C# program 5

Develop a C# program to generate and printPascal Triangle using Two Dimensional arrays.

using System;

class Program

{

static void Main()

{

Console.Write("Enter the number of rows for Pascal's Triangle: ");

int numRows = int.Parse(Console.ReadLine());

int[,] pascalTriangle = GeneratePascalsTriangle(numRows);

Console.WriteLine("\nPascal's Triangle:");

PrintPascalsTriangle(pascalTriangle);

}

static int[,] GeneratePascalsTriangle(int numRows)

{

int[,] triangle = new int[numRows, numRows];

for (int i = 0; i < numRows; i++)

{

for (int j = 0; j <= i; j++)

{

if (j == 0 || j == i)

{

triangle[i, j] = 1; // First and last element in each row is 1

}

else

{

triangle[i, j] = triangle[i - 1, j - 1] + triangle[i - 1, j];

}

}

}

return triangle;

}

static void PrintPascalsTriangle(int[,] triangle)

{

for (int i = 0; i < triangle.GetLength(0); i++)

{

for (int j = 0; j <= i; j++)

{

Console.Write(triangle[i, j] + " ");

}

Console.WriteLine();

}

}

}