# HTML PROGRAMMING (UCS23G02J)- Lab Manual

This lab manual provides a structured guide for each program listed, covering the aim, procedure, source code, and expected outcomes.

## Laboratory 1: Acquaintance with elements, Tags and basic structure of HTML files

### Title

HTML Basic Structure and Elements

### Aim

To understand the fundamental elements, tags, and the basic structure of an HTML file.

### Procedure

1. Open a text editor (e.g., Notepad, VS Code, Sublime Text).
2. Start by typing the `<!DOCTYPE html>` declaration to define the document type.
3. Create the root `<html>` element.
4. Inside `<html>`, add the `<head>` section for metadata (e.g., `<title>`).
5. After the `<head>`, add the `<body>` section, which will contain all visible content.
6. Within the `<body>`, add a few common HTML elements like a heading (`<h1>`), a paragraph (`<p>`), and a link (`<a>`).
7. Save the file with a `.html` extension (e.g., `lab1.html`).
8. Open the saved HTML file in any web browser to observe the rendered output.

### Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My First HTML Page</title>
</head>
<body>
    <h1>Welcome to HTML Programming!</h1>
    <p>This is a basic paragraph to demonstrate HTML elements.</p>
    <p>Visit <a href="https://www.example.com">Example Website</a> for more
information.</p>
</body>
</html>
```

## Input

N/A (HTML files are static documents; no direct user input is typically required for this basic lab.)

## Expected Output

A web page displayed in the browser with:

- A large heading "Welcome to HTML Programming!"
- A paragraph "This is a basic paragraph to demonstrate HTML elements."
- Another paragraph with the text "Visit Example Website for more information." where "Example Website" is a clickable hyperlink.

# Laboratory 2: Designing of webpage Using basic and advanced text formatting.

## Title

Text Formatting in HTML

## Aim

To learn and apply various basic and advanced text formatting tags in HTML to enhance readability and presentation.

## Procedure

1. Create a new HTML file.
2. Inside the `<body>` section, add different lines of text.
3. Apply various formatting tags to these texts:
   - Basic formatting: `<b>` (bold), `<i>` (italic), `<u>` (underline - though `<em>` and `<strong>` are semantically preferred for emphasis/strong importance).
   - Semantic formatting: `<em>` (emphasis), `<strong>` (strong importance), `<mark>` (highlighted text), `<small>` (smaller text), `<del>` (deleted text), `<ins>` (inserted text).
   - Subscripts and Superscripts: `<sub>` (subscript), `<sup>` (superscript).
4. Save the file (e.g., `lab2.html`).
5. Open the file in a web browser to see the effects of the formatting.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Text Formatting</title>
</head>
<body>
    <h1>HTML Text Formatting Examples</h1>

    <p>This text is <b>bold</b> using the b tag.</p>
    <p>This text is <i>italic</i> using the i tag.</p>
    <p>This text is <u>underlined</u> using the u tag.</p>

    <p>This text is <em>emphasized</em> using the em tag.</p>
    <p>This text is <strong>strongly important</strong> using the strong
tag.</p>
    <p>This is some <mark>highlighted</mark> text.</p>
    <p>This is <small>smaller text</small>.</p>

    <p>The chemical formula for water is H<sub>2</sub>O.</p>
    <p>Mathematical expression: x<sup>2</sup> + y<sup>2</sup> =
z<sup>2</sup>.</p>

    <p>Original price: <del>$20.00</del> New price: <ins>$15.00</ins>.</p>
</body>
</html>
```

N/A

A web page displaying a heading "HTML Text Formatting Examples" followed by various lines of text, each demonstrating a different formatting style (bold, italic, underlined, emphasized, strong, highlighted, smaller, subscript, superscript, deleted, and inserted).

# Laboratory 3: Designing of webpage- working with Hyperlink.

## Title

Working with Hyperlinks in HTML

## Aim

To understand and implement various types of hyperlinks in HTML, including internal, external, and email links.

## Procedure

1. Create a new HTML file.
2. Inside the `<body>` section, create different paragraphs or sections.
3. Implement the following types of hyperlinks:
   - **External Link:** A link to another website (e.g., Google, Wikipedia).
   - **Internal Link (Anchor Link):** A link that navigates to a specific section within the *same* HTML page. This requires defining an `id` attribute for the target element.
   - **Email Link:** A link that opens the user's default email client with a pre-filled recipient.
   - **Image as a Link:** Wrap an `<img>` tag within an `<a>` tag to make an image clickable.
4. Save the file (e.g., `lab3.html`).
5. Open in a browser and test each link.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Working with Hyperlinks</title>
</head>
<body>
    <h1>Hyperlink Examples</h1>

    <h2>External Links</h2>
    <p>Visit <a href="https://www.google.com" target="_blank">Google</a>
(opens in a new tab).</p>
    <p>Learn more at <a href="https://en.wikipedia.org/wiki/HTML">Wikipedia
HTML Page</a>.</p>

    <h2>Internal Links (Anchors)</h2>
    <p><a href="#section1">Go to Section 1</a></p>
    <p><a href="#section2">Go to Section 2</a></p>
    <br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
    <br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>

    <h3 id="section1">Section 1: About Hyperlinks</h3>
    <p>Hyperlinks are fundamental to the web, allowing users to navigate
between documents and resources.</p>
    <p><a href="#">Back to Top</a></p>
    <br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
    <br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>

    <h3 id="section2">Section 2: Types of Links</h3>
```

```
    <p>There are various types of links, including external, internal, and
email links.</p>
    <p><a href="#">Back to Top</a></p>

    <h2>Email Link</h2>
    <p>Contact us: <a
href="mailto:your.email@example.com?subject=Inquiry%20from%20Lab%20Manual&bod
y=Hello,">Send Email</a></p>

    <h2>Image as a Link</h2>
    <p>Click the image to go to Example.com:</p>
    <a href="https://www.example.com">
        <img src="https://placehold.co/150x100/000000/FFFFFF?text=Click+Me"
alt="Placeholder Image" width="150" height="100">
    </a>
</body>
</html>
```

## Input

N/A

## Expected Output

A web page with:

- Clickable text "Google" and "Wikipedia HTML Page" that open external websites.
- Clickable text "Go to Section 1" and "Go to Section 2" that scroll the page to the respective sections.
- Clickable text "Send Email" that attempts to open the default email client.
- A clickable placeholder image that navigates to "example.com".

# Laboratory 4: Designing of webpage-Working with List.

## Title

Working with Lists in HTML

## Aim

To demonstrate the creation and styling of ordered, unordered, and definition lists in HTML.

## Procedure

1. Create a new HTML file.
2. Inside the `<body>` section, create examples of:
   - **Unordered List (`<ul>`):** A list of items, typically marked with bullet points.
   - **Ordered List (`<ol>`):** A list of items, typically marked with numbers or letters. Experiment with `type` and `start` attributes.
   - **Definition List (`<dl>`):** A list of terms and their definitions, using `<dt>` for the term and `<dd>` for the definition.
   - **Nested Lists:** Create a list within another list.
3. Save the file (e.g., `lab4.html`).
4. Open in a browser to observe the different list types and their default styling.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML Lists</title>
</head>
<body>
    <h1>HTML List Examples</h1>

    <h2>Unordered List (ul)</h2>
    <ul>
        <li>Item One</li>
        <li>Item Two</li>
        <li>Item Three</li>
    </ul>

    <h2>Ordered List (ol)</h2>
    <p>Default numbered list:</p>
    <ol>
        <li>First Item</li>
        <li>Second Item</li>
        <li>Third Item</li>
    </ol>

    <p>Ordered list starting from 5 with Roman numerals:</p>
    <ol type="I" start="5">
        <li>Fifth Item</li>
        <li>Sixth Item</li>
        <li>Seventh Item</li>
    </ol>

    <h2>Definition List (dl)</h2>
    <dl>
        <dt>HTML</dt>
```

```
        <dd>HyperText Markup Language - The standard markup language for
creating web pages.</dd>
        <dt>CSS</dt>
        <dd>Cascading Style Sheets - A style sheet language used for
describing the presentation of a document written in HTML.</dd>
    </dl>

    <h2>Nested Lists</h2>
    <ul>
        <li>Fruits
            <ul>
                <li>Apple</li>
                <li>Banana</li>
                <li>Orange</li>
            </ul>
        </li>
        <li>Vegetables
            <ol>
                <li>Carrot</li>
                <li>Broccoli</li>
                <li>Spinach</li>
            </ol>
        </li>
    </ul>
</body>
</html>
```

## Input

N/A

## Expected Output

A web page displaying:

- An unordered list with three bulleted items.
- Two ordered lists: one with default numbering, and another starting from 5 with Roman numerals.
- A definition list with terms "HTML" and "CSS" and their respective definitions.
- A nested list structure showing fruits (unordered) and vegetables (ordered) under main categories.

# Laboratory 5: Designing of webpage-Working with Tables.

## Title

Working with Tables in HTML

## Aim

To create and structure tables in HTML for presenting tabular data, including headers, rows, and cells.

