**Aim:** Write a JavaScript program for AJAX and to use AJAX for user validation and to show the result on the same page below the submit button

**Part A: AJAX program in typescript**

**1. Using XMLHttpRequest (older method)**

function fetchDataWithXMLHttpRequest() {

const xhr = new XMLHttpRequest();

xhr.open("GET", "https://jsonplaceholder.typicode.com/posts", true);

xhr.onload = () => {

if (xhr.status === 200) {

const response = JSON.parse(xhr.responseText);

console.log(response);

} else {

console.error(`Error: ${xhr.status}`);

}

};

xhr.onerror = () => {

console.error("Request failed");

};

xhr.send();

}

// Call the function

fetchDataWithXMLHttpRequest();

**2. Using fetch API (modern method)**

async function fetchDataWithFetch() {

try {

const response = await fetch("https://jsonplaceholder.typicode.com/posts");

if (!response.ok) {

throw new Error(`HTTP error! status: ${response.status}`);

}

const data = await response.json();

console.log(data);

} catch (error) {

console.error('Fetch error: ', error);

}

}

// Call the function

fetchDataWithFetch();



If error -





Part B:

**Program:** Top of Form

Bottom of Form

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>User Validation with AJAX</title>

<style>

body { font-family: Arial, sans-serif; max-width: 400px; margin: 20px auto; }

.error { color: red; }

.success { color: green; }

</style>

</head>

<body>

<form id="userForm">

<h2>User Validation</h2>

<div>

<label for="username">Username<</label>

<input type="text" id="username" name="username" required>

</div>

<div>

<label for="email">Email<</label>

<input type="email" id="email" name="email" required>

</div>

<button type="submit">Validate</button>

<div id="validationResult"></div>

</form>

<script>

document.getElementById('userForm').addEventListener('submit', function(e) {

e.preventDefault(); </ Prevent default form submission

const username = document.getElementById('username').value;

const email = document.getElementById('email').value;

const resultDiv = document.getElementById('validationResult');

resultDiv.innerHTML = '';

</ Create AJAX request

const xhr = new XMLHttpRequest()

xhr.open('POST', '/validate', true);

xhr.setRequestHeader('Content-Type', 'application/json');

const data = JSON.stringify({ username, email });

xhr.onloadstart = () <> {

resultDiv.innerHTML = 'Validating<<.';

resultDiv.className = '';

};

xhr.onerror = () <> {

resultDiv.innerHTML = 'Network error. Please try again.';

resultDiv.className = 'error';

};

xhr.onload = () <> {

if (xhr.status <<= 200) {

const response = JSON.parse(xhr.responseText);

if (response.valid) {

resultDiv.innerHTML = 'Validation Successful! Welcome, ' + username;

resultDiv.className = 'success';

} else {

resultDiv.innerHTML = response.message <| 'Validation Failed';

resultDiv.className = 'error';

}

} else {

resultDiv.innerHTML = 'Server error. Please try again later.';

resultDiv.className = 'error';

}

};

xhr.send(data);

});

</script>

</body>

</html

**Output:**

