### **Test Cases for Registration Form**

#### **1. Username Field**

**Test Case 1.1:**

* **ID:** TC-001
* **Name:** Empty Username Field
* **Description:** Verify the form behavior when the username field is left empty.
* **Steps:**

1. Open the registration form.
2. Leave the username field blank.
3. Fill in the email, password, and confirm password fields with valid inputs.
4. Click the "Register" button.

* **Expected Result:** Error message indicating that the username is required.
* **Actual Result:**

**Test Case 1.2:**

* **ID:** TC-002
* **Name:** Valid Username
* **Description:** Verify the form accepts a valid username.
* **Steps:**

1. Open the registration form.
2. Enter validusername in the username field.
3. Fill in the email, password, and confirm password fields with valid inputs.
4. Click the "Register" button.

* **Expected Result:** Form accepts the input and no error is shown.
* **Actual Result:**

#### **2. Email Field**

**Test Case 2.1:**

* **ID:** TC-003
* **Name:** Empty Email Field
* **Description:** Verify the form behavior when the email field is left empty.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Leave the email field blank.
4. Fill in the password and confirm password fields with valid inputs.
5. Click the "Register" button.

* **Expected Result:** Error message indicating that the email is required.
* **Actual Result:**

**Test Case 2.2:**

* **ID:** TC-004
* **Name:** Invalid Email Format
* **Description:** Verify the form behavior when an invalid email format is entered.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter invalidemail@ in the email field.
4. Fill in the password and confirm password fields with valid inputs.
5. Click the "Register" button.

* **Expected Result:** Error message indicating that the email format is invalid.
* **Actual Result:**

**Test Case 2.3:**

* **ID:** TC-005
* **Name:** Valid Email
* **Description:** Verify the form accepts a valid email.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter [validemail@example.com](mailto:validemail@example.com) in the email field.
4. Fill in the password and confirm password fields with valid inputs.
5. Click the "Register" button.

* **Expected Result:** Form accepts the input and no error is shown.
* **Actual Result:**

#### **3. Password Field**

**Test Case 3.1:**

* **ID:** TC-006
* **Name:** Empty Password Field
* **Description:** Verify the form behavior when the password field is left empty.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Leave the password field blank.
5. Enter a valid confirm password.
6. Click the "Register" button.

* **Expected Result:** Error message indicating that the password is required.
* **Actual Result:**

**Test Case 3.2:**

* **ID:** TC-007
* **Name:** Password Less Than 8 Characters
* **Description:** Verify the form behavior when a password with less than 8 characters is entered.
* **Steps:**

1. Open the registration form.

2. Enter a valid username in the username field.

3. Enter a valid email in the email field.

4. Enter Ab1c in the password field.

5. Enter the same in the confirm password field.

1. Click the "Register" button.

* **Expected Result:** Error message indicating that the password must be at least 8 characters long.
* **Actual Result:**

**Test Case 3.3:**

* **ID:** TC-008
* **Name:** Password Without Uppercase Letters
* **Description:** Verify the form behavior when a password without uppercase letters is entered.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter password1 in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Error message indicating that the password must include at least one uppercase letter.
* **Actual Result:**

**Test Case 3.4:**

* **ID:** TC-009
* **Name:** Password Without Lowercase Letters
* **Description:** Verify the form behavior when a password without lowercase letters is entered.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter PASSWORD1 in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Error message indicating that the password must include at least one lowercase letter.
* **Actual Result:**

**Test Case 3.5:**

* **ID:** TC-010
* **Name:** Password Without Numbers
* **Description:** Verify the form behavior when a password without numbers is entered.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter Password in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Error message indicating that the password must include at least one number.
* **Actual Result:**

**Test Case 3.6:**

* **ID:** TC-011
* **Name:** Valid Password
* **Description:** Verify the form accepts a valid password.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter Password1 in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Form accepts the input and no error is shown.
* **Actual Result:**

#### **4. Confirm Password Field**

**Test Case 4.1:**

* **ID:** TC-012
* **Name:** Empty Confirm Password Field
* **Description:** Verify the form behavior when the confirm password field is left empty.
* **Steps:**
  1. Open the registration form.
  2. Enter a valid username in the username field.
  3. Enter a valid email in the email field.
  4. Enter a valid password in the password field.
  5. Leave the confirm password field blank.
  6. Click the "Register" button.
* **Expected Result:** Error message indicating that the confirm password is required.

