**WEBX EXP9**

| | |
|---|---|
| **Name of Student** | **Ria Chaudhari** |
| **Class Roll No** | **D15A07** |
| **D.O.P.** | |
| **D.O.S.** | |
| **Sign and Grade** | |

**Aim:** To study AJAX

**Theory:**

1. **How do Synchronous and Asynchronous Requests differ?**

| Feature | Synchronous | Asynchronous |
|---|---|---|
| **Blocking** | Blocks code execution until reque completes | Doesn't block code execution |
| **Performance** | Slower, UI may freeze | Faster, smoother us experience |
| **Usage** | Not recommended in modern web apps | Preferred for web developmer |
| **Example** | `xhr.open("GET", url, false);` | `xhr.open("GET", ur true);` |

2. **Describe various properties and methods used in XMLHttpRequest Object**

**Properties:**

- `xhr.readyState` – Status of the request (0 to 4)
- `xhr.status` – HTTP status code (e.g., 200 = OK)
- `xhr.responseText` – Response data as text

- `xhr.responseXML` – Response data as XML (if available)

🛠️ **Methods:**

1) `xhr.open(method, url, async)` – Initializes a request
2) `xhr.send(data)` – Sends the request
3) `xhr.setRequestHeader(header, value)` – Sets custom request headers
4) `xhr.abort()` – Cancels the request

**Problem Statement:**
Create a registration page having fields like Name, College, Username and Password (read password twice).
Validate the form by checking for
1. Usernameis not same as existing entries
2. Name field is not empty
3. Retyped password is matching with the earlier one. Prompt a message is
And also auto suggest college names.
Show the message "Successfully Registered" on the same page below the submit button, on Successfully registration. Let all the updations on the page be Asynchronously loaded. Implement the same using XMLHttpRequest Object.

**Github Link**: https://github.com/riachaudhari/webx-exp9

**Code:**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>AJAX Registration Form</title>
```

```
<style>
  body {
    font-family: 'Segoe UI', sans-serif;
    background: #f3f4f6;
    margin: 0;
    padding: 20px;
  }
  .container {
    background: white;
    max-width: 500px;
    margin: 50px auto;
    padding: 30px;
    border-radius: 10px;
    box-shadow: 0 8px 16px rgba(0,0,0,0.1);
  }
  h2 {
    text-align: center;
    color: #0d47a1;
  }
  label {
    font-weight: bold;
    margin-top: 15px;
    display: block;
```

```
}
input[type="text"],
input[type="password"],
input[list] {
  width: 100%;
  padding: 10px;
  margin-top: 6px;
  border: 1px solid #ccc;
  border-radius: 5px;
  box-sizing: border-box;
}
button {
  margin-top: 20px;
  width: 100%;
  padding: 12px;
  background-color: #1976d2;
  color: white;
  border: none;
  border-radius: 5px;
  font-size: 16px;
  cursor: pointer;
}
button:hover {
```

```
      background-color: #1565c0;
    }
    .feedback {
      font-size: 13px;
      color: #d32f2f;
      margin-top: 3px;
    }
    .success {
      color: #388e3c;
      margin-top: 20px;
      text-align: center;
    }
  </style>
</head>
<body>
  <div class="container">
    <h2>Register</h2>
    <form id="registrationForm" onsubmit="return false;">
      <label for="name">Name:</label>
      <input type="text" id="name">
      <div id="nameFeedback" class="feedback"></div>