## Procedure

1. Create a new HTML file.
2. Inside the `<body>` section, create a basic HTML table using the `<table>` tag.
3. Add a table header section using `<thead>` and define column headers using `<th>` within a `<tr>`.
4. Add a table body section using `<tbody>` and populate it with rows (`<tr>`) and data cells (`<td>`).
5. Optionally, add a table footer section using `<tfoot>`.
6. Experiment with attributes like `colspan` and `rowspan` to merge cells.
7. Save the file (e.g., `lab5.html`).
8. Open in a browser to see the rendered table.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML Tables</title>
    <style>
        table {
            width: 80%;
            border-collapse: collapse;
            margin: 20px 0;
        }
        th, td {
            border: 1px solid #ddd;
            padding: 8px;
            text-align: left;
        }
        th {
            background-color: #f2f2f2;
        }
        tfoot {
            font-style: italic;
            color: #555;
        }
    </style>
</head>
<body>
    <h1>HTML Table Examples</h1>

    <h2>Simple Student Data Table</h2>
    <table>
        <thead>
            <tr>
```

```html
                    <th>Roll No.</th>
                    <th>Name</th>
                    <th>Branch</th>
                    <th>CGPA</th>
                </tr>
            </thead>
            <tbody>
                <tr>
                    <td>101</td>
                    <td>Alice Smith</td>
                    <td>Computer Science</td>
                    <td>9.2</td>
                </tr>
                <tr>
                    <td>102</td>
                    <td>Bob Johnson</td>
                    <td>Electronics</td>
                    <td>8.5</td>
                </tr>
                <tr>
                    <td>103</td>
                    <td>Charlie Brown</td>
                    <td>Mechanical</td>
                    <td>7.9</td>
                </tr>
            </tbody>
            <tfoot>
                <tr>
                    <td colspan="4">End of Student List</td>
                </tr>
            </tfoot>
        </table>

        <h2>Table with Merged Cells</h2>
        <table>
            <thead>
                <tr>
                    <th>Category</th>
                    <th>Item</th>
                    <th>Quantity</th>
                </tr>
            </thead>
            <tbody>
                <tr>
                    <td rowspan="2">Electronics</td>
                    <td>Laptop</td>
                    <td>1</td>
                </tr>
                <tr>
                    <td>Mouse</td>
                    <td>2</td>
                </tr>
                <tr>
                    <td colspan="2">Total Items</td>
                    <td>3</td>
                </tr>
            </tbody>
        </table>
</body>
</html>
```

Input

N/A

A web page displaying two tables:

- The first table shows student data with columns for Roll No., Name, Branch, and CGPA, and a footer row spanning all columns.
- The second table demonstrates `rowspan` and `colspan` by merging cells for categories and total items. Both tables should have borders and basic styling applied via internal CSS.

# Laboratory 6: Designing of webpage- working with Forms and Controls

## Title

Working with HTML Forms and Controls

## Aim

To create interactive HTML forms using various input controls and understand how to collect user data.

## Procedure

1. Create a new HTML file.
2. Inside the `<body>` section, create a `<form>` element.
3. Add various input controls within the form:
   - Text input (`<input type="text">`)
   - Password input (`<input type="password">`)
   - Email input (`<input type="email">`)
   - Number input (`<input type="number">`)
   - Radio buttons (`<input type="radio">`) for single selection.
   - Checkboxes (`<input type="checkbox">`) for multiple selections.
   - Dropdown (select box) (`<select>` with `<option>`).
   - Text area (`<textarea>`) for multi-line text input.
   - Submit button (`<input type="submit">` or `<button type="submit">`).
   - Reset button (`<input type="reset">` or `<button type="reset">`).
   - File input (`<input type="file">`).
4. Use `<label>` tags to associate labels with input fields for accessibility.
5. Save the file (e.g., `lab6.html`).
6. Open in a browser and interact with the form elements. Note that without server-side processing, the form submission will typically result in a "Page not found" error or refresh the page.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML Forms</title>
    <style>
        body {
            font-family: 'Inter', sans-serif;
            margin: 20px;
            background-color: #f4f4f4;
            display: flex;
            justify-content: center;
            align-items: flex-start;
            min-height: 100vh;
        }
        .form-container {
            background-color: #fff;
            padding: 30px;
            border-radius: 10px;
            box-shadow: 0 4px 12px rgba(0, 0, 0, 0.1);
            width: 100%;
```

```css
        max-width: 500px;
}
h1 {
    text-align: center;
    color: #333;
    margin-bottom: 25px;
}
.form-group {
    margin-bottom: 18px;
}
label {
    display: block;
    margin-bottom: 8px;
    font-weight: bold;
    color: #555;
}
input[type="text"],
input[type="password"],
input[type="email"],
input[type="number"],
select,
textarea {
    width: calc(100% - 20px);
    padding: 10px;
    border: 1px solid #ccc;
    border-radius: 5px;
    font-size: 16px;
    box-sizing: border-box; /* Include padding in width */
}
textarea {
    resize: vertical;
    min-height: 80px;
}
.radio-group, .checkbox-group {
    margin-top: 10px;
    margin-bottom: 10px;
}
.radio-group label, .checkbox-group label {
    display: inline-block;
    margin-right: 15px;
    font-weight: normal;
}
input[type="radio"],
input[type="checkbox"] {
    margin-right: 5px;
}
.button-group {
    text-align: center;
    margin-top: 30px;
}
button, input[type="submit"], input[type="reset"] {
    background-color: #4CAF50;
    color: white;
    padding: 12px 25px;
    border: none;
    border-radius: 5px;
    cursor: pointer;
    font-size: 17px;
    margin: 0 10px;
    transition: background-color 0.3s ease;
}
button:hover, input[type="submit"]:hover, input[type="reset"]:hover {
    background-color: #45a049;
}
input[type="reset"] {
    background-color: #f44336;
```

```
            }
        input[type="reset"]:hover {
            background-color: #da190b;
        }
    </style>
</head>
<body>
    <div class="form-container">
        <h1>User Registration Form</h1>
        <form action="#" method="post">
            <div class="form-group">
                <label for="fullName">Full Name:</label>
                <input type="text" id="fullName" name="fullName"
placeholder="Enter your full name" required>
            </div>

            <div class="form-group">
                <label for="email">Email:</label>
                <input type="email" id="email" name="email"
placeholder="Enter your email" required>
            </div>

            <div class="form-group">
                <label for="password">Password:</label>
                <input type="password" id="password" name="password"
placeholder="Enter your password" required>
            </div>

            <div class="form-group">
                <label for="age">Age:</label>
                <input type="number" id="age" name="age" min="18" max="99"
placeholder="Your age">
            </div>

            <div class="form-group radio-group">
                <label>Gender:</label>
                <input type="radio" id="male" name="gender" value="male"
checked>
                <label for="male">Male</label>
                <input type="radio" id="female" name="gender" value="female">
                <label for="female">Female</label>
                <input type="radio" id="other" name="gender" value="other">
                <label for="other">Other</label>
            </div>

            <div class="form-group checkbox-group">
                <label>Interests:</label>
                <input type="checkbox" id="coding" name="interests"
value="coding">
                <label for="coding">Coding</label>
                <input type="checkbox" id="reading" name="interests"
value="reading">
                <label for="reading">Reading</label>
                <input type="checkbox" id="sports" name="interests"
value="sports">
                <label for="sports">Sports</label>
            </div>

            <div class="form-group">
                <label for="country">Country:</label>
                <select id="country" name="country">
                    <option value="">--Select your country--</option>
                    <option value="usa">United States</option>
                    <option value="canada">Canada</option>
                    <option value="uk">United Kingdom</option>
                    <option value="india">India</option>
```

```
                <option value="australia">Australia</option>
            </select>
        </div>

        <div class="form-group">
            <label for="comments">Comments:</label>
            <textarea id="comments" name="comments" rows="4"
placeholder="Any additional comments..."></textarea>
        </div>

        <div class="form-group">
            <label for="profilePicture">Upload Profile Picture:</label>
            <input type="file" id="profilePicture" name="profilePicture"
accept="image/*">
        </div>

        <div class="button-group">
            <input type="submit" value="Register">
            <input type="reset" value="Clear Form">
        </div>
    </form>
  </div>
</body>
</html>
```

## Input

User interaction with the form fields (typing text, selecting radio buttons/checkboxes, choosing from dropdowns, uploading a file).

## Expected Output

A visually appealing web form with various input fields, labels, and buttons. Users can fill in data, make selections, and click "Register" or "Clear Form". Upon submission, the page will typically refresh or attempt to navigate to the `action` URL (which is `#` in this example, meaning it will stay on the same page).

# Laboratory 7: Designing of webpage- working with Frames

## Title

Working with HTML Frames (Framesets)

## Aim

To understand and implement HTML framesets to divide a web page into multiple independent frames, each displaying a different HTML document.

## Procedure

1. **Create three separate HTML files:**
   - `frame_top.html`: Contains content for the top frame (e.g., a header or navigation).
   - `frame_left.html`: Contains content for the left frame (e.g., a navigation menu).
   - `frame_main.html`: Contains content for the main display area.
2. **Create a main HTML file (e.g., `lab7.html`) that uses the `<frameset>` tag.**
   - Use `rows` and `cols` attributes in `<frameset>` to define the layout (e.g., a top row and then columns for left and main).
   - Inside the `<frameset>`, use `<frame>` tags to specify the `src` (source HTML file) and `name` for each frame.
   - Include a `<noframes>` section for browsers that do not support frames.
3. Save all four HTML files in the same directory.
4. Open the main `lab7.html` file in a web browser.

