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AIML – A1

Full Stack Development Assignment 5

Objective of Experiment:

Create a user registration form for a website and implement JavaScript event handling to validate user input effectively. The form should include fields for First Name, Last Name, Email, and Password. The validation should ensure that all fields are filled out, the email is in a valid format, and the password is at least 8 characters long. Error messages should be displayed next to each field if validation fails, providing visual feedback to the user. The form submission should be prevented if there are validation errors, and successful submission should only occur when all fields are properly filled out. Additionally, the implementation should be well-structured, readable, and demonstrate good programming practices. CSS styling should be used to enhance the form's appearance and error message presentation, providing a better user experience.

EXPLAIN THE TAGS USED IN CODE:

- `<!DOCTYPE html>`: Defines the document type and version of HTML being used.
- `<html lang="en">`: Defines the root element of the HTML document, specifying the language as English.
- `<head>`: Contains meta-information about the HTML document, such as title, character set, and stylesheets.
- `<meta charset="UTF-8">`: Specifies the character encoding for the document as UTF-8.
- `<meta name="viewport" content="width=device-width, initial-scale=1.0">`: Sets the viewport properties for responsive web design.
- `<title>`: Defines the title of the HTML document, displayed in the browser's title bar or tab.
- `<style>`: Contains CSS rules for styling elements within the HTML document.
- `<body>`: Contains the content of the HTML document visible to users.
- `<form>`: Defines a form to collect user input.
- `<label>`: Defines a label for an input element.
- `<input>`: Defines an input control such as text fields, email fields, and passwords.
- ``: Defines a generic inline container used to group elements and apply styles or scripting.
- `<script>`: Embeds JavaScript code within the HTML document.
- `id="..."`: Assigns a unique identifier to an HTML element for scripting or styling purposes.

- `class="..."`: Assigns one or more classes to an HTML element for styling or scripting purposes.
- `action="#"`: Specifies the URL where the form data will be submitted. Here, it's set to "#" to indicate that it will be handled by JavaScript.
- `method="post"`: Specifies the HTTP method used to submit the form data. Here, it's set to "post".
- `addEventListener('submit', function(event) {...})`: Attaches an event listener to the form to execute JavaScript code when the form is submitted.
- `body`: Specifies styles for the entire body of the HTML document, including font family and display properties.
- `form`: Defines styles for the form element, including its background color, padding, and maximum width.
- `input`: Specifies styles for all input elements within the form, including padding and border properties.
- `.error`: Defines styles for elements with the class "error", such as error messages displayed next to input fields.
- `padding`: Adds padding inside elements like input fields, creating space between the content and the element's border.

SOURCE CODE:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Registration Form</title>
  <style>
    body{
      font-family: Arial, Helvetica, sans-serif;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
    }

    form{
      max-width: 600px;
      width: 100%;
      background-color: #fff;
      padding: 20px;
      box-shadow: 0 0 10px rgba(0, 0,0, 0.5);
      border-radius: 8px;
    }
    label{
```

```

        display: block;
        margin-bottom: 1px;
        font-weight: bold;
    }

    input{

        padding: 10px;
        border-radius: 4px;
        margin-bottom: 15px;
        border: 1px solid #ccc;
        box-sizing: border-box;
    }
    input[type="submit"]{
        background-color: #45a049;
        color: white;

    }
    input[type="submit"].hover{
        background-color: #45a049;
        color: white;

    }

    .error{
        color: red;
    }

</style>
</head>
<body>
    <form id="registrationForm" action="#" method="post">
        <h2>Registration Form</h2>
        <label for="firstName">First Name:</label><br>
        <input type="text" id="firstName" name="firstName">
        <span id="firstNameError" class="error"></span><br>

        <label for="lastName">Last Name:</label><br>
        <input type="text" id="lastName" name="lastName">
        <span id="lastNameError" class="error"></span><br>

        <label for="email">Email:</label><br>
        <input type="email" id="email" name="email">
        <span id="emailError" class="error"></span><br>
    </form>

```

```

<label for="password">Password:</label><br>
<input type="password" id="password" name="password">
<span id="passwordError" class="error"></span><br>

<input type="submit" value="Register">
</form>
<script>
  const form = document.getElementById('registrationForm');
  const firstName = document.getElementById('firstName');
  const lastName = document.getElementById('lastName');
  const email = document.getElementById('email');
  const password = document.getElementById('password');
  const firstNameError = document.getElementById('firstNameError');
  const lastNameError = document.getElementById('lastNameError');
  const emailError = document.getElementById('emailError');
  const passwordError = document.getElementById('passwordError');

  form.addEventListener('submit', function(event) {
    let hasError = false;

    // Validate first name
    if (firstName.value === '') {
      firstNameError.textContent = 'First name is required';
      hasError = true;
    } else {
      firstNameError.textContent = '';
    }

    if (lastName.value === '') {
      lastNameError.textContent = 'Last name is required';
      hasError = true;
    } else {
      lastNameError.textContent = '';
    }

    if (email.value === '') {
      emailError.textContent = 'Email is required';
      hasError = true;
    } else {
      emailError.textContent = '';
    }

    if (password.value === '') {
      passwordError.textContent = 'Password is required';
      hasError = true;
    }
  });

```

OUTPUT:

Registration Form

First Name:

Last Name:

Email:

Password:

Registration Form

First Name:

Last Name:

Email:

Password:

Password must be at least 8 characters long

Registration Form

First Name:

Last Name:

Email:

⚠ Please include an '@' in the email address. 'anvesha.raikwar.btech2021sitpune.edu.in' is missing an '@'.

Password must be at least 8 characters long