      <label for="college">College:</label>
```

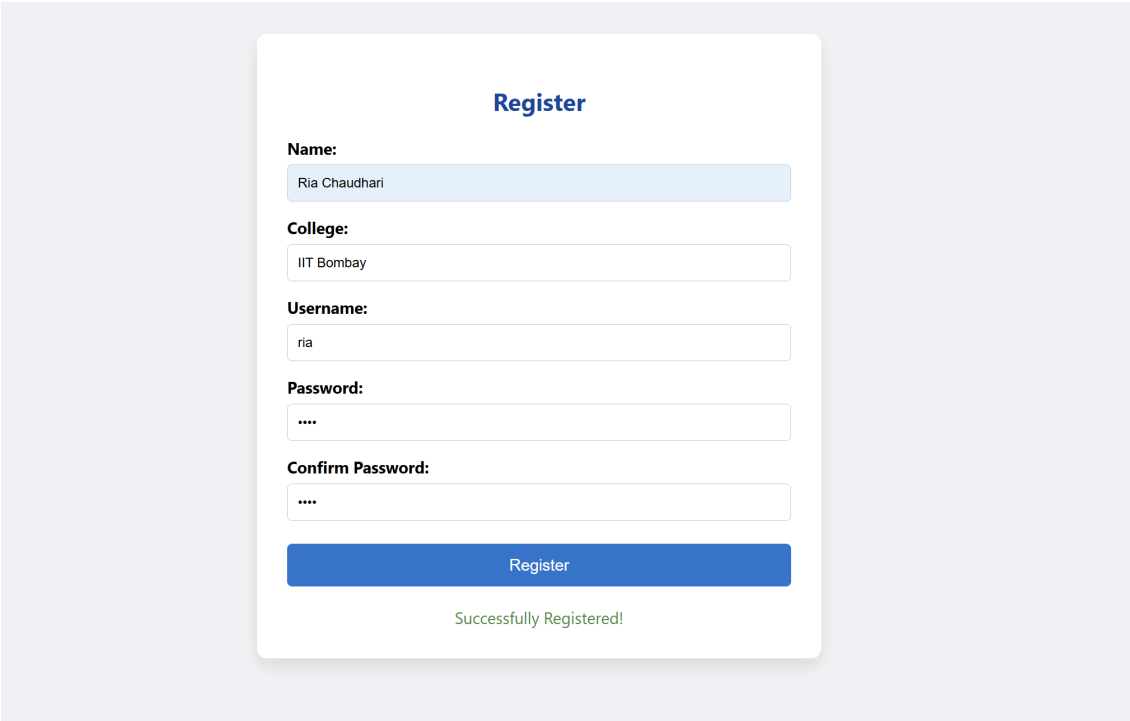
```
  <input list="colleges" id="college">
  <datalist id="colleges">
    <option value="VESIT">
    <option value="IIT Bombay">
    <option value="VIT">
    <option value="MIT">
    <option value="BITS Pilani">
    <option value="University of Mumbai">
  </datalist>

  <label for="username">Username:</label>
  <input type="text" id="username">
  <div id="usernameFeedback" class="feedback"></div>

  <label for="password">Password:</label>
  <input type="password" id="password">

  <label for="confirmPassword">Confirm Password:</label>
  <input type="password" id="confirmPassword">
  <div id="passwordFeedback" class="feedback"></div>

  <button type="button" onclick="submitForm()">Register</button>
</form>
```

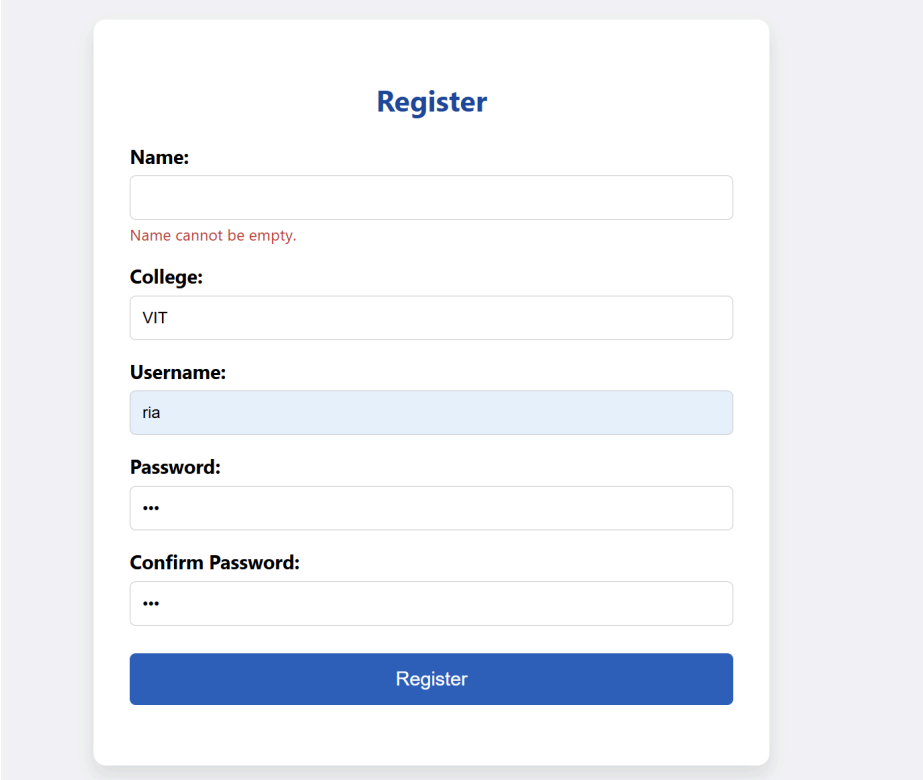
```
  <div id="successMessage" class="success"></div>
</div>