## Source Code

**frame_top.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Top Frame</title>
    <style>
        body { font-family: 'Inter', sans-serif; background-color: #e0f2f7;
margin: 0; padding: 15px; text-align: center; color: #00796b; }
        h1 { margin: 0; font-size: 1.8em; }
    </style>
</head>
<body>
    <h1>College Website Header</h1>
</body>
</html>
```

**frame_left.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Left Frame</title>
```

```
    <style>
        body { font-family: 'Inter', sans-serif; background-color: #f0f4c3;
margin: 0; padding: 15px; color: #558b2f; }
        ul { list-style-type: none; padding: 0; }
        li a { display: block; padding: 10px; margin-bottom: 5px; background-
color: #c5e1a5; text-decoration: none; color: #33691e; border-radius: 5px;
transition: background-color 0.3s ease; }
        li a:hover { background-color: #aed581; }
    </style>
</head>
<body>
    <h2>Navigation</h2>
    <ul>
        <li><a href="frame_main_home.html" target="mainFrame">Home</a></li>
        <li><a href="frame_main_about.html" target="mainFrame">About
Us</a></li>
        <li><a href="frame_main_contact.html"
target="mainFrame">Contact</a></li>
    </ul>
</body>
</html>
```

**frame_main_home.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Main Home</title>
    <style>
        body { font-family: 'Inter', sans-serif; background-color: #fff;
margin: 0; padding: 20px; color: #333; }
        h2 { color: #0288d1; }
    </style>
</head>
<body>
    <h2>Welcome to Our College!</h2>
    <p>This is the main content area. Explore our website using the
navigation on the left.</p>
    <p>We offer a wide range of courses and facilities for our students.</p>
</body>
</html>
```

**frame_main_about.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Main About</title>
    <style>
        body { font-family: 'Inter', sans-serif; background-color: #fff;
margin: 0; padding: 20px; color: #333; }
        h2 { color: #0288d1; }
    </style>
</head>
<body>
    <h2>About Us</h2>
    <p>Our college has a rich history of academic excellence and
innovation.</p>
```

```
        <p>We are committed to providing quality education and fostering a
vibrant learning environment.</p>
</body>
</html>
```

**frame_main_contact.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Main Contact</title>
    <style>
        body { font-family: 'Inter', sans-serif; background-color: #fff;
margin: 0; padding: 20px; color: #333; }
        h2 { color: #0288d1; }
    </style>
</head>
<body>
    <h2>Contact Us</h2>
    <p>Email: info@college.edu</p>
    <p>Phone: +123 456 7890</p>
    <p>Address: 123 College Road, University City</p>
</body>
</html>
```

**lab7.html (Main Frameset File)**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Website - Frameset</title>
</head>
<frameset rows="100,*" border="0">
    <frame src="frame_top.html" name="topFrame" scrolling="no" noresize>
    <frameset cols="20%,*">
        <frame src="frame_left.html" name="leftFrame" scrolling="auto">
        <frame src="frame_main_home.html" name="mainFrame" scrolling="auto">
    </frameset>
    <noframes>
        <body>
            <p>Your browser does not support frames. Please update your
browser or use a modern browser.</p>
            <p>Alternatively, you can access the content directly:</p>
            <ul>
                <li><a href="frame_top.html">Header</a></li>
                <li><a href="frame_left.html">Navigation</a></li>
                <li><a href="frame_main_home.html">Home Page</a></li>
            </ul>
        </body>
    </noframes>
</frameset>
</html>
```

## Input

User clicks on navigation links in the left frame.

A web page divided into three distinct areas:

- A top frame displaying the "College Website Header".
- A left frame containing navigation links ("Home", "About Us", "Contact").
- A main frame that initially displays "Welcome to Our College!" Clicking on links in the left frame will change the content of the main frame without reloading the entire page.

# Laboratory 8: Designing with cascading style sheet-Internal style sheet

## Title

Internal CSS Styling

## Aim

To apply styles to an HTML document using an internal (embedded) style sheet, demonstrating basic CSS properties.

## Procedure

1. Create a new HTML file.
2. Inside the `<head>` section of the HTML document, add a `<style>` tag.
3. Within the `<style>` tag, write CSS rules to style various HTML elements.
   - Target elements directly (e.g., `body`, `h1`, `p`).
   - Apply properties like `color`, `background-color`, `font-family`, `font-size`, `text-align`, `margin`, `padding`, `border`, `border-radius`.
4. Add HTML content in the `<body>` section that will be affected by the CSS rules.
5. Save the file (e.g., `lab8.html`).
6. Open in a browser to observe the styled web page.

## Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Internal CSS</title>
    <style>
        /* General body styling */
        body {
            font-family: 'Inter', sans-serif;
            background-color: #f0f8ff; /* Light blue background */
            color: #333;
            margin: 0;
            padding: 20px;
            line-height: 1.6;
        }

        /* Header styling */
        h1 {
            color: #2c3e50; /* Dark blue-grey */
            text-align: center;
            margin-bottom: 30px;
            padding-bottom: 10px;
            border-bottom: 2px solid #aed6f1; /* Light blue border */
        }

        /* Paragraph styling */
        p {
            background-color: #eaf2f8; /* Very light blue */
            padding: 15px;
            margin-bottom: 15px;
            border-left: 5px solid #3498db; /* Blue left border */
            border-radius: 8px;
            box-shadow: 0 2px 4px rgba(0, 0, 0, 0.05);
        }
```

```
        /* List styling */
        ul {
            list-style-type: square; /* Square bullets */
            background-color: #f9f9f9;
            padding: 20px 30px;
            border: 1px solid #dcdcdc;
            border-radius: 8px;
        }

        li {
            margin-bottom: 8px;
            color: #555;
        }

        /* Button styling */
        .button {
            display: inline-block;
            background-color: #28a745; /* Green */
            color: white;
            padding: 12px 25px;
            border: none;
            border-radius: 5px;
            cursor: pointer;
            font-size: 1em;
            text-decoration: none;
            transition: background-color 0.3s ease, transform 0.2s ease;
            margin-top: 20px;
        }

        .button:hover {
            background-color: #218838; /* Darker green on hover */
            transform: translateY(-2px);
        }
    </style>
</head>
<body>
    <h1>Internal CSS Example Page</h1>

    <p>This paragraph is styled using an internal CSS stylesheet. Its
background color, padding, and border are defined directly within the HTML
document's head section.</p>

    <p>Internal CSS is useful for applying unique styles to a single HTML
page. For styles that apply to multiple pages, external stylesheets are
generally preferred.</p>

    <h2>Features of Internal CSS</h2>
    <ul>
        <li>Styles are defined within the `<style>` tags in the `<head>`
section.</li>
        <li>Affects only the current HTML document.</li>
        <li>Useful for single-page styling or for quick demonstrations.</li>
    </ul>

    <a href="#" class="button">Click Me!</a>
</body>
</html>
```

## Input

N/A

A web page with custom styling:

- A light blue background for the entire page.
- A dark blue-grey, centered heading with a bottom border.
- Paragraphs with a very light blue background, blue left border, padding, rounded corners, and a subtle shadow.
- An unordered list with square bullets, a light grey background, and a border.
- A green, rounded button with hover effects.

# Laboratory 9: Designing with cascading style sheet-External style sheet

## Title

External CSS Styling

## Aim

To apply styles to an HTML document using an external style sheet, promoting reusability and maintainability of styles across multiple web pages.

## Procedure

1. **Create a new CSS file** (e.g., `styles.css`) in the same directory as your HTML file.
2. In `styles.css`, write your CSS rules (e.g., `body { ... }`, `h1 { ... }`, `p { ... }`).
3. **Create a new HTML file** (e.g., `lab9.html`).
4. In the `<head>` section of `lab9.html`, link to the external CSS file using the `<link>` tag:
5. `<link rel="stylesheet" href="styles.css">`

6. Add HTML content in the `<body>` section.
7. Save both `styles.css` and `lab9.html` files.
8. Open `lab9.html` in a web browser to see the styles applied.

## Source Code

**styles.css**

```css
/* General body styling */
body {
    font-family: 'Inter', sans-serif;
    background-color: #f7f9fd; /* Very light blue-grey background */
    color: #333;
    margin: 0;
    padding: 25px;
    line-height: 1.7;
}

/* Header styling */
h1 {
    color: #1a2a40; /* Darker blue-grey */
    text-align: center;
    margin-bottom: 35px;
    padding-bottom: 12px;
    border-bottom: 3px solid #c0d9ed; /* Light blue border */
    font-size: 2.5em;
    letter-spacing: 1px;
}

h2 {
    color: #2a527a; /* Medium blue */
    margin-top: 30px;
    margin-bottom: 15px;
    border-left: 5px solid #6cb6e3;
    padding-left: 10px;
}

/* Paragraph styling */
p {
```

```
    background-color: #eef4f9; /* Even lighter blue */
    padding: 18px;
    margin-bottom: 20px;
    border-radius: 10px;
    box-shadow: 0 3px 8px rgba(0, 0, 0, 0.08);
    line-height: 1.8;
}

/* List styling */
ul {
    list-style-type: disc; /* Default disc bullets */
    background-color: #ffffff;
    padding: 25px 40px;
    border: 1px solid #e0e0e0;
    border-radius: 10px;
    margin-bottom: 25px;
}

li {
    margin-bottom: 10px;
    color: #444;
}

/* Link styling */
a {
    color: #007bff; /* Blue link */
    text-decoration: none;
    transition: color 0.3s ease;
}

a:hover {
    color: #0056b3; /* Darker blue on hover */
    text-decoration: underline;
}

/* Container for better layout */
.container {
    max-width: 960px;
    margin: 0 auto;
    padding: 20px;
    background-color: #fff;
    border-radius: 12px;
    box-shadow: 0 6px 20px rgba(0, 0, 0, 0.1);
}
```

**lab9.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>External CSS Example</title>
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <div class="container">
        <h1>External CSS Styling</h1>

        <p>This entire page is styled using an external CSS file named
`styles.css`. This approach separates the content (HTML) from the
presentation (CSS), making the website easier to maintain and update.</p>

        <p>By linking an external stylesheet, the same styles can be applied
to multiple HTML documents simply by including the `<link>` tag in each
```

```
page's head section. This promotes consistency and reduces code
duplication.</p>

        <h2>Benefits of External CSS</h2>
        <ul>
            <li>**Reusability:** Apply the same styles to many pages.</li>
            <li>**Maintainability:** Change styles in one place to affect the
entire website.</li>
            <li>**Faster Page Loads:** Browser can cache the external CSS
file, reducing load times for subsequent pages.</li>
            <li>**Cleaner HTML:** Keeps HTML documents focused on content
structure.</li>
        </ul>

        <p>For more information on CSS, visit <a
href="https://developer.mozilla.org/en-US/docs/Web/CSS">MDN Web Docs -
CSS</a>.</p>
    </div>
</body>
</html>
```

## Input

N/A

## Expected Output

A web page with a clean, modern design applied from the `styles.css` file:

- A light blue-grey background for the body.
- A dark, prominent heading with a bottom border.
- Paragraphs with a light background, padding, rounded corners, and a shadow.
- An unordered list with standard disc bullets, a white background, and a subtle border.
- Blue hyperlinks that underline on hover.
- The entire content should be contained within a centered, white container with rounded corners and a shadow, providing a clear visual separation from the background.

