ASSIGNMENT-14.1

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<u>**Task 1:**</u> Create a Responsive Web Page Layout

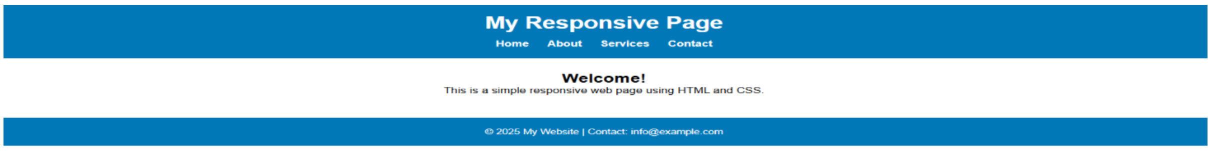
Instructions:

• Design a basic web page layout with a header, main content area, and footer using HTML and CSS.
• Use AI to assist in generating responsive CSS for different screen sizes.
• Ensure the layout is clean and visually organized.

CODE:-

```
        <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Responsive Web Page</title>
<style>
  *{margin:0;padding:0;box-sizing:border-box;}
  body{font-family:Arial,sans-serif;}
  header,footer{background:#0077b6;color:white;text-align:center;padding:15px;}
  nav ul{list-style:none;display:flex;justify-content:center;gap:20px;margin-top:10px;}
  nav a{color:white;text-decoration:none;font-weight:bold;}
  main{text-align:center;padding:20px;}
  main img{width:100%;max-width:500px;border-radius:10px;margin-top:10px;}
  footer{font-size:0.9em;}
  @media(max-width:768px){
    nav ul{flex-direction:column;gap:10px;}
  }
</style>
</head>
<body>

<header>
  <h1>My Responsive Page</h1>
  <nav>
    <ul>
      <li><a href="#">Home</a></li>
      <li><a href="#">About</a></li>
      <li><a href="#">Services</a></li>
      <li><a href="#">Contact</a></li>
    </ul>
  </nav>
</header>

<main>
  <h2>Welcome!</h2>
  <p>This is a simple responsive web page using HTML and CSS.</p>
  <img src="https://via.placeholder.com/500x250" alt="Sample Image">
</main>

<footer>
  <p>&copy; 2025 My Website | Contact: info@example.com</p>
</footer>

</body>
</html>
```

OUTPUT -



My Responsive Page

Home About Services Contact

Welcome!

This is a simple responsive web page using HTML and CSS.

© 2025 My Website | Contact: info@example.com

OBSERVATION :

 The HTML document defines the structure of the web page.

 The <head> section includes the page title, character encoding, and CSS styling.

 The <meta viewport> tag makes the page adjust to mobile and tablet screens.

 The <header> contains the website title and navigation links.

 The navigation menu helps users move between different sections.

 The <main> section holds the main content like headings, text, and an image.

 The <footer> displays copyright and contact information.

 CSS styles are written inside the <style> tag to give color, spacing, and alignment.

 The layout uses the flexbox property to arrange navigation links in a line.

 The background color, text color, and padding make the design clean and readable.

 The image in the main section is centered and adjusts to screen width.

 Media queries in CSS make the layout responsive for tablets and mobiles.

 On small screens, navigation links appear vertically for better readability.

 The overall design ensures that the web page looks good on all screen sizes.

 The page is simple, responsive, and visually organized with basic HTML and CSS.

Task 2: Interactive Button with JavaScript

Instructions:

- The code is clean and well-commented Create a button on a web page.
- Use AI to generate JavaScript code that displays an alert message when the button is clicked.
- Ensure the code is clean and well-commented

CODE :

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Interactive Button</title>
 <style>
  /* Simple styling for the button */
  body {
   font-family: Arial, sans-serif;
   text-align: center;
   margin-top: 100px;
  }
  button {
   background-color: #4CAF50;
   color: white;
   border: none;
   padding: 12px 24px;
   font-size: 16px;
   border-radius: 8px;
   cursor: pointer;
  }
  button:hover {
   background-color: #45a049;
  }
  </style>
</head>
<body>
  <!-- Button Element-->
  <button id="alertButton">Click Me!</button>

  <script>
    // Get the button element by its ID
    const button = document.getElementById("alertButton");

