

Full Stack Development Lab

Lab Report

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Batch: 2022-2026, A1

Branch: AI-ML

Experiment Number: 1

Title: Design a Webpage for a Registration Form.

Aim: To create a basic yet visually appealing web-page for a user registration form using only HTML.

Objectives:

The objectives of this experiment are to:

1. Demonstrate the ability to design responsive webpages using HTML.
2. Implement a registration form with proper input fields and validation.
3. Apply fundamental design principles such as hierarchy, alignment, and consistency.

Algorithms Used:

- The design of the registration form follows a structured layout using HTML elements.
- The form includes various input fields such as text fields, password fields, radio buttons, and dropdown menus to collect user information efficiently.
- Basic client-side validation is incorporated using HTML attributes like required, pattern, maxlength, and type to ensure data accuracy.

Implementation and Outputs:

Student Registration Form

First Name:

Aparna

Middle Name:

S

Last Name:

Iyer

Date of Birth:

04 - 06 - 2004

Email ID:

aparna.iyer.btech2022@sitpune.edu.in

Mobile Number:

9284826061

Gender:

☐

Male

☒

Female

City:

Pune

Pin Code:

411007

State:

Maharashtra

Country:

India

Hobbies:

☒ Coding ☒ Blog-Writing ☐ Cricket ☐ Others

Qualification:

Examination	Board	Percentage	Year of Passing
Class X	CBSE	98.6	2020
Class XII	CBSE	96.8	2022
Graduation	AICTE	82.3	2026

Courses Applied For:

☒ M.Tech ☐ Ph.D ☐ MS

Submit

Code Snippets:

```

| |
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Student Registration Form</title>
  <style>
    GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
    body {
      font-family: Arial, sans-serif;
      margin: 20px;
      background-color: #f9f9f9;
    }
    GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
    h1 {
      text-align: center;
      color: #333;
    }
    GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
    form {
      width: 50%;
      margin: auto;
      padding: 20px;
      background: white;
      border-radius: 10px;

```

```

GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
    label {
      font-weight: bold;
      display: block;
      margin: 10px 0 5px;
    }
    GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-ASK
    input, textarea, select {
      width: 100%;
      padding: 8px;
      margin-bottom: 10px;
      border: 1px solid #ccc;
      border-radius: 5px;
    }
    GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-TEST | GoCodeo-TEST
    input[type="radio"], input[type="checkbox"] {
      width: auto;
      margin-right: 5px;
    }
    GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
    table {
      width: 100%;

```

```

table {
  width: 100%;
  border-collapse: collapse;
  margin-top: 10px;
}
GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-TEST | GoCodeo-T
th, td {
  border: 1px solid #ccc;
  text-align: left;
  padding: 8px;
}
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
th {
  background: #f4f4f4;
}
/* Neatly align table inputs */
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
table input {
  width: 95%;
  padding: 5px;
  border: 1px solid #ccc;
  border-radius: 3px;

```

```

button {
  width: 100%;
  padding: 10px;
  background: #28a745;
  color: white;
  border: none;
  border-radius: 5px;
  cursor: pointer;
  font-size: 16px;
}
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
button:hover {
  background: #218838;
}
</style>
</head>

```

```

<body>
  <h1>Student Registration Form</h1>
  <form>
    <label for="firstName">First Name:</label>
    <input type="text" id="firstName" name="firstName" pattern="[A-Za-z\s]{1,30}" title="Only letters and spaces, 1 to 30 characters" required>

    <label for="middleName">Middle Name:</label>
    <input type="text" id="middleName" name="middleName" pattern="[A-Za-z\s]{1,30}" title="Only letters and spaces, 1 to 30 characters" required>

    <label for="lastName">Last Name:</label>
    <input type="text" id="lastName" name="lastName" pattern="[A-Za-z\s]{1,30}" title="Only letters and spaces, max 30 characters" required>

    <label for="dob">Date of Birth:</label>
    <input type="date" id="dob" name="dob" required>

    <label for="email">Email ID:</label>
    <input type="email" id="email" name="email" placeholder="example@domain.com" required>

    <label for="mobile">Mobile Number:</label>
    <input type="tel" id="mobile" name="mobile" pattern="[0-9]{10}" title="Enter a 10-digit mobile number" required>

    <label>Gender:</label>