# Laboratory 10: Acquaintance with creating style sheet, CSS properties and styling.

## Title

CSS Properties and Styling Fundamentals

## Aim

To explore a wider range of CSS properties for styling text, backgrounds, boxes, and basic layouts, solidifying the understanding of how CSS controls presentation.

## Procedure

1. Create a new HTML file (`lab10.html`) and an external CSS file (`lab10_styles.css`).
2. Link `lab10_styles.css` to `lab10.html`.
3. In `lab10_styles.css`, define styles for:
   - **Text:** `font-family`, `font-size`, `font-weight`, `text-align`, `text-decoration`, `line-height`, `letter-spacing`, `word-spacing`.
   - **Colors & Backgrounds:** `color`, `background-color`, `background-image`, `background-repeat`, `background-position`.
   - **Box Model (basic):** `width`, `height`, `margin`, `padding`, `border` (with `border-width`, `border-style`, `border-color`).
   - **Basic Layout:** `display` (e.g., `block`, `inline`, `inline-block`).
   - **Lists:** `list-style-type`, `list-style-image`.
4. Add HTML content to `lab10.html` that demonstrates these properties (e.g., multiple paragraphs, headings, a list, a div).
5. Save both files and open `lab10.html` in a browser.

## Source Code

**lab10_styles.css**

```css
/* General body styling */
body {
    font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
    background-color: #e8f5e9; /* Light green background */
    color: #212121; /* Dark grey text */
    margin: 0;
    padding: 30px;
    line-height: 1.8;
    background-image:
url('https://placehold.co/100x100/A5D6A7/FFFFFF?text=BG'); /* Placeholder
background image */
    background-repeat: no-repeat;
    background-position: top right;
    background-size: 80px;
}

/* Main container for content */
.container {
    max-width: 900px;
    margin: 0 auto;
    background-color: #ffffff;
    padding: 30px;
    border-radius: 15px;
```

```css
    box-shadow: 0 8px 25px rgba(0, 0, 0, 0.15);
}

/* Header styling */
h1 {
    color: #388e3c; /* Green */
    text-align: center;
    font-size: 2.8em;
    margin-bottom: 25px;
    border-bottom: 3px dashed #a5d6a7;
    padding-bottom: 10px;
    letter-spacing: 1.5px;
}

h2 {
    color: #43a047; /* Slightly lighter green */
    font-size: 1.8em;
    margin-top: 35px;
    margin-bottom: 15px;
}

/* Paragraph styling */
p {
    font-size: 1.1em;
    margin-bottom: 15px;
    text-align: justify;
}

/* Specific text formatting examples */
.highlight {
    background-color: #ffeb3b; /* Yellow highlight */
    font-weight: bold;
    padding: 2px 5px;
    border-radius: 3px;
}

.italic-text {
    font-style: italic;
    color: #607d8b; /* Blue-grey */
}

/* Box model example */
.box {
    width: 250px;
    height: 100px;
    background-color: #bbdefb; /* Light blue */
    border: 5px solid #2196f3; /* Blue border */
    padding: 20px;
    margin: 30px auto; /* Center the box horizontally */
    border-radius: 10px;
    text-align: center;
    line-height: 100px; /* Vertically center text */
    font-size: 1.2em;
    font-weight: bold;
    color: #1976d2; /* Darker blue */
}

/* List styling */
ul {
    list-style-type: none; /* Remove default bullets */
    padding: 0;
    margin: 20px 0;
}

li {
    background-color: #e1f5fe; /* Very light blue */
```

```css
    margin-bottom: 8px;
    padding: 10px 15px;
    border-left: 4px solid #03a9f4; /* Light blue left border */
    border-radius: 5px;
    font-size: 1em;
    color: #333;
}

/* Display property example */
.inline-elements span {
    display: inline-block; /* Allows setting width/height and margin/padding
*/
    background-color: #ffe0b2; /* Orange light */
    border: 1px solid #ff9800;
    padding: 8px 12px;
    margin: 5px;
    border-radius: 5px;
}
```

**lab10.html**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>CSS Properties and Styling</title>
    <link rel="stylesheet" href="lab10_styles.css">
</head>
<body>
    <div class="container">
        <h1>Exploring CSS Properties</h1>

        <p>This page demonstrates a variety of CSS properties that control
the visual presentation of HTML elements. Understanding these properties is
crucial for effective web design.</p>

        <h2>Text Styling</h2>
        <p>This paragraph uses a specific <span class="highlight">font-
family, font-size, and line-height</span>. The text is also <span
class="italic-text">justified and has custom letter spacing</span>.</p>

        <h2>Box Model in Action</h2>
        <div class="box">
            This is a Box!
        </div>
        <p>The box above illustrates the CSS Box Model, which consists of
content, padding, border, and margin. Each property can be individually
controlled to define the element's size and spacing.</p>

        <h2>Background and Color Properties</h2>
        <p>The entire page has a light green background color, and a small
background image is placed at the top right. This text itself has a dark grey
color.</p>

        <h2>List Styling</h2>
        <ul>
            <li>Custom list item background color.</li>
            <li>Left border for visual emphasis.</li>
            <li>No default bullet points, but custom styling.</li>
            <li>Each item has specific padding and margin.</li>
        </ul>

        <h2>Display Property Example</h2>
        <div class="inline-elements">
```

```
            <span>Span 1</span>
            <span>Span 2</span>
            <span>Span 3</span>
            <p>This paragraph is a block element.</p>
            <span>Span 4</span>
        </div>
        <p>The `display` property controls how an element is rendered.
`inline-block` allows elements to sit side-by-side while still respecting
width, height, margin, and padding.</p>
    </div>
</body>
</html>
```

## Input

N/A

## Expected Output

A web page with diverse styling demonstrating various CSS properties:

- A light green background with a small placeholder image at the top right.
- A prominent green heading with a dashed bottom border.
- Paragraphs with justified text, and specific sections highlighted or italicized.
- A distinct blue box with a border, padding, and centered text, demonstrating the box model.
- A list with custom light blue backgrounds, left borders, and no default bullets.
- Multiple `<span>` elements displayed as `inline-block` with distinct backgrounds and borders, showing how they behave differently from default inline elements.

# Laboratory 11: Program to use ID Attribute in CSS document

## Title

Using the ID Attribute in CSS

## Aim

To understand and implement the use of the `id` attribute in HTML to apply unique styles to a specific element using CSS.

## Procedure

1. Create a new HTML file (`lab11.html`) and an external CSS file (`lab11_styles.css`).
2. Link `lab11_styles.css` to `lab11.html`.
3. In `lab11.html`, assign a unique `id` attribute to an HTML element (e.g., a `<div>` or a `<h1>`).
4. In `lab11_styles.css`, write a CSS rule that targets this specific ID using the `#` selector (e.g., `#myUniqueElement { ... }`).
5. Apply distinct styles to this ID-selected element.
6. Add other elements with general class-based or tag-based styles to show the difference.
7. Save both files and open `lab11.html` in a browser.

## Source Code

**lab11_styles.css**

```css
/* General body styling */
body {
    font-family: 'Arial', sans-serif;
    background-color: #f4f7f6;
    color: #333;
    margin: 0;
    padding: 25px;
    line-height: 1.6;
}

/* General heading style */
h1 {
    color: #2c3e50;
    text-align: center;
    margin-bottom: 30px;
}

/* General paragraph style */
p {
    background-color: #e8f6f3;
    padding: 15px;
    margin-bottom: 15px;
    border-radius: 8px;
    border: 1px solid #d1e7e0;
}

/* Style for the element with ID 'unique-section' */
#unique-section {
    background-color: #ffecb3; /* Light orange background */
    color: #6d4c41; /* Dark brown text */
    border: 3px dashed #ff9800; /* Orange dashed border */
```

```css
    padding: 25px;
    margin: 40px auto; /* Center the section */
    max-width: 700px;
    text-align: center;
    font-size: 1.2em;
    font-weight: bold;
    border-radius: 12px;
    box-shadow: 0 5px 15px rgba(255, 152, 0, 0.2); /* Orange shadow */
}

/* Style for elements with class 'info-box' */
.info-box {
    background-color: #e3f2fd; /* Light blue background */
    border: 2px solid #2196f3; /* Blue border */
    padding: 20px;
    margin: 20px auto;
    max-width: 700px;
    border-radius: 10px;
    box-shadow: 0 3px 10px rgba(33, 150, 243, 0.1); /* Blue shadow */
}
```

**lab11.html**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>CSS ID Selector</title>
    <link rel="stylesheet" href="lab11_styles.css">
</head>
<body>
    <h1>Understanding CSS ID Selector</h1>

    <p>The `id` attribute in HTML provides a unique identifier for an element
within a document. This uniqueness allows CSS to target and style that
specific element without affecting others.</p>

    <div class="info-box">
        <h2>General Information Box</h2>
        <p>This is a general information box styled using a CSS class.
Multiple elements can share the same class and adopt its styles.</p>
    </div>

    <div id="unique-section">
        <h2>This is the Unique Section!</h2>
        <p>This div element has a unique `id` attribute, allowing it to have
distinct styles that are not applied to any other element on the page. IDs
are typically used for single, prominent elements.</p>
    </div>

    <div class="info-box">
        <h2>Another General Information Box</h2>
        <p>As you can see, this box shares the same styling as the first
information box because they both have the same class.</p>
    </div>
</body>
</html>
```

## Input

N/A

A web page displaying:

- A general heading and paragraphs with default styling.
- Two "General Information Box" divs, both with light blue backgrounds, blue borders, and shadows (styled by a class).
- One "Unique Section" div, centrally placed, with a light orange background, a distinct orange dashed border, bold text, and an orange shadow, demonstrating that its styles are applied only to the element with that specific ID.

