<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Interactive Triangle Display</title>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

}

.container {

max-width: 600px;

margin: auto;

}

.output {

margin-top: 10px;

padding: 10px;

border: 1px solid #ccc;

background-color: #f9f9f9;

}

</style>

</head>

<body>

<div class="container">

<h2>Interactive Triangle Display</h2>

<div id="output" class="output">

<!-- Output will be displayed here -->

</div>

<hr>

<label for="choice">Choose an option:</label>

<select id="choice">

<option value="1">Display a right-angle triangle of ones</option>

<option value="2">Display a Palindromic Triangle</option>

<option value="3">Help</option>

<option value="4">Exit</option>

</select>

<button onclick="handleChoice()">Submit</button>

</div>

<script>

function displayOnesTriangle() {

let n = prompt("Enter the number of rows for the triangle:");

let output = "";

for (let i = 1; i <= n; i++) {

output += Array(i).fill('1').join(' ') + '<br>';

}

document.getElementById('output').innerHTML = output;

}

function displayPalindromicTriangle() {

let n = prompt("Enter the number of rows for the triangle:");

let output = "";

for (let i = 1; i <= n; i++) {

let rowNumbers = Array.from({length: i}, (\_, index) => index + 1);

let mirroredPart = rowNumbers.slice(0, -1).reverse();

let row = rowNumbers.concat(mirroredPart);

output += row.join(' ') + '<br>';

}

document.getElementById('output').innerHTML = output;

}

function displayHelp() {

let helpText = `

Menu:

1. Display a right-angle triangle of ones

2. Display a Palindromic Triangle

3. Help

4. Exit`;

document.getElementById('output').innerHTML = helpText;

}

function handleChoice() {

let choice = document.getElementById('choice').value;

switch (choice) {

case '1':

displayOnesTriangle();

break;

case '2':

displayPalindromicTriangle();

break;

case '3':

displayHelp();

break;

case '4':

alert("Exiting the program...");

break;

default:

alert("Invalid choice. Please choose a number between 1 and 4.");

break;

}

}

</script>

</body>

</html>