The *longest diagonals* of a square matrix are defined as follows:

* the first *longest diagonal* goes from the top left corner to the bottom right one;
* the second *longest diagonal* goes from the top right corner to the bottom left one.

Given a square matrix, your task is to reverse the order of elements on both of its *longest diagonals*.

**Example**

For

matrix = [[1, 2, 3],

[4, 5, 6],

[7, 8, 9]]

the output should be

reverseOnDiagonals(matrix) = [[9, 2, 7],

[4, 5, 6],

[3, 8, 1]]

**Input/Output**

* **[time limit] 3000ms (cs)**
* **[input] array.array.integer matrix**

*Constraints:*  
1 ≤ matrix.length ≤ 10,  
matrix.length = matrix[i].length,  
1 ≤ matrix[i][j] ≤ 1000.

* **[output] array.array.integer**

Matrix with the order of elements on its *longest diagonals*reversed.

<https://codefights.com/arcade/code-arcade/list-backwoods/Akspcu9ewiYapWkrp>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

static int[][] reverseOnDiagonals(int[][] matrix)

{

List<int> d1 = new List<int>();

for (int i = 0; i < matrix.Length; i++)

d1.Add(matrix[i][i]);

int f = 0, c = matrix[0].Length - 1;

List<int> d2 = new List<int>();

for (int i = 0; i < matrix.Length; i++)

d2.Add(matrix[f++][c--]);

d1.Reverse();

d2.Reverse();

for (int i = 0; i < matrix.Length; i++)

matrix[i][i] = d1[i];

f = 0; c = matrix[0].Length - 1;

for (int i = 0; i < matrix.Length; i++)

matrix[f++][c--] = d2[i];

return matrix;

}

static void Main(string[] args)

{

int[][] matrix =

{

new int[]{43,455, 32,103},

new int[]{102,988,298,981},

new int[]{309, 21, 53,64},

new int[]{ 2, 22, 35,291}

};

// // Expected Output:

// [[291,455, 32, 2],

// [102, 53, 21,981],

// [309,298,988, 64],

// [103, 22, 35, 43]]

int[][] res = reverseOnDiagonals(matrix);

for (int i = 0; i < res.Length; i++)

{

for (int j = 0; j < res[i].Length; j++)

{

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

}

Console.WriteLine();

}

Console.ReadLine();

}

}

}