# Laboratory 12: Program to illustrate the Box Model by implementing the various properties.

## Title

Illustrating the CSS Box Model

## Aim

To comprehensively illustrate the CSS Box Model by implementing and observing the effects of `content`, `padding`, `border`, and `margin` properties on HTML elements.

## Procedure

1. Create a new HTML file (`lab12.html`) and an external CSS file (`lab12_styles.css`).
2. Link `lab12_styles.css` to `lab12.html`.
3. In `lab12.html`, create several `<div>` elements, each representing a component of the box model or demonstrating its properties.
4. In `lab12_styles.css`, apply distinct styles to these `div` elements, focusing on:
   - Explicit `width` and `height` for content area.
   - Different `padding` values (all sides, individual sides).
   - Various `border` styles, widths, and colors.
   - Different `margin` values (all sides, individual sides, auto for centering).
   - Use `box-sizing: border-box;` and `box-sizing: content-box;` to show their impact on total element size.
5. Add explanatory text in the HTML to describe what each box demonstrates.
6. Save both files and open `lab12.html` in a browser. Use browser developer tools to inspect the box model for each element.

## Source Code

**lab12_styles.css**

```css
/* General body styling */
body {
    font-family: 'Roboto', sans-serif;
    background-color: #f8f9fa; /* Light grey background */
    color: #343a40; /* Dark grey text */
    margin: 0;
    padding: 25px;
    line-height: 1.7;
}

/* Main container for content */
.container {
    max-width: 1000px;
    margin: 0 auto;
    background-color: #ffffff;
    padding: 30px;
    border-radius: 12px;
    box-shadow: 0 6px 20px rgba(0, 0, 0, 0.08);
}

h1 {
    color: #0056b3; /* Dark blue */
    text-align: center;
```

```css
    margin-bottom: 35px;
    font-size: 2.8em;
    border-bottom: 2px solid #e0e0e0;
    padding-bottom: 15px;
}


h2 {
    color: #007bff; /* Blue */
    margin-top: 40px;
    margin-bottom: 15px;
    border-left: 4px solid #007bff;
    padding-left: 10px;
}


p {
    margin-bottom: 15px;
    font-size: 1.1em;
}

/* Box Model Demonstration Styles */
.box-demo {
    background-color: #e9ecef; /* Light grey */
    color: #495057; /* Darker grey */
    padding: 20px;
    margin: 30px 0;
    border: 1px solid #ced4da;
    border-radius: 8px;
    text-align: center;
    font-size: 1.1em;
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.05);
}

/* Content Box */
.content-box {
    width: 200px;
    height: 100px;
    background-color: #cce5ff; /* Light blue */
    border: 2px solid #007bff; /* Blue border */
    padding: 20px;
    margin: 20px auto;
    box-sizing: content-box; /* Default: width/height applies to content only
*/
    display: flex;
    align-items: center;
    justify-content: center;
    font-weight: bold;
    color: #004085;
    border-radius: 8px;
}

/* Border Box */
.border-box {
    width: 200px;
    height: 100px;
    background-color: #d4edda; /* Light green */
    border: 2px solid #28a745; /* Green border */
    padding: 20px;
    margin: 20px auto;
    box-sizing: border-box; /* Width/height applies to content + padding +
border */
    display: flex;
    align-items: center;
    justify-content: center;
    font-weight: bold;
    color: #155724;
    border-radius: 8px;
```

```css
}

/* Padding Example */
.padding-example {
    background-color: #fff3cd; /* Light yellow */
    border: 2px solid #ffc107; /* Yellow border */
    padding: 10px 30px 50px 5px; /* Top Right Bottom Left */
    margin: 20px auto;
    width: 300px;
    border-radius: 8px;
    text-align: left;
    color: #856404;
}

/* Border Example */
.border-example {
    background-color: #f8d7da; /* Light red */
    border-top: 5px solid #dc3545;
    border-right: 3px dotted #dc3545;
    border-bottom: 5px double #dc3545;
    border-left: 10px groove #dc3545;
    padding: 15px;
    margin: 20px auto;
    width: 300px;
    border-radius: 8px;
    text-align: center;
    color: #721c24;
}

/* Margin Example */
.margin-example {
    background-color: #e2e6ea; /* Lighter grey */
    border: 1px solid #adb5bd;
    padding: 15px;
    margin-top: 50px; /* Large top margin */
    margin-bottom: 20px;
    margin-left: auto; /* Auto for horizontal centering */
    margin-right: auto;
    width: 300px;
    border-radius: 8px;
    text-align: center;
    color: #495057;
}
```

**lab12.html**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>CSS Box Model Illustration</title>
    <link rel="stylesheet" href="lab12_styles.css">
</head>
<body>
    <div class="container">
        <h1>The CSS Box Model</h1>

        <p>Every HTML element is considered a "box" by the browser. The CSS
Box Model describes how these boxes are rendered, comprising content,
padding, border, and margin.</p>

        <h2>Content Area</h2>
        <div class="box-demo">
```

```html
            This is the innermost part of the box, where the actual content
    (text, images, etc.) resides. Its dimensions are set by `width` and `height`.
        </div>

        <h2>Padding</h2>
        <div class="box-demo">
            Padding is the space between the content and the border. It
    pushes the border outwards from the content.
        </div>

        <h2>Border</h2>
        <div class="box-demo">
            The border is a line that goes around the padding and content.
    You can control its width, style, and color.
        </div>

        <h2>Margin</h2>
        <div class="box-demo">
            Margin is the transparent space outside the border. It creates
    space between elements.
        </div>

        <h2>`box-sizing` Property</h2>
        <p>The `box-sizing` property defines how the `width` and `height` of
    an element are calculated.</p>

        <h3>`box-sizing: content-box` (Default)</h3>
        <div class="content-box">
            Content Box (200x100)
        </div>
        <p>With `content-box`, the `width` and `height` properties only apply
    to the content area. Padding and border are *added* to these dimensions,
    increasing the total size of the element.</p>

        <h3>`box-sizing: border-box`</h3>
        <div class="border-box">
            Border Box (200x100)
        </div>
        <p>With `border-box`, the `width` and `height` properties include the
    content, padding, and border. This makes layout calculations more intuitive,
    as the specified width/height is the actual visible size of the element.</p>

        <h2>Individual Property Demonstrations</h2>

        <h3>Padding Example</h3>
        <div class="padding-example">
            This box has different padding on each side: 10px top, 30px
    right, 50px bottom, and 5px left.
        </div>

        <h3>Border Example</h3>
        <div class="border-example">
            This box has different border styles and widths on each side.
        </div>

        <h3>Margin Example</h3>
        <div class="margin-example">
            This box has a large top margin, and is horizontally centered
    using `margin: auto`.
        </div>
    </div>
</body>
</html>
```

N/A

A web page clearly demonstrating the CSS Box Model:

- Sections explaining content, padding, border, and margin.
- Two boxes (`content-box` and `border-box`) with identical `width` and `height` properties but different `box-sizing` values, visually showing how padding and border affect their total dimensions.
- Separate boxes demonstrating:
    - Different padding values on each side.
    - Different border styles (solid, dotted, double, groove) and widths on each side.
    - Different margin values, including `auto` for horizontal centering.
- The overall layout should be clean and easy to understand, encouraging inspection with browser developer tools.

# Laboratory 13: Program to create a Simple List Box using HTML and CSS

## Title

Creating a Simple List Box with HTML and CSS

## Aim

To create a custom-styled list box using HTML's `<ul>` and `<li>` elements, and apply CSS to enhance its appearance and interactivity, simulating a common UI component.

## Procedure

1. Create a new HTML file (`lab13.html`) and an external CSS file (`lab13_styles.css`).
2. Link `lab13_styles.css` to `lab13.html`.
3. In `lab13.html`, create an unordered list (`<ul>`) with several list items (`<li>`).
4. In `lab13_styles.css`, apply styles to:
   - The `<ul>` to remove default bullets, set a background, border, padding, and rounded corners to make it look like a box.
   - The `<li>` elements to give them padding, a bottom border (except for the last item), and a hover effect to simulate selection.
   - Optionally, add a selected state using a class (e.g., `.selected`) that can be toggled via JavaScript (though JavaScript is not required for this lab's core CSS focus).
5. Save both files and open `lab13.html` in a browser.

## Source Code

**lab13_styles.css**

```css
/* General body styling */
body {
    font-family: 'Segoe UI', sans-serif;
    background-color: #f0f2f5; /* Light grey background */
    display: flex;
    justify-content: center;
    align-items: center;
    min-height: 100vh;
    margin: 0;
    padding: 20px;
}

/* Container for the list box */
.list-box-container {
    background-color: #ffffff;
    border: 1px solid #e0e0e0;
    border-radius: 10px;
    box-shadow: 0 4px 15px rgba(0, 0, 0, 0.1);
    width: 100%;
    max-width: 400px;
    overflow: hidden; /* Ensures rounded corners apply to content */
}

h1 {
    text-align: center;
    color: #333;
    padding: 20px;
    margin: 0;
```

```css
    background-color: #e9eff5;
    border-bottom: 1px solid #e0e0e0;
    font-size: 1.8em;
}

/* Styling for the unordered list (the list box itself) */
.custom-list-box {
    list-style: none; /* Remove default bullet points */
    padding: 0;
    margin: 0;
}