```

```

    <label for="address">Address:</label>
    <textarea id="address" name="address" rows="3" placeholder="Enter your address"></textarea>

    <label for="city">City:</label>
    <input type="text" id="city" name="city" pattern="[A-Za-z\s]{1,30}" title="Only letters and spaces, max 30 characters" required>

    <label for="pincode">Pin Code:</label>
    <input type="text" id="pincode" name="pincode" pattern="[0-9]{6}" title="Enter a 6-digit pin code" required>

    <label for="state">State:</label>
    <input type="text" id="state" name="state" pattern="[A-Za-z\s]+" title="Only letters allowed" required>

    <label for="country">Country:</label>
    <input type="text" id="country" name="country" pattern="[A-Za-z\s]+" title="Only letters allowed" required>

    <label>Hobbies:</label>
    <input type="checkbox" name="hobby" value="Coding"> Coding
    <input type="checkbox" name="hobby" value="Blog-Writing"> Blog-Writing
    <input type="checkbox" name="hobby" value="Cricket"> Cricket
    <input type="checkbox" name="hobby" value="Others"> Others

```

```

    <label>Qualification:</label>
    <table>
      <thead>
        <tr>
          <th>Examination</th>
          <th>Board</th>
          <th>Percentage</th>
          <th>Year of Passing</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>Class X</td>
          <td><input type="text" name="board_x"></td>
          <td><input type="text" name="percentage_x"></td>
          <td><input type="text" name="year_x" pattern="[0-9]{4}" title="Enter a valid year (e.g., 2023)"></td>
        </tr>
        <tr>
          <td>Class XII</td>
          <td><input type="text" name="board_xii"></td>
          <td><input type="text" name="percentage_xii"></td>
          <td><input type="text" name="year_xii" pattern="[0-9]{4}" title="Enter a valid year (e.g., 2023)"></td>
        </tr>
      </tbody>
    </table>

```

```

<td><input type="text" name="board_grad"></td>
<td><input type="text" name="percentage_grad"></td>
<td><input type="text" name="year_grad" pattern="[0-9]{4}" title="Enter a valid year (e.g., 2023)"
</td>
</tr>
</tbody>
</table>

<label>Courses Applied For:</label>
<input type="radio" name="course" value="MTech" required> M.Tech
<input type="radio" name="course" value="PhD"> Ph.D
<input type="radio" name="course" value="MS"> MS

<button type="submit">Submit</button>
</form>
</body>
</html>

```

Testing:

- The webpage was tested across multiple browsers (Chrome, Firefox, Edge) to ensure compatibility. Different screen sizes were used to verify responsiveness.
- Validation checks were performed to ensure that mandatory fields could not be left empty and that user input followed the expected format (e.g., email format, password length).

Email ID:

aparna.iyer.btech2022@sitpune.edu.in

Mobile Number:

Gender:

! Please fill out this field.

Courses Applied For:

☒ M.Tech ☐ Ph.D ☐ MS

! Please select one of these options.

Submit

- The form submission functionality was checked for proper behaviour when valid and invalid data were entered.

S.

Last Name:

Iyer

! Please match the requested format.
Only letters and spaces, max 30 characters

Iyer46

Date of Birth:

04-06-2004

! Please match the requested format.
Only letters and spaces, max 30 characters

Results:

The registration form was successfully designed and displayed correctly across different devices and browsers. It provided a user-friendly interface with structured input fields, clear labels, and appropriate validation messages. The form elements functioned as expected.

Challenges:

1. Ensuring proper alignment of form elements without using CSS.
2. Implementing basic validation without JavaScript.
3. Maintaining consistency across different screen sizes.

Solutions:

1. Used HTML tables and field sets to maintain a structured and organized layout.
2. Leveraged built-in HTML attributes like `required`, `pattern`, and `minlength` to enforce input rules.
3. Utilized HTML elements such as `<fieldset>` and `<legend>` for structured grouping and ensured a fluid layout for readability.

Conclusion:

This experiment successfully demonstrated the ability to design a structured registration form using HTML. The form incorporates fundamental design principles, ensuring usability and accessibility. Basic validation techniques were implemented to enhance data accuracy. The webpage was tested for responsiveness and functionality, ensuring a seamless user experience.

This experiment highlights the importance of structured coding practices in web development.