

Test Scenario: User Registration Page

1. **Precondition:** The user is on the web application's registration page.
2. **Test Steps:** a. Fill in the registration form with the following details:
 - Username (alphanumeric, 6-15 characters)
 - Password (alphanumeric, 8-20 characters)
 - Email Address (valid email format)
3. b. Click on the "Register" button.
4. **Expected Results:** a. The system should validate the username's length:
 - **Boundary Values:**
 - Minimum Length: 6 characters
 - Maximum Length: 15 characters
 - **Equivalence Partitions:**
 - Valid Range: 7-14 characters
 - Invalid Values: Less than 6 characters, more than 15 characters.
5. b. The system should validate the password's length:
 - **Boundary Values:**
 - Minimum Length: 8 characters
 - Maximum Length: 20 characters
 - **Equivalence Partitions:**
 - Valid Range: 9-19 characters
 - Invalid Values: Less than 8 characters, more than 20 characters.
6. c. The system should validate the email address:
 - **Boundary Values:**
 - Valid Email Address Format
 - **Equivalence Partitions:**
 - Valid Email Address
 - Invalid Email Address Format

Test Data:

- Username: "user123"
- Password: "P@ssw0rd"
- Email: "user123@example.com"

Boundary Value Analysis (BVA) Testing:

1. Test with a username of 6 characters. (Minimum boundary)
2. Test with a username of 15 characters. (Maximum boundary)
3. Test with a password of 8 characters. (Minimum boundary)
4. Test with a password of 20 characters. (Maximum boundary)
5. Test with a valid email address format.

Equivalence Partitioning Testing:

1. Test with a username of 7 characters. (Valid range)
2. Test with a username of 14 characters. (Valid range)
3. Test with a password of 9 characters. (Valid range)
4. Test with a password of 19 characters. (Valid range)

5. Test with a valid email address.
6. Test with an invalid username (less than 6 characters).
7. Test with an invalid username (more than 15 characters).
8. Test with an invalid password (less than 8 characters).
9. Test with an invalid password (more than 20 characters).
10. Test with an invalid email address format.