/* Styling for individual list items */
.custom-list-box li {
    padding: 15px 20px;
    border-bottom: 1px solid #f0f0f0; /* Light separator line */
    color: #555;
    font-size: 1.1em;
    cursor: pointer; /* Indicate clickable items */
    transition: background-color 0.3s ease, color 0.3s ease;
}

/* Remove border from the last list item */
.custom-list-box li:last-child {
    border-bottom: none;
}

/* Hover effect for list items */
.custom-list-box li:hover {
    background-color: #e6f7ff; /* Light blue on hover */
    color: #007bff; /* Blue text on hover */
}

/* Optional: Styling for a 'selected' item */
.custom-list-box li.selected {
    background-color: #007bff; /* Blue background for selected item */
    color: white;
    font-weight: bold;
    border-left: 5px solid #0056b3; /* Darker blue left border */
}
```

**lab13.html**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple List Box</title>
    <link rel="stylesheet" href="lab13_styles.css">
</head>
<body>
    <div class="list-box-container">
        <h1>Select Your Favorite Fruit</h1>
        <ul class="custom-list-box">
            <li>Apple</li>
            <li>Banana</li>
            <li class="selected">Orange</li> <li>Grapes</li>
            <li>Strawberry</li>
            <li>Mango</li>
        </ul>
    </div>

    <script>
        document.addEventListener('DOMContentLoaded', () => {
```

```
                    const listItems = document.querySelectorAll('.custom-list-box
li');

            listItems.forEach(item => {
                item.addEventListener('click', () => {
                    // Remove 'selected' from all items
                    listItems.forEach(li => li.classList.remove('selected'));
                    // Add 'selected' to the clicked item
                    item.classList.add('selected');
                });
            });
        });
    </script>
</body>
</html>
```

## Input

User clicks on different list items.

## Expected Output

A visually appealing list box with:

- A clear title "Select Your Favorite Fruit".
- A rectangular container with a subtle shadow and rounded corners.
- List items that are well-spaced and have a light separator line.
- Hover effects that change the background and text color of an item when the mouse is over it.
- (If JavaScript is included and enabled) Clicking an item will highlight it with a distinct blue background and white text, and remove the highlight from any previously selected item.

# Laboratory 14: Write an XML to accept student details [ Name , ID , Branch and CGPA ) . Write an XSL to display the list of students in descending order of their CGPA .

## Title

XML for Student Details and XSLT for Sorted Display

## Aim

To create an XML document to store student details and then use an XSLT stylesheet to transform and display this data as an HTML table, sorted by CGPA in descending order.

## Procedure

1.  **Create an XML file** (e.g., `students.xml`) with a root element (e.g., `<students>`) and multiple `<student>` elements, each containing `<name>`, `<id>`, `<branch>`, and `<cgpa>` child elements. Ensure some CGPA values allow for clear sorting.
2.  **Create an XSL file** (e.g., `students.xsl`).
    o   Define the XSLT stylesheet with the `<xsl:stylesheet>` root element.
    o   Use `<xsl:template match="/">` to start the transformation at the root of the XML document.
    o   Inside this template, create the basic HTML structure (`<html>`, `<body>`, `<table>`).
    o   Use `<xsl:for-each select="students/student">` to iterate over each student.
    o   Crucially, use `<xsl:sort select="cgpa" order="descending" data-type="number"/>` within the `xsl:for-each` to sort the students by CGPA in descending order.
    o   Within the loop, use `<xsl:value-of select="name"/>`, etc., to extract data into table cells (`<td>`).
3.  **Link the XSLT stylesheet to the XML file** by adding the following processing instruction as the second line in `students.xml` (after the XML declaration):
4.  `<?xml-stylesheet type="text/xsl" href="students.xsl"?>`

5.  Save both files in the same directory.
6.  Open `students.xml` in a web browser. The browser will automatically apply the XSLT and display the transformed HTML.

## Source Code

**students.xml**

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="students.xsl"?>
<students>
    <student>
        <name>Alice Johnson</name>
        <id>S001</id>
        <branch>Computer Science</branch>
        <cgpa>9.1</cgpa>
    </student>
    <student>
```

```xml
        <name>Bob Williams</name>
        <id>S002</id>
        <branch>Electronics</branch>
        <cgpa>8.5</cgpa>
    </student>
    <student>
        <name>Charlie Davis</name>
        <id>S003</id>
        <branch>Mechanical</branch>
        <cgpa>9.5</cgpa>
    </student>
    <student>
        <name>Diana Miller</name>
        <id>S004</id>
        <branch>Civil</branch>
        <cgpa>8.9</cgpa>
    </student>
    <student>
        <name>Eve Brown</name>
        <id>S005</id>
        <branch>Computer Science</branch>
        <cgpa>9.3</cgpa>
    </student>
</students>
```

**students.xsl**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:output method="html" indent="yes"/>

<xsl:template match="/">
  <html>
  <head>
    <title>Student Details</title>
    <style>
      body {
        font-family: 'Inter', sans-serif;
        margin: 20px;
        background-color: #f4f7f6;
        color: #333;
      }
      h1 {
        text-align: center;
        color: #2c3e50;
        margin-bottom: 30px;
      }
      table {
        width: 80%;
        border-collapse: collapse;
        margin: 0 auto;
        box-shadow: 0 4px 12px rgba(0, 0, 0, 0.1);
        border-radius: 8px;
        overflow: hidden; /* Ensures rounded corners */
      }
      th, td {
        border: 1px solid #ddd;
        padding: 12px 15px;
        text-align: left;
      }
      th {
        background-color: #007bff;
        color: white;
        font-weight: bold;
```

```
        text-transform: uppercase;
      }
      tr:nth-child(even) {
        background-color: #f8f8f8;
      }
      tr:hover {
        background-color: #e9f7fe;
      }
    </style>
  </head>
  <body>
    <h1>Student Details (Sorted by CGPA Descending)</h1>
    <table>
      <thead>
        <tr>
          <th>Name</th>
          <th>ID</th>
          <th>Branch</th>
          <th>CGPA</th>
        </tr>
      </thead>
      <tbody>
        <xsl:for-each select="students/student">
          <xsl:sort select="cgpa" order="descending" data-type="number"/>
          <tr>
            <td><xsl:value-of select="name"/></td>
            <td><xsl:value-of select="id"/></td>
            <td><xsl:value-of select="branch"/></td>
            <td><xsl:value-of select="cgpa"/></td>
          </tr>
        </xsl:for-each>
      </tbody>
    </table>
  </body>
  </html>
</xsl:template>

</xsl:stylesheet>
```

## Input

N/A (The XML file itself serves as the input data for the XSLT transformation.)

## Expected Output

A web page displaying a table of student details. The table will have columns for Name, ID, Branch, and CGPA. The rows will be sorted in descending order based on the CGPA of each student. For the given XML, the order should be: Charlie Davis (9.5), Eve Brown (9.3), Alice Johnson (9.1), Diana Miller (8.9), Bob Williams (8.5). The table will also have basic styling applied via the embedded CSS in the XSLT output.

# Laboratory 15: Create a college website using HTML and CSS

## Title

College Website Design using HTML and CSS

## Aim

To design and implement a multi-page college website using HTML for structure and CSS for comprehensive styling, demonstrating proficiency in web page layout, navigation, and visual presentation.

## Procedure

1. **Plan the Website Structure:**
   - **Home Page (`index.html`):** Introduction, welcome message, highlights.
   - **About Us Page (`about.html`):** College history, mission, values.
   - **Academics Page (`academics.html`):** List of departments, courses.
   - **Admissions Page (`admissions.html`):** Application process, eligibility.
   - **Contact Us Page (`contact.html`):** Contact form, address, map (placeholder).
2. **Create a common external CSS file** (`style.css`) for consistent styling across all pages. This file will define styles for:
   - `body` (font, background)
   - `header` (logo, college name)
   - `nav` (navigation menu, links, hover effects)
   - `footer` (copyright, quick links)
   - General text elements (`h1`, `h2`, `p`, `ul`, `ol`)
   - Buttons, forms (basic styling)
   - Responsive design (using media queries for mobile view).
3. **Develop each HTML page:**
   - Include a consistent `header` and `nav` section on all pages.
   - Populate each page with relevant content using appropriate HTML tags.
   - Link to the `style.css` file in the `<head>` of each HTML page.
   - Ensure all internal links between pages work correctly.
   - Include a `footer` section on all pages.
4. **Implement Responsive Design:** Use CSS media queries to adjust the layout and styling for smaller screens (e.g., stack navigation items, reduce font sizes).
5. Save all HTML and CSS files in a well-organized folder structure (e.g., `css/style.css`, `index.html`, `about.html`, etc.).
6. Open `index.html` in a web browser and navigate through the website, testing all links and observing the responsive behavior.