    // Add a click event listener to the button
    button.addEventListener("click", function() {
      // Display an alert message when button is clicked
      alert("Hello! You clicked the button!");
    });
  </script>
</body>
</html>
```

OUTPUT :

Some content has been disabled in this document

EXPLANATION :

□ HTML structure created with <button> element.

□ CSS styles the page and button for a clean look.

□ JavaScript selects the button using its id.

□ An event listener waits for a "click" action.

□ When clicked, an alert message is shown to the user.

□ Code is properly commented and organized for readability。

Task 3: Form with Validation

Instructions:

• Design a contact form with fields: Name, Email, Message.

• Use AI to generate JavaScript code for form validation (e.g., non-empty fields, valid email format).

• Add inline error messages if input is invalid.

CODE :

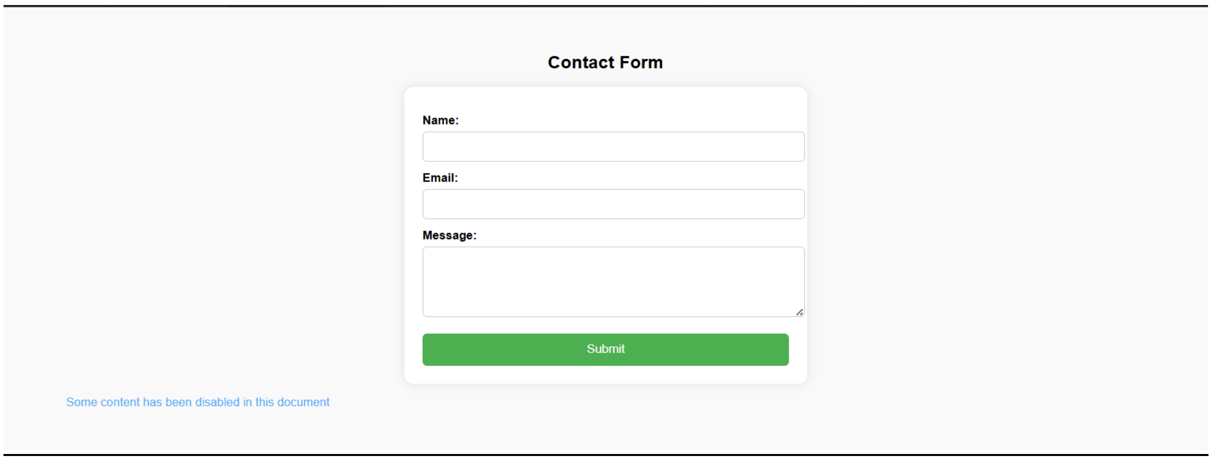
```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Contact Form with Validation</title>

  <style>

    /* Basic page styling */

    body {

      font-family: Arial, sans-serif;

      margin: 50px;

      background-color: #f9f9f9;

    }


    h2 {

      text-align: center;

    }


    form {

      max-width: 400px;

      margin: auto;

      background: #fff;

      padding: 20px;

      border-radius: 10px;

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

```
}

label {
  display: block;
  margin-top: 10px;
  font-weight: bold;
}

input, textarea {
  width: 100%;
  padding: 8px;
  margin-top: 5px;
  border: 1px solid #ccc;
  border-radius: 5px;
}

button {
  margin-top: 15px;
  padding: 10px 15px;
  background-color: #4CAF50;
  color: white;
  border: none;
  border-radius: 5px;
  cursor: pointer;
  width: 100%;
}

button:hover {
  background-color: #45a049;
}

/* Error message styling */
.error {
      color: red;

      font-size: 13px;

    }


    /* Success message */

    .success {

      text-align: center;

      color: green;

      font-weight: bold;

    }

  </style>

</head>

<body>


  <h2>Contact Form</h2>


  <form id="contactForm">

    <label>Name:</label>

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

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


    <label>Email:</label>

    <input type="text" id="email">

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


    <label>Message:</label>

    <textarea id="message" rows="4"></textarea>

    <span class="error" id="messageError"></span>


    <button type="submit">Submit</button>

  </form>


  <p class="success" id="successMsg"></p>
```

```
<script>
  // Get form elements
  const form = document.getElementById("contactForm");
  const name = document.getElementById("name");
  const email = document.getElementById("email");
  const message = document.getElementById("message");

  const nameError = document.getElementById("nameError");
  const emailError = document.getElementById("emailError");
  const messageError = document.getElementById("messageError");
  const successMsg = document.getElementById("successMsg");

  // Function to validate email format using regex
  function isValidEmail(email) {
    return /^[^\s@]+@[^\s@]+\.[^\s@]+$/.test(email);
  }

  // Validate form on submit
  form.addEventListener("submit", function(e) {
    e.preventDefault(); // Prevent page reload

    // Reset error messages
    nameError.textContent = "";
    emailError.textContent = "";
    messageError.textContent = "";
    successMsg.textContent = "";

    let isValid = true;

    // Check name
    if (name.value.trim() === "") {
      nameError.textContent = "Name is required";
```

```
        isValid = false;
      }

      // Check email
      if (email.value.trim() === "") {
        emailError.textContent = "Email is required";
        isValid = false;
      } else if (!isValidEmail(email.value.trim())) {
        emailError.textContent = "Invalid email format";
        isValid = false;
      }

      // Check message
      if (message.value.trim() === "") {
        messageError.textContent = "Message cannot be empty";
        isValid = false;
      }

      // If all valid
      if (isValid) {
        successMsg.textContent = "Form submitted successfully!";
        form.reset(); // Clear form fields
      }
    });
  </script>
</body>
</html>
```

OUTPUT :



EXPLANATION :

 HTML form created with fields: **Name, Email, Message**.

