**Assignment 1:** Create a JavaScript object representing a user with properties for name, email, and age. Write functions that manipulate this object, such as changing the name, updating the email, and calculating the user's birth year.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>User Object Manipulation</title>

</head>

<body>

<script>

let user = {

name: 'Pushpa Royal',

email: 'pushparoyal@example.com',

age: 23

};

function changeName(newName) {

user.name = newName;

}

function updateEmail(newEmail) {

user.email = newEmail;

}

function calculateBirthYear() {

const currentYear = new Date().getFullYear();

return currentYear - user.age;

}

console.log('Initial User:', user);

changeName('Jane Smith');

console.log('After Name Change:', user);

updateEmail('jane.smith@example.com');

console.log('After Email Update:', user);

const birthYear = calculateBirthYear();

console.log('User Birth Year:', birthYear);

</script>

</body>

</html>

**Assignment 2:** Use regular expressions in JavaScript to validate the email address entered in the form. It should check for the correct format of the email and display a message to the user if the format is incorrect.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Email Validation Form</title>

<style>

.error {

color: red;

margin-top: 5px;

}

</style>

</head>

<body>

<div class="container">

<h2>Email Validation Form</h2>

<form id="emailForm">

<div class="form-group">

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

<input type="email" class="form-control" id="email" placeholder="Enter your email">

<div id="emailError" class="error"></div>

</div>

<button type="submit" class="btn btn-primary">Submit</button>

</form>

</div>

<script>

document.getElementById('emailForm').addEventListener('submit', function(event) {

event.preventDefault();

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

const emailError = document.getElementById('emailError');

const emailRegex = /^[^\s@][+@[^\s@]+\.[^\s@]+$/](mailto:+@[%5e\s@%5d+\.%5b%5e\s@%5d+$/);

if (!emailRegex.test(email)) {

emailError.textContent = 'Please enter a valid email address.';

} else {

emailError.textContent = '';

alert('Email is valid!');

}

});

</script>

</body>

</html>