## Source Code

**style.css**

```
/* General Body Styles */
body {
    font-family: 'Inter', sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f8f9fa; /* Light grey background */
    color: #343a40; /* Dark grey text */
    line-height: 1.6;
```

```css
    display: flex;
    flex-direction: column;
    min-height: 100vh; /* Ensure footer sticks to bottom */
}

.container {
    max-width: 1200px;
    margin: 0 auto;
    padding: 20px;
}

/* Header Styles */
header {
    background-color: #0056b3; /* Dark blue */
    color: white;
    padding: 15px 0;
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
}

.header-content {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 0 20px;
}

.logo {
    font-size: 1.8em;
    font-weight: bold;
    color: white;
    text-decoration: none;
    display: flex;
    align-items: center;
}

.logo img {
    height: 40px;
    margin-right: 10px;
    border-radius: 5px;
}

/* Navigation Styles */
nav ul {
    list-style: none;
    margin: 0;
    padding: 0;
    display: flex;
}

nav ul li {
    margin-left: 25px;
}

nav ul li a {
    color: white;
    text-decoration: none;
    font-weight: 500;
    padding: 5px 0;
    transition: color 0.3s ease, border-bottom 0.3s ease;
    border-bottom: 2px solid transparent;
}

nav ul li a:hover,
nav ul li a.active {
    color: #aed6f1; /* Lighter blue on hover/active */
    border-bottom: 2px solid #aed6f1;
```

```css
}

/* Main Content Styles */
main {
    flex: 1; /* Allow main content to grow and push footer down */
    padding: 40px 0;
}

.hero {
    background-color: #e9f7fe; /* Very light blue */
    padding: 60px 20px;
    text-align: center;
    border-radius: 10px;
    margin-bottom: 40px;
    box-shadow: 0 4px 10px rgba(0, 0, 0, 0.05);
}

.hero h1 {
    color: #0056b3;
    font-size: 3em;
    margin-bottom: 15px;
}

.hero p {
    font-size: 1.2em;
    color: #555;
    max-width: 800px;
    margin: 0 auto;
}

.section-title {
    color: #0056b3;
    font-size: 2.2em;
    text-align: center;
    margin-bottom: 30px;
    padding-bottom: 10px;
    border-bottom: 2px solid #e0e0e0;
}

.card-grid {
    display: grid;
    grid-template-columns: repeat(auto-fit, minmax(300px, 1fr));
    gap: 30px;
    margin-top: 30px;
}

.card {
    background-color: white;
    border-radius: 10px;
    box-shadow: 0 4px 10px rgba(0, 0, 0, 0.08);
    padding: 25px;
    text-align: center;
    transition: transform 0.3s ease, box-shadow 0.3s ease;
}

.card:hover {
    transform: translateY(-5px);
    box-shadow: 0 8px 20px rgba(0, 0, 0, 0.15);
}

.card h3 {
    color: #007bff;
    font-size: 1.5em;
    margin-bottom: 15px;
}
```

```css
.card p {
    font-size: 1em;
    color: #666;
}

/* Footer Styles */
footer {
    background-color: #343a40; /* Dark grey */
    color: white;
    padding: 30px 0;
    margin-top: 40px;
    text-align: center;
    box-shadow: 0 -2px 5px rgba(0, 0, 0, 0.1);
}

.footer-content {
    display: flex;
    flex-wrap: wrap;
    justify-content: space-around;
    align-items: flex-start;
    padding: 0 20px;
}

.footer-section {
    flex: 1;
    min-width: 200px;
    margin: 15px;
    text-align: left;
}

.footer-section h4 {
    color: #aed6f1;
    margin-bottom: 15px;
    font-size: 1.1em;
}

.footer-section p, .footer-section ul {
    font-size: 0.9em;
    color: #ccc;
    list-style: none;
    padding: 0;
    margin: 0;
}

.footer-section ul li {
    margin-bottom: 8px;
}

.footer-section ul li a {
    color: #ccc;
    text-decoration: none;
    transition: color 0.3s ease;
}

.footer-section ul li a:hover {
    color: white;
}

.footer-bottom {
    margin-top: 30px;
    padding-top: 20px;
    border-top: 1px solid #495057;
    font-size: 0.85em;
    color: #aaa;
}
```

```css
/* Form Styles (for contact.html) */
.form-group {
    margin-bottom: 20px;
}

.form-group label {
    display: block;
    margin-bottom: 8px;
    font-weight: bold;
    color: #555;
}

.form-group input[type="text"],
.form-group input[type="email"],
.form-group textarea {
    width: 100%;
    padding: 12px;
    border: 1px solid #ccc;
    border-radius: 8px;
    font-size: 1em;
    box-sizing: border-box;
}

.form-group textarea {
    resize: vertical;
    min-height: 120px;
}

.submit-button {
    background-color: #28a745; /* Green */
    color: white;
    padding: 12px 25px;
    border: none;
    border-radius: 8px;
    cursor: pointer;
    font-size: 1.1em;
    transition: background-color 0.3s ease;
}

.submit-button:hover {
    background-color: #218838; /* Darker green */
}

/* Responsive Design */
@media (max-width: 768px) {
    .header-content {
        flex-direction: column;
        text-align: center;
    }

    nav ul {
        flex-direction: column;
        margin-top: 15px;
    }

    nav ul li {
        margin: 8px 0;
    }

    .hero h1 {
        font-size: 2.2em;
    }

    .hero p {
        font-size: 1em;
    }
```

```css
    .section-title {
        font-size: 1.8em;
    }

    .card-grid {
        grid-template-columns: 1fr; /* Stack cards on small screens */
    }

    .footer-content {
        flex-direction: column;
        align-items: center;
    }

    .footer-section {
        text-align: center;
        margin: 10px 0;
    }
}
```

**`index.html` (Home Page)**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name - Home</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="header-content container">
            <a href="index.html" class="logo">
                <img src="https://placehold.co/40x40/007bff/FFFFFF?text=Logo"
alt="College Logo">
                College Name
            </a>
            <nav>
                <ul>
                    <li><a href="index.html" class="active">Home</a></li>
                    <li><a href="about.html">About Us</a></li>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="contact.html">Contact Us</a></li>
                </ul>
            </nav>
        </div>
    </header>

    <main>
        <section class="hero">
            <div class="container">
                <h1>Welcome to Our Esteemed Institution!</h1>
                <p>Empowering minds, fostering innovation, and building
leaders for a brighter future. Join us on a journey of knowledge and
discovery.</p>
            </div>
        </section>

        <section class="container">
            <h2 class="section-title">Why Choose Us?</h2>
            <div class="card-grid">
                <div class="card">
                    <h3>Academic Excellence</h3>
```

```html
                <p>Rigorous curriculum and experienced faculty dedicated
to high-quality education.</p>
                </div>
                <div class="card">
                    <h3>State-of-the-Art Facilities</h3>
                    <p>Modern labs, extensive library, and comfortable
learning environments.</p>
                </div>
                <div class="card">
                    <h3>Vibrant Campus Life</h3>
                    <p>Numerous clubs, events, and opportunities for personal
growth and networking.</p>
                </div>
                <div class="card">
                    <h3>Career Opportunities</h3>
                    <p>Strong industry connections and dedicated placement
assistance.</p>
                </div>
            </div>
        </section>
    </main>

    <footer>
        <div class="container footer-content">
            <div class="footer-section">
                <h4>About College</h4>
                <p>Committed to nurturing talent and fostering a spirit of
inquiry and innovation.</p>
            </div>
            <div class="footer-section">
                <h4>Quick Links</h4>
                <ul>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="#">Faculty</a></li>
                    <li><a href="#">Research</a></li>
                </ul>
            </div>
            <div class="footer-section">
                <h4>Contact Info</h4>
                <p>123 College Road, University City, State, 12345</p>
                <p>Email: info@collegename.edu</p>
                <p>Phone: +1 (123) 456-7890</p>
            </div>
        </div>
        <div class="footer-bottom container">
            &copy; 2025 College Name. All rights reserved.
        </div>
    </footer>
</body>
</html>
```

**`about.html` (About Us Page)**

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name - About Us</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="header-content container">
```

```html
                <a href="index.html" class="logo">
                    <img src="https://placehold.co/40x40/007bff/FFFFFF?text=Logo"
alt="College Logo">
                    College Name
                </a>
                <nav>
                    <ul>
                        <li><a href="index.html">Home</a></li>
                        <li><a href="about.html" class="active">About Us</a></li>
                        <li><a href="academics.html">Academics</a></li>
                        <li><a href="admissions.html">Admissions</a></li>
                        <li><a href="contact.html">Contact Us</a></li>
                    </ul>
                </nav>
        </div>
    </header>

    <main>
        <section class="container">
            <h1 class="section-title">About Our College</h1>
            <p>Founded in 19XX, College Name has been a beacon of higher
education, committed to fostering intellectual growth, critical thinking, and
a spirit of innovation among its students. Our rich history is built upon a
foundation of academic rigor and a dedication to societal contribution.</p>

            <h2>Our Mission</h2>
            <p>To provide a transformative educational experience that
prepares students to be ethical leaders, lifelong learners, and responsible
global citizens. We strive to create an inclusive environment that encourages
diversity, creativity, and intellectual curiosity.</p>

            <h2>Our Vision</h2>
            <p>To be a leading institution recognized globally for its
excellence in education, research, and community engagement, contributing
significantly to advancements in science, technology, arts, and
humanities.</p>

            <h2>Our Values</h2>
            <ul>
                <li>**Excellence:** Upholding the highest standards in
teaching, learning, and research.</li>
                <li>**Integrity:** Promoting honesty, transparency, and
ethical conduct.</li>
                <li>**Innovation:** Encouraging creativity, critical
thinking, and problem-solving.</li>
                <li>**Community:** Fostering a supportive and collaborative
environment.</li>
                <li>**Diversity:** Embracing and celebrating varied
perspectives and backgrounds.</li>
            </ul>
        </section>
    </main>

    <footer>
        <div class="container footer-content">
            <div class="footer-section">
                <h4>About College</h4>
                <p>Committed to nurturing talent and fostering a spirit of
inquiry and innovation.</p>
            </div>
            <div class="footer-section">
                <h4>Quick Links</h4>
                <ul>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="#">Faculty</a></li>
```

```
                <li><a href="#">Research</a></li>
            </ul>
        </div>
        <div class="footer-section">
            <h4>Contact Info</h4>
            <p>123 College Road, University City, State, 12345</p>
            <p>Email: info@collegename.edu</p>
            <p>Phone: +1 (123) 456-7890</p>
        </div>
    </div>
    <div class="footer-bottom container">
        &copy; 2025 College Name. All rights reserved.
    </div>
    </footer>
</body>
</html>
```

**`academics.html` (Academics Page)**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name - Academics</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="header-content container">
            <a href="index.html" class="logo">
                <img src="https://placehold.co/40x40/007bff/FFFFFF?text=Logo"
alt="College Logo">
                College Name
            </a>
            <nav>
                <ul>
                    <li><a href="index.html">Home</a></li>
                    <li><a href="about.html">About Us</a></li>
                    <li><a href="academics.html"
class="active">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="contact.html">Contact Us</a></li>
                </ul>
            </nav>
        </div>
    </header>

