using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace MaximalSequenceOfIncreasingElements2

{

class Program

{

static void Main(string[] args)

{

//initialise to arrays. one for user input, and the other for the maximal sequence lengths

Console.