 CSS adds a simple, clean layout and styles for errors and success messages.

 JavaScript validates each field on form submission.

 Email validation uses a regular expression (regex).

 Inline error messages appear below invalid fields.

 If all fields are valid, a success message is displayed, and the form reset.

Task 4: Dynamic Content Generation

Instructions:

• Create a list of items (e.g., product names) using HTML.
• Use AI-generated JavaScript to dynamically add or remove items from the list when a button is clicked.

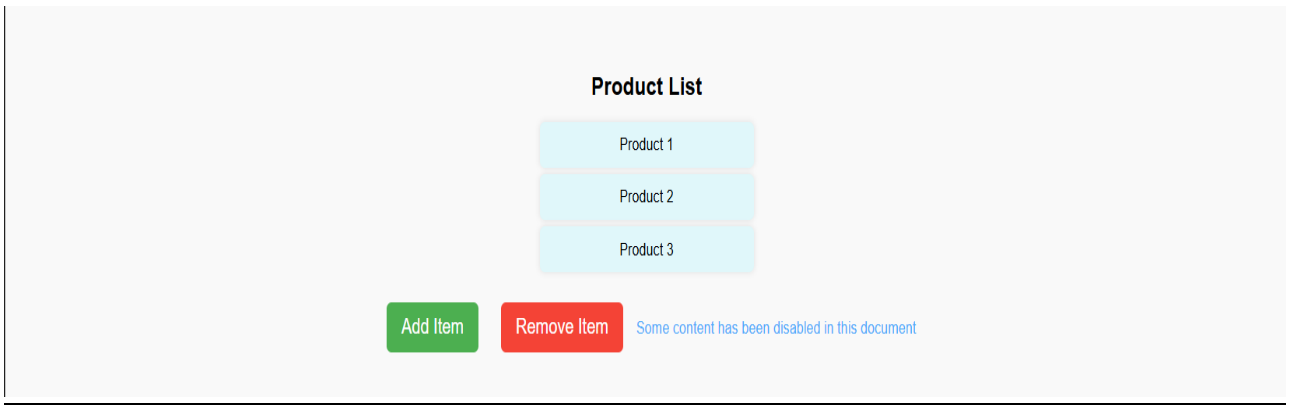
CODE:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Dynamic List Example</title>

  <style>
```

```css
/* Page styling */
body {
  font-family: Arial, sans-serif;
  text-align: center;
  margin-top: 50px;
  background-color: #f9f9f9;
}

ul {
  list-style-type: none;
  padding: 0;
}

li {
  background-color: #e0f7fa;
  margin: 5px auto;
  padding: 10px;
  width: 200px;
  border-radius: 5px;
  box-shadow: 0 0 5px rgba(0,0,0,0.1);
}

button {
  margin: 10px;
  padding: 10px 15px;
  font-size: 16px;
  border: none;
  border-radius: 5px;
  cursor: pointer;
}

#addBtn {
  background-color: #4CAF50;
```

```
      color: white;
    }

    #removeBtn {
      background-color: #f44336;
      color: white;
    }

    button:hover {
      opacity: 0.9;
    }
  </style>
</head>
<body>

  <h2>Product List</h2>

  <!-- List of items -->
  <ul id="itemList">
    <li>Product 1</li>
    <li>Product 2</li>
    <li>Product 3</li>
  </ul>

  <!-- Buttons to add or remove items -->
  <button id="addBtn">Add Item</button>
  <button id="removeBtn">Remove Item</button>

  <script>
    // Get references to HTML elements
    const itemList = document.getElementById("itemList");
    const addBtn = document.getElementById("addBtn");
    const removeBtn = document.getElementById("removeBtn");
    // Counter to keep track of added items

    let itemCount = 3;


    // Function to add a new item dynamically

    addBtn.addEventListener("click", function() {

      itemCount++; // Increase count

      const newItem = document.createElement("li"); // Create new list item

      newItem.textContent = "Product " + itemCount; // Add text to new item

      itemList.appendChild(newItem); // Add to list

    });


    // Function to remove the last item dynamically

    removeBtn.addEventListener("click", function() {

      if (itemList.lastElementChild) { // Check if list has items

        itemList.removeChild(itemList.lastElementChild); // Remove last item

        itemCount--; // Decrease count

      } else {

        alert("No more items to remove!"); // Show alert if list empty

      }

    });