    <main>
        <section class="container">
            <h1 class="section-title">Our Academic Programs</h1>
            <p>College Name offers a wide array of undergraduate and
postgraduate programs designed to equip students with the knowledge and
skills necessary to excel in their chosen fields.</p>

            <h2>Departments</h2>
            <div class="card-grid">
                <div class="card">
                    <h3>Computer Science & Engineering</h3>
                    <p>Focuses on software development, algorithms, data
science, and artificial intelligence.</p>
                </div>
                <div class="card">
                    <h3>Electronics & Communication Engineering</h3>
```

```html
                <p>Covers areas like digital signal processing, VLSI
design, and communication systems.</p>
                </div>
                <div class="card">
                    <h3>Mechanical Engineering</h3>
                    <p>Deals with design, analysis, manufacturing, and
maintenance of mechanical systems.</p>
                </div>
                <div class="card">
                    <h3>Civil Engineering</h3>
                    <p>Involves design, construction, and maintenance of the
physical and naturally built environment.</p>
                </div>
                <div class="card">
                    <h3>Business Administration</h3>
                    <p>Programs in finance, marketing, human resources, and
operations management.</p>
                </div>
                <div class="card">
                    <h3>Arts & Humanities</h3>
                    <p>Courses in literature, history, philosophy, and social
sciences.</p>
                </div>
            </div>

            <h2>Key Features</h2>
            <ul>
                <li>Industry-aligned curriculum</li>
                <li>Experienced and dedicated faculty</li>
                <li>Hands-on laboratory experience</li>
                <li>Opportunities for research and projects</li>
                <li>Interdisciplinary learning options</li>
            </ul>
        </section>
    </main>

    <footer>
        <div class="container footer-content">
            <div class="footer-section">
                <h4>About College</h4>
                <p>Committed to nurturing talent and fostering a spirit of
inquiry and innovation.</p>
            </div>
            <div class="footer-section">
                <h4>Quick Links</h4>
                <ul>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="#">Faculty</a></li>
                    <li><a href="#">Research</a></li>
                </ul>
            </div>
            <div class="footer-section">
                <h4>Contact Info</h4>
                <p>123 College Road, University City, State, 12345</p>
                <p>Email: info@collegename.edu</p>
                <p>Phone: +1 (123) 456-7890</p>
            </div>
        </div>
        <div class="footer-bottom container">
            &copy; 2025 College Name. All rights reserved.
        </div>
    </footer>
</body>
</html>
```

**`admissions.html` (Admissions Page)**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name - Admissions</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="header-content container">
            <a href="index.html" class="logo">
                <img src="https://placehold.co/40x40/007bff/FFFFFF?text=Logo"
alt="College Logo">
                College Name
            </a>
            <nav>
                <ul>
                    <li><a href="index.html">Home</a></li>
                    <li><a href="about.html">About Us</a></li>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html"
class="active">Admissions</a></li>
                    <li><a href="contact.html">Contact Us</a></li>
                </ul>
            </nav>
        </div>
    </header>

    <main>
        <section class="container">
            <h1 class="section-title">Admissions</h1>
            <p>Embark on your academic journey with College Name. We welcome
applications from talented and motivated students worldwide.</p>

            <h2>Application Process</h2>
            <ol>
                <li>**Review Eligibility Criteria:** Ensure you meet the
academic requirements for your desired program.</li>
                <li>**Fill Online Application:** Complete the application
form available on our admissions portal.</li>
                <li>**Upload Required Documents:** Submit academic
transcripts, certificates, and other supporting documents.</li>
                <li>**Pay Application Fee:** A non-refundable application fee
is required to process your application.</li>
                <li>**Admissions Test/Interview (if applicable):** Some
programs may require an entrance examination or an interview.</li>
                <li>**Receive Admission Decision:** Decisions are typically
communicated within 4-6 weeks of application submission.</li>
            </ol>

            <h2>Eligibility Criteria (General)</h2>
            <ul>
                <li>**Undergraduate Programs:** Successful completion of High
School/10+2 with a minimum aggregate percentage (varies by program).</li>
                <li>**Postgraduate Programs:** A bachelor's degree in a
relevant field from a recognized university with a minimum CGPA (varies by
program).</li>
                <li>**English Proficiency:** For international students, a
valid TOEFL/IELTS score may be required.</li>
            </ul>

            <h2>Important Dates</h2>
            <p><strong>Application Deadline:</strong> March 31, 2025</p>
```

```
                <p><strong>Decision Notification:</strong> May 15, 2025</p>
                <p><strong>Enrollment Deadline:</strong> June 30, 2025</p>

                <p>For detailed information, please visit our <a
href="#">Admissions Portal</a> or contact the admissions office.</p>
            </section>
        </main>

        <footer>
            <div class="container footer-content">
                <div class="footer-section">
                    <h4>About College</h4>
                    <p>Committed to nurturing talent and fostering a spirit of
inquiry and innovation.</p>
                </div>
                <div class="footer-section">
                    <h4>Quick Links</h4>
                    <ul>
                        <li><a href="academics.html">Academics</a></li>
                        <li><a href="admissions.html">Admissions</a></li>
                        <li><a href="#">Faculty</a></li>
                        <li><a href="#">Research</a></li>
                    </ul>
                </div>
                <div class="footer-section">
                    <h4>Contact Info</h4>
                    <p>123 College Road, University City, State, 12345</p>
                    <p>Email: info@collegename.edu</p>
                    <p>Phone: +1 (123) 456-7890</p>
                </div>
            </div>
            <div class="footer-bottom container">
                &copy; 2025 College Name. All rights reserved.
            </div>
        </footer>
</body>
</html>
```

**`contact.html` (Contact Us Page)**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>College Name - Contact Us</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <div class="header-content container">
            <a href="index.html" class="logo">
                <img src="https://placehold.co/40x40/007bff/FFFFFF?text=Logo"
alt="College Logo">
                College Name
            </a>
            <nav>
                <ul>
                    <li><a href="index.html">Home</a></li>
                    <li><a href="about.html">About Us</a></li>
                    <li><a href="academics.html">Academics</a></li>
                    <li><a href="admissions.html">Admissions</a></li>
                    <li><a href="contact.html" class="active">Contact
Us</a></li>
                </ul>
```

```html
                </nav>
        </div>
    </header>

    <main>
        <section class="container">
            <h1 class="section-title">Contact Us</h1>
            <p>We'd love to hear from you! Please feel free to reach out to
us with any questions or inquiries.</p>

            <div class="card-grid">
                <div class="card">
                    <h3>General Inquiries</h3>
                    <p>Email: <a
href="mailto:info@collegename.edu">info@collegename.edu</a></p>
                    <p>Phone: +1 (123) 456-7890</p>
                </div>
                <div class="card">
                    <h3>Admissions Office</h3>
                    <p>Email: <a
href="mailto:admissions@collegename.edu">admissions@collegename.edu</a></p>
                    <p>Phone: +1 (123) 987-6543</p>
                </div>
                <div class="card">
                    <h3>Address</h3>
                    <p>College Name, 123 College Road, University City,
State, 12345</p>
                    <p><a href="https://maps.google.com/?q=123+College+Road"
target="_blank">View on Map</a></p>
                </div>
            </div>

            <h2 class="section-title" style="margin-top: 60px;">Send Us a
Message</h2>
            <form action="#" method="post" class="contact-form">
                <div class="form-group">
                    <label for="name">Your Name:</label>
                    <input type="text" id="name" name="name" required>
                </div>
                <div class="form-group">
                    <label for="email">Your Email:</label>
                    <input type="email" id="email" name="email" required>
                </div>
                <div class="form-group">
                    <label for="subject">Subject:</label>
                    <input type="text" id="subject" name="subject">
                </div>
                <div class="form-group">
                    <label for="message">Message:</label>
                    <textarea id="message" name="message"
required></textarea>
                </div>
                <button type="submit" class="submit-button">Send
Message</button>
            </form>
        </section>
    </main>

    <footer>
        <div class="container footer-content">
            <div class="footer-section">
                <h4>About College</h4>
                <p>Committed to nurturing talent and fostering a spirit of
inquiry and innovation.</p>
            </div>
            <div class="footer-section">
```

```
        <h4>Quick Links</h4>
        <ul>
            <li><a href="academics.html">Academics</a></li>
            <li><a href="admissions.html">Admissions</a></li>
            <li><a href="#">Faculty</a></li>
            <li><a href="#">Research</a></li>
        </ul>
    </div>
    <div class="footer-section">
        <h4>Contact Info</h4>
        <p>123 College Road, University City, State, 12345</p>
        <p>Email: info@collegename.edu</p>
        <p>Phone: +1 (123) 456-7890</p>
    </div>
</div>
<div class="footer-bottom container">
    &copy; 2025 College Name. All rights reserved.
</div>
    </footer>
</body>
</html>
```

## Input

User navigation through the website by clicking links and filling out the contact form.

## Expected Output

A fully functional, multi-page college website with a consistent design:

- **Consistent Header and Navigation:** All pages will share the same header with a logo and navigation menu, with the active page highlighted.
- **Home Page:** A welcoming hero section and cards highlighting key features of the college.
- **About Us Page:** Information about the college's history, mission, vision, and values.
- **Academics Page:** A list of departments and academic programs, presented with cards.
- **Admissions Page:** Details on the application process, eligibility criteria, and important dates.
- **Contact Us Page:** Contact information (email, phone, address) and a functional contact form.
- **Consistent Footer:** All pages will have the same footer with about information, quick links, and contact details.
- **Responsive Design:** The website layout will adapt gracefully to different screen sizes, providing an optimal viewing experience on both desktop and mobile devices.