**Task 4:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Task 2: Summation Button</title>

<style>

body {

min-height: 100vh;

margin: 0;

display: flex;

justify-content: center;

align-items: center;

font-family: sans-serif;

}

#sumButton {

padding: 15px 30px;

font-size: 20px;

cursor: pointer;

border: 2px solid #5a5a5a;

background-color: #e0f7fa;

border-radius: 5px;

color: #00796b;

font-weight: bold;

}

</style>

</head>

<body>

<button id="sumButton">Click me</button>

<script>

// 1. Get a reference to the button.

const button = document.getElementById('sumButton');

// 2. Attach the click event listener.

button.addEventListener('click', function() {

// Function that generates and sum the numbers

calculateSum();

});

function calculateSum() {

// Array Creation and Looping ---

// Create an empty array

const numbers = [];

let sum = 0;

// Loop from 0 up to and including 100 (101 iterations)

for (let i = 0; i <= 100; i++) {

// Add the number to the array (Array creation)

numbers.push(i);

// Add the current number to the sum (Looping/Summation)

sum += i;

}

//Printing the Result:

console.log("The generated array (0-100):", numbers);

// Print the final sum

console.log("The sum of all numbers between 0 and 100 is:", sum);

}

</script>

</body>

</html>