

        </button>

        <span class="text-gray-700 dark:text-gray-300">Welcome, Admin!</span>

      </div>

    </header>


    <!-- Sidebar -->

    <aside class="sidebar p-4 shadow-sm md:flex md:flex-col hidden">

      <nav class="space-y-4">

        <a href="#" class="block px-4 py-2 rounded-md text-lg font-medium text-blue-600 hover:bg-
blue-100 hover:text-blue-700 transition duration-150 ease-in-out">

            Dashboard
```

```
        </a>

        <a href="#" class="block px-4 py-2 rounded-md text-lg font-medium text-gray-700 hover:bg-
gray-100 hover:text-gray-900 transition duration-150 ease-in-out">

            Users

        </a>

        <a href="#" class="block px-4 py-2 rounded-md text-lg font-medium text-gray-700 hover:bg-
gray-100 hover:text-gray-900 transition duration-150 ease-in-out">

            Products

        </a>

        <a href="#" class="block px-4 py-2 rounded-md text-lg font-medium text-gray-700 hover:bg-
gray-100 hover:text-gray-900 transition duration-150 ease-in-out">

            Settings

        </a>

      </nav>

    </aside>


    <!-- Main Content -->

    <main class="main-content p-6">

      <h2 class="text-3xl font-bold mb-6">Overview</h2>


      <div class="grid grid-cols-1 md:grid-cols-2 lg:grid-cols-3 gap-6">

        <!-- Card 1 -->

        <div class="card p-6 rounded-lg">

          <h3 class="text-xl font-semibold mb-3">Total Users</h3>

          <p class="text-4xl font-bold text-blue-600">1,234</p>

          <p class="text-sm text-gray-500 mt-2">Last updated 1 hour ago</p>

        </div>


        <!-- Card 2 -->

        <div class="card p-6 rounded-lg">
```

```html
    <h3 class="text-xl font-semibold mb-3">Active Orders</h3>
    <p class="text-4xl font-bold text-green-600">567</p>
    <p class="text-sm text-gray-500 mt-2">Currently processing</p>
  </div>


  <!-- Card 3 -->
  <div class="card p-6 rounded-lg">
    <h3 class="text-xl font-semibold mb-3">Revenue Today</h3>
    <p class="text-4xl font-bold text-purple-600">$8,910</p>
    <p class="text-sm text-gray-500 mt-2">Up 12% from yesterday</p>
  </div>


  <!-- Card 4 -->
  <div class="card p-6 rounded-lg md:col-span-2 lg:col-span-3">
    <h3 class="text-xl font-semibold mb-3">Recent Activity</h3>
    <ul class="space-y-3">
      <li class="flex justify-between items-center py-2 border-b last:border-b-0 border-gray-200
dark:border-gray-700">
        <span>New user registered: <span class="font-medium">Alice Smith</span></span>
        <span class="text-sm text-gray-500">10 mins ago</span>
      </li>
      <li class="flex justify-between items-center py-2 border-b last:border-b-0 border-gray-200
dark:border-gray-700">
        <span>Product updated: <span class="font-medium">Laptop Pro X</span></span>
        <span class="text-sm text-gray-500">30 mins ago</span>
      </li>
      <li class="flex justify-between items-center py-2 border-b last:border-b-0 border-gray-200
dark:border-gray-700">
        <span>Order #12345 completed</span>
        <span class="text-sm text-gray-500">1 hour ago</span>
```

```html
          </li>
        </ul>
      </div>
    </div>
  </main>
</div>

<script>
    const themeToggle = document.getElementById('themeToggle');
    const body = document.body;

    // Check for saved theme preference or default to light
    const currentTheme = localStorage.getItem('theme') || 'light-theme';
    body.classList.add(currentTheme);

    themeToggle.addEventListener('click', () => {
      if (body.classList.contains('light-theme')) {
        body.classList.remove('light-theme');
        body.classList.add('dark-theme');
        localStorage.setItem('theme', 'dark-theme');
      } else {
        body.classList.remove('dark-theme');
        body.classList.add('light-theme');
        localStorage.setItem('theme', 'light-theme');
      }
    });
  </script>
</body>
</html>
```

# Admin Dashboard

**Toggle Theme**  Welcome, Admin!

Dashboard

Users

Products

Settings

## Overview

### Total Users

**1,234**

Last updated 1 hour ago

### Active Orders

**567**

Currently processing

### Revenue Today

**$8,910**

Up 12% from yesterday