<script>
  const existingUsernames = ["sneha123", "admin", "testuser"];

  function checkUsernameAsync(username, callback) {
    // Simulate an AJAX call with a small delay
    setTimeout(() => {
      const lower = username.toLowerCase();
      const exists = existingUsernames.some(u => u.toLowerCase() === lower);
      callback(!exists);
    }, 300); // simulate network delay
  }

  function submitForm() {
    const name = document.getElementById("name").value.trim();
    const username = document.getElementById("username").value.trim();
    const password = document.getElementById("password").value;
    const confirmPassword = document.getElementById("confirmPassword").value;

    const nameFeedback = document.getElementById("nameFeedback");
    const usernameFeedback = document.getElementById("usernameFeedback");
```

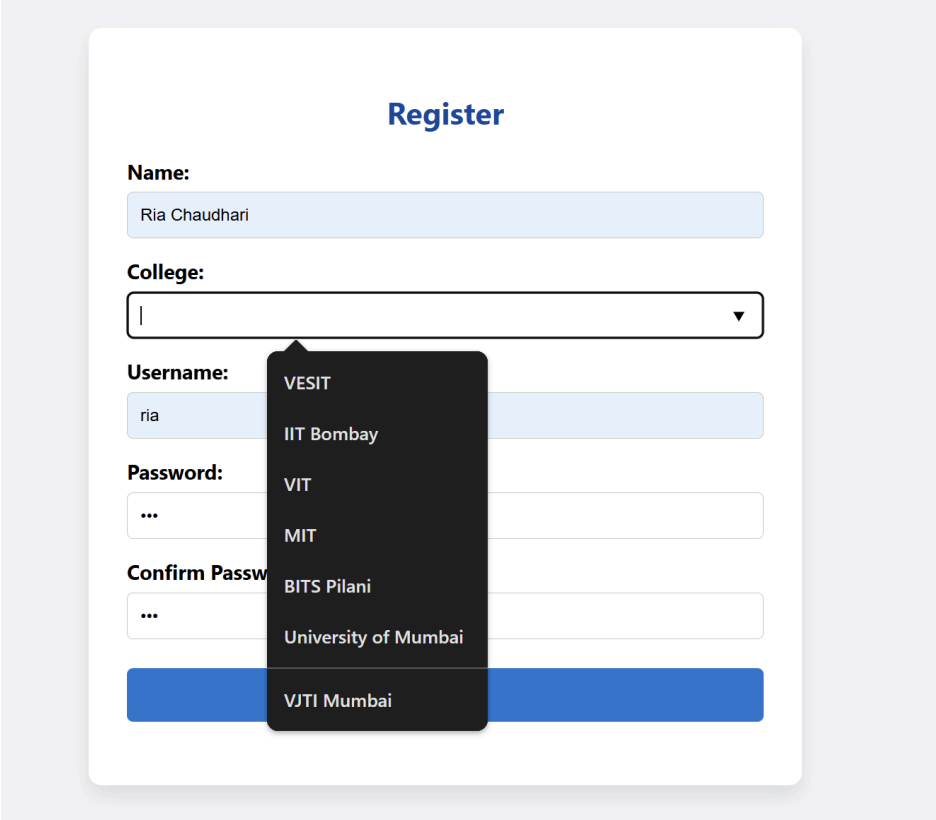
```
const passwordFeedback = document.getElementById("passwordFeedback");
const successMessage = document.getElementById("successMessage");

// Clear all previous messages
nameFeedback.textContent = "";
usernameFeedback.textContent = "";
passwordFeedback.textContent = "";
successMessage.textContent = "";

let valid = true;

if (name === "") {
  nameFeedback.textContent = "Name cannot be empty.";
  valid = false;
}

if (password !== confirmPassword) {
  passwordFeedback.textContent = "Passwords do not match.";
  valid = false;
}

