

ASSIGNMENT-14.1

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Task 1: 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>

  
</main>

<footer>

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

</body>
</html>
```

OUTPUT –



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>Click Me</button>

</body>

</html>
```

```
</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 :

Click Me! 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@]+)$/i.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 :

Contact Form

Name:

Email:

Message:

Submit

Some content has been disabled in this document

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>
```

```
/* 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");
```

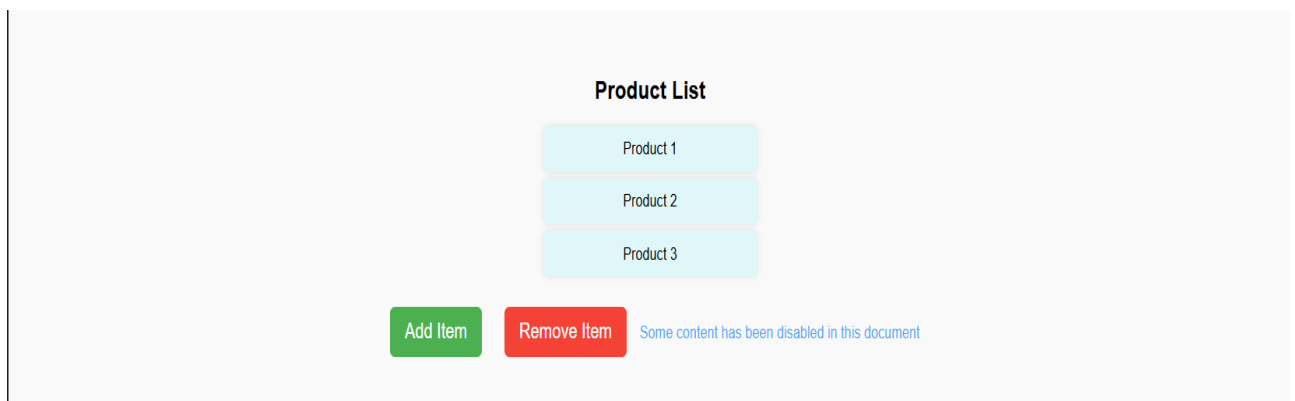
```
// Counter to keep track of added items
let itemCount = 3;

// 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 () with three product items.
- ❑ Added two buttons — **Add Item** and **Remove Item**.
- ❑ JavaScript increases the counter and adds a new when **Add Item** is clicked.
- ❑ **Remove Item** deletes the last 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";
```

```
    }
```

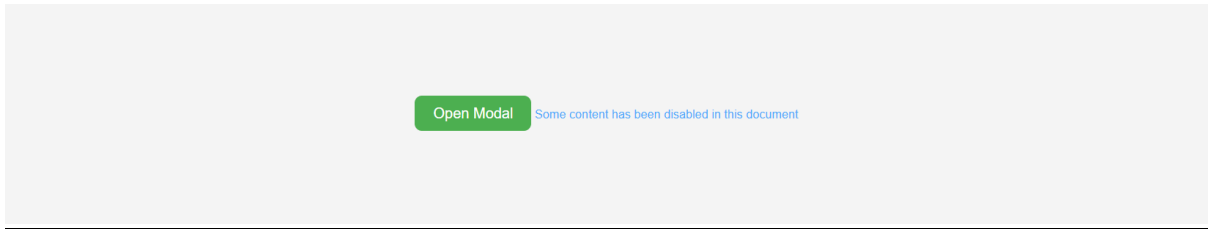
```
  });
```

```
</script>
```

```
</body>
```

```
</html>
```

OUTPUT:



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.