**Test Case 4.2:**

* **ID:** TC-013
* **Name:** Mismatched Confirm Password
* **Description:** Verify the form behavior when the confirm password does not match the password.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter Password1 in the password field.
5. Enter Password2 in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Error message indicating that the passwords do not match.
* **Actual Result:**

**Test Case 4.3:**

* **ID:** TC-014
* **Name:** Matching Confirm Password
* **Description:** Verify the form accepts a confirm password that matches the password.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter a valid email in the email field.
4. Enter Password1 in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Form accepts the input and no error is shown.
* **Actual Result:**

#### **5. Submit Registration**

**Test Case 5.1:**

* **ID:** TC-015
* **Name:** Successful Registration
* **Description:** Verify the form submission is successful with all valid inputs.
* **Steps:**

1. Open the registration form.
2. Enter validusername in the username field.
3. Enter [validemail@example.com](mailto:validemail@example.com) in the email field.
4. Enter Password1 in the password field.
5. Enter the same in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Form is submitted successfully, and the user is registered.
* **Actual Result:**

**Test Case 5.2:**

* **ID:** TC-016
* **Name:** All Fields Empty
* **Description:** Verify the form behavior when all fields are left empty.
* **Steps:**

1. Open the registration form.
2. Leave the username, email, password, and confirm password fields blank.
3. Click the "Register" button.

* **Expected Result:** Error messages for all required fields.
* **Actual Result:**

**Test Case 5.3:**

* **ID:** TC-017
* **Name:** Some Fields Invalid
* **Description:** Verify the form behavior when some fields are filled correctly and some incorrectly.
* **Steps:**

1. Open the registration form.
2. Enter validusername in the username field.
3. Enter [validemail@example.com](mailto:validemail@example.com) in the email field.
4. Enter Password1 in the password field.
5. Enter Password2 in the confirm password field.
6. Click the "Register" button.

* **Expected Result:** Error message for the confirm password field indicating that the passwords do not match.
* **Actual Result:**

### **Additional Edge Cases**

**Test Case 6.1:**

* **ID:** TC-018
* **Name:** Very Long Username
* **Description:** Verify the form behavior when a very long username is entered.
* **Steps:**

1. Open the registration form.
2. Enter a username with more than typical maximum characters (e.g., 255 characters).
3. Enter valid email, password, and confirm password fields.
4. Click the "Register" button.

* **Expected Result:** Depending on the system's constraints, either accept or show an error for exceeding the maximum length.
* **Actual Result:**

**Test Case 6.2:**

* **ID:** TC-019
* **Name:** Very Long Email
* **Description:** Verify the form behavior when a very long email is entered.
* **Steps:**

1. Open the registration form.
2. Enter a valid username in the username field.
3. Enter an email with more than typical maximum characters (e.g., 255 characters).
4. Enter valid password and confirm password fields.
5. Click the "Register" button.

* **Expected Result:** Depending on the system's constraints, either accept or show an error for exceeding the maximum length.
* **Actual Result:**

**Test Case 6.3:**

* **ID:** TC-020
* **Name:** Special Characters in Username
* **Description:** Verify the form behavior when special characters are entered in the username field.
* **Steps:**

1. Open the registration form.
2. Enter user!@#name in the username field.
3. Enter valid email, password, and confirm password fields.
4. Click the "Register" button.

* **Expected Result:** Depending on the system's constraints, either accept or show an error for invalid characters.
* **Actual Result:**