if (!valid) return;
```

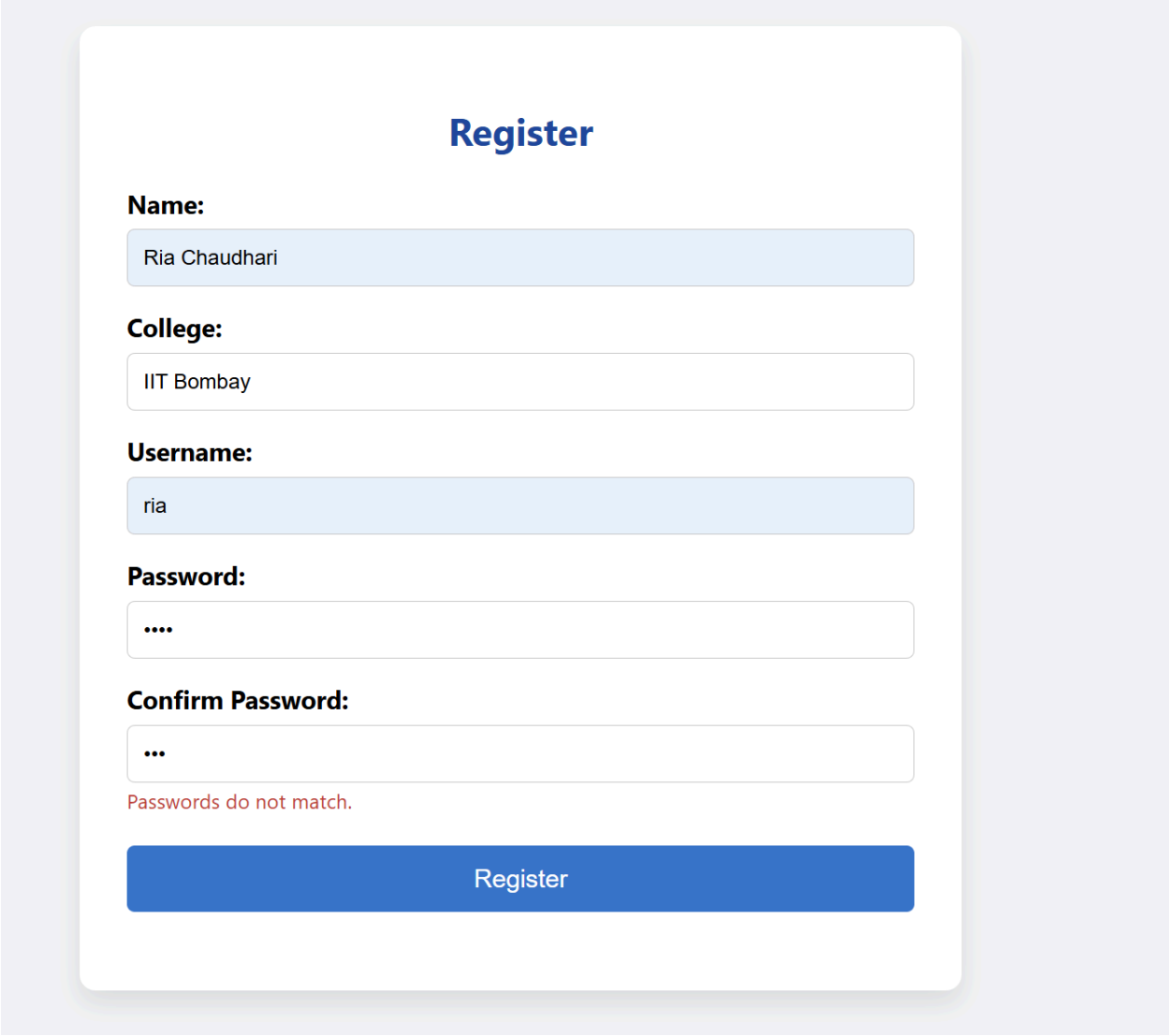
```
      // Async check for username availability
      checkUsernameAsync(username, function (isAvailable) {
        if (!isAvailable) {
          usernameFeedback.textContent = "Username already taken.";
          successMessage.textContent = "";
        } else {
          usernameFeedback.textContent = "";
          successMessage.textContent = "Successfully Registered!";
        }
      });
    }
  </script>

</body>
</html>
```

## OUTPUT:


Register
Name:
Ria Chaudhari
College:
IIT Bombay
Username:
ria
Password:
Confirm Password:
Register
Successfully Registered!


Register
Name:
Name cannot be empty.
College:
VIT
Username:
ria
Password:
Confirm Password:
Register


Register
Name:
Ria Chaudhari
College:
Username:
ria
Password:
Confirm Passw
VESIT
IIT Bombay
VIT
MIT
BITS Pilani
University of Mumbai
VJTI Mumbai




**Conclusion:**

Synchronous requests block the browser, while asynchronous requests run in the background without interrupting the user. `XMLHttpRequest` provides methods to make these requests and properties to handle responses, forming the base of AJAX functionality.