



॥वसुधैव कुटुम्बकम्॥



FULL STACK DEVELOPMENT ASSIGNMENT - 5

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Design a registration form for a website and implement JavaScript event handling to ensure proper validation of user input. Your form should include the following fields: First Name, Last Name, Email, and Password.

Description

This HTML code presents a user-friendly registration form for gathering essential information such as first name, last name, email, and password. The structure adheres to standard HTML practices, ensuring accessibility and compatibility across different devices and browsers. Within the `<head>` section, meta tags define character encoding and viewport settings, while also declaring a title for the page, denoted as "Registration Form."

The form's aesthetics are enhanced through embedded CSS styles, enhancing readability and visual appeal. For instance, the `.error` class is designed to display error messages in red font, facilitating clear identification of input issues. Similarly, various elements like headings (`<h2>`), labels (`<label>`), and input fields (`<input>`) are styled to ensure consistent presentation and user experience.

JavaScript functionality is integrated seamlessly to provide real-time validation of user inputs. Upon form submission, the `validateForm` function meticulously examines each input field for potential errors. If a field is left empty or fails to meet specific criteria (e.g., email format or password length), an appropriate error message is dynamically generated and displayed adjacent to the respective input field.

To streamline the validation process and ensure code reusability, utility functions like `setError`, `clearError`, and `isValidEmail` are defined. These functions encapsulate common validation tasks, promoting modular and efficient code organization. For instance, `setError` conveniently sets error messages for input fields, while `clearError` removes existing error messages when inputs are corrected.

Commented 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>
    .error {
      color: ■ red;
      font-size: em;
    }
    h2{
      font-size:50px;
    }
    label{
      font-style: oblique;
      font-weight: bold;
      font-family:Arial, Helvetica, sans-serif;
    }
    input{
      margin-bottom: 20px;
    }
    span{
      font-weight: bold;
    }
  </style>
</head>
```

Commented source code

```
<body>
  <!-- Form content interface -->
  <form id="registrationForm">
    <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>

    <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>
    // variables to store values
    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');
```

Commented source code

```
function validateForm(event) {
    let hasError = false;

    // if name empty then error
    if (firstName.value === '') {
        setError(firstName, 'First name is required');
        hasError = true;
    } else {
        // if not empty clear error message
        clearError(firstName);
    }

    // if lastname empty then error
    if (lastName.value === '') {
        setError(lastName, 'Last name is required');
        hasError = true;
    } else {
        // lastname not empty no error
        clearError(lastName);
    }

    // email empty error
    if (email.value === '') {
        setError(email, 'Email is required');
        hasError = true;
    } else if (!isValidEmail(email.value)) {
        // invalid format email error
        setError(email, 'Invalid email format');
        hasError = true;
    } else {
        // remove error if all according to format
        clearError(email);
    }
}
```

Commented source code

```
// Password empty error
if (password.value === '') {
    setError(password, 'Password is required');
    hasError = true;
} else if (password.value.length < 8) {
    // Password short length error
    setError(password, 'Password must be at least 8 characters long');
    hasError = true;
} else {
    // clear error if all good
    clearError(password);
}

if (hasError) {
    event.preventDefault(); // Prevent form submission if there are errors
}
}

//making life easy for repeted actions using
// functions for setting, clearing and formating functions

function setError(input, message) {
    const errorSpan = input.nextElementSibling;
    errorSpan.textContent = message;
    input.classList.add('error-input');
}

function clearError(input) {
    const errorSpan = input.nextElementSibling;
    errorSpan.textContent = '';
    input.classList.remove('error-input');
}

function isValidEmail(email) {
    // Simple email validation regex
    const emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
    return emailRegex.test(email);
}

form.addEventListener('submit', validateForm);
</script>
</body>
</html>
```

Output

Registration Form

First Name:

Last Name:

Email:

Password:

Register

Registration Form

First Name:

First name is required

Last Name:

Last name is required

Email:

Email is required

Password:

Password is required

Register

Output

Registration Form

First Name:

Last Name:

Email:

Invalid email format

Password:

Password must be at least 8 characters long

Registration Form

First Name:

Last Name:

Email:

Password:



About Me

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