  </script>

</body>

</html>
```

OUTPUT:



EXPLANATION:

 Created an initial list (<ul>) with three product items.

 Added two buttons — **Add Item** and **Remove Item**.

 JavaScript increases the counter and adds a new <li> when **Add Item** is clicked.

 Remove Item deletes the last <li> element if the list is not empty.

 The list updates instantly **without reloading** the page.

 Clean, commented, and beginner-friendly implementation.

Task 5: Styled Modal Popup

Instructions:

• Use AI to generate a modal popup that opens when a button is clicked.
• Style the modal using CSS with a semi-transparent overlay.
• Include a close button that hides the modal.

CODE:

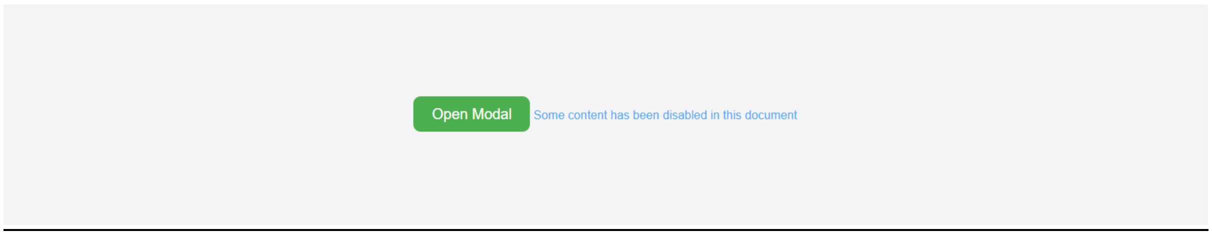
```
<!DOCTYPE html>

<html lang="en">

<head>

 <meta charset="UTF-8">

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

 <title>Styled Modal Popup</title>

 <style>

  /* Basic page setup */

  body {

   font-family: Arial, sans-serif;

   text-align: center;

   background-color: #f4f4f4;

   margin-top: 100px;

  }


  /* Button styling */
```

```
#openModalBtn {
  padding: 10px 20px;
  background-color: #4CAF50;
  color: white;
  border: none;
  border-radius: 8px;
  cursor: pointer;
  font-size: 16px;
}

#openModalBtn:hover {
  background-color: #45a049;
}

/* Modal background overlay (hidden by default) */
.modal {
  display: none; /* Hidden until triggered */
  position: fixed;
  z-index: 1; /* Stay on top */
  left: 0;
  top: 0;
  width: 100%;
  height: 100%;
  overflow: auto;
  background-color: rgba(0, 0, 0, 0.5); /* Semi-transparent overlay */
}

/* Modal content box */
.modal-content {
  background-color: #fff;
  margin: 15% auto;
  padding: 20px;
  border-radius: 10px;
```

```
      width: 80%;
      max-width: 400px;
      box-shadow: 0 5px 15px rgba(0, 0, 0, 0.3);
      position: relative;
      animation: fadeIn 0.3s;
    }

    /* Close button styling */
    .close {
      position: absolute;
      top: 10px;
      right: 15px;
      font-size: 22px;
      font-weight: bold;
      color: #333;
      cursor: pointer;
    }

    .close:hover {
      color: red;
    }

    /* Fade-in animation */
    @keyframes fadeIn {
      from { opacity: 0; transform: scale(0.9); }
      to { opacity: 1; transform: scale(1); }
    }
  </style>
</head>
<body>

  <!-- Button to open the modal-->
  <button id="openModalBtn">Open Modal</button>
  }

<!-- Modal structure -->
<div id="myModal" class="modal">
  <div class="modal-content">
    <span class="close">&times;</span>
    <h2>Welcome!</h2>
    <p>This is a styled modal popup window. Click “X” or outside the box to close it.</p>
  </div>
</div>

<script>
  // Get elements
  const modal = document.getElementById("myModal");
  const openBtn = document.getElementById("openModalBtn");
  const closeBtn = document.querySelector(".close");

  // When the "Open Modal" button is clicked
  openBtn.addEventListener("click", function() {
    modal.style.display = "block";
  });

  // When the "X" button is clicked
  closeBtn.addEventListener("click", function() {
    modal.style.display = "none";
  });

  // Close modal when clicking outside the content area
  window.addEventListener("click", function(event) {
    if (event.target === modal) {
      modal.style.display = "none";
    }
  });
</script>
```

```
</body>

</html>
```

OUTPUT:



Some content has been disabled in this document

EXPLANATION:

 A button labeled **“Open Modal”** is created.

 Modal box and semi-transparent overlay are styled using CSS.

 JavaScript shows the modal when the button is clicked.

 Clicking the **“X”** or outside the modal closes it.

 Smooth fade-in animation makes it visually appealing.

 Page doesn’t reload — all updates happen dynamically.