**1. Test Cases for Mandatory Fields**

**1.1. Username Field**

* **Test Case**: Verify that the form does not submit if the **Username** field is empty.
  + **Steps**:
    1. Leave the username field blank.
    2. Click on the "Register" button.
  + **Expected Result**: Error message “Username is required” should be displayed.
* **Test Case**: Verify that the **Username** field accepts between 6 to 50 characters.
  + **Steps**:
    1. Enter a username with fewer than 6 characters.
    2. Click on the "Register" button.
    3. Enter a username with more than 50 characters.
    4. Click on the "Register" button.
  + **Expected Result**: Error messages should appear for invalid lengths. Correct length should allow form submission.

**1.2. Email Field**

* **Test Case**: Verify that the form does not submit if the **Email** field is empty.
  + **Steps**:
    1. Leave the email field blank.
    2. Click on "Register".
  + **Expected Result**: Error message “Email Address is required” should be displayed.
* **Test Case**: Verify that the **Email** field only accepts valid email formats.
  + **Steps**:
    1. Enter invalid email formats (e.g., "abc@", "test.com").
    2. Click on "Register".
  + **Expected Result**: Error message “Please enter a valid email address” should be displayed.

**1.3. Password Field**

* **Test Case**: Verify that the form does not submit if the **Password** field is empty.
  + **Steps**:
    1. Leave the password field blank.
    2. Click on "Register".
  + **Expected Result**: Error message “Password is required” should be displayed.
* **Test Case**: Verify password length (8 to 128 characters) and complexity (letters + numbers).
  + **Steps**:
    1. Enter a password shorter than 8 characters.
    2. Enter a password longer than 128 characters.
    3. Enter a password without numbers.
    4. Click on "Register".
  + **Expected Result**: Appropriate error messages should be displayed for each case.

**1.4. Confirm Password Field**

* **Test Case**: Verify that the **Confirm Password** field matches the password.
  + **Steps**:
    1. Enter different values in **Password** and **Confirm Password** fields.
    2. Click on "Register".
  + **Expected Result**: Error message “Passwords do not match” should be displayed.

**2. Test Cases for Optional Fields**

**2.1. Phone Number Field**

* **Test Case**: Verify that the phone number accepts a maximum of 15 characters.
  + **Steps**:
    1. Enter a phone number with more than 15 characters.
    2. Click on "Register".
  + **Expected Result**: Error message “Phone Number must not exceed 15 characters” should be displayed.

**2.2. Address Field**

* **Test Case**: Verify that the address accepts a maximum of 300 characters.
  + **Steps**:
    1. Enter more than 300 characters in the address field.
    2. Click on "Register".
  + **Expected Result**: Error message “Address must not exceed 300 characters” should be displayed.

**3. Test Cases for Form Submission**

**3.1. Successful Form Submission**

* **Test Case**: Verify that the form submits successfully when all mandatory fields are valid and filled.
  + **Steps**:
    1. Fill in all the mandatory fields with valid data.
    2. Click on "Register".
  + **Expected Result**: A success message or confirmation that the form was submitted successfully should appear.

**4. UI/UX Testing**

**4.1. Password Show/Hide Feature**

* **Test Case**: Verify the **Show Password** functionality.
  + **Steps**:
    1. Enter a password in the **Password** field.
    2. Check the "Show Password" checkbox.
  + **Expected Result**: The password should be visible as plain text.
* **Test Case**: Verify the **Show Confirm Password** functionality.
  + **Steps**:
    1. Enter a password in the **Confirm Password** field.
    2. Check the "Show Confirm Password" checkbox.
  + **Expected Result**: The password should be visible as plain text.

**4.2. Form Reset Button**

* **Test Case**: Verify that the **Reset** button clears all fields.
  + **Steps**:
    1. Fill in the form.
    2. Click on "Reset".
  + **Expected Result**: All form fields should be cleared.

**5. Cross-Browser and Responsiveness Testing**

**5.1. Cross-Browser Testing**

* **Test Case**: Verify the form functions correctly across multiple browsers (Chrome, Firefox, Edge, Safari).
  + **Steps**:
    1. Open the form in different browsers.
    2. Perform form validation and submission.
  + **Expected Result**: The form should behave consistently in all browsers.

**5.2. Mobile/Responsive Testing**

* **Test Case**: Verify that the form is responsive on mobile devices.
  + **Steps**:
    1. Open the form on various mobile devices or simulate different screen sizes.
    2. Test form layout and input validation.
  + **Expected Result**: The form should adjust layout and remain fully functional on smaller screens.

**6. Security Testing**

**6.1. Input Validation**

* **Test Case**: Verify that the form handles special characters in the input fields (for security against SQL Injection, XSS attacks).
  + **Steps**:
    1. Enter special characters (e.g., <script>, '; DROP TABLE users;) into the input fields.
    2. Click on "Register".
  + **Expected Result**: The form should not submit, and appropriate error handling should be done.

**6.2. Password Masking**

* **Test Case**: Verify that the password fields are masked by default.
  + **Steps**:
    1. Enter a password in the **Password** field.
  + **Expected Result**: The password should be displayed as asterisks or dots.

**7. Negative Testing**

**7.1. Invalid Email Format**

* **Test Case**: Verify that the form does not accept an invalid email format.
  + **Steps**:
    1. Enter an invalid email (e.g., missing @, missing domain).
    2. Click on "Register".
  + **Expected Result**: An error message should appear, preventing submission.

**7.2. Mismatched Passwords**

* **Test Case**: Verify that the form does not submit if the passwords don't match.
  + **Steps**:
    1. Enter different values for **Password** and **Confirm Password**.
    2. Click on "Register".
  + **Expected Result**: Error message “Passwords do not match” should appear.

**7.3. Missing Mandatory Fields**

* **Test Case**: Verify that the form does not submit if any mandatory field is left empty.
  + **Steps**:
    1. Leave one or more mandatory fields empty (e.g., username, email).
    2. Click on "Register".
  + **Expected Result**: Error messages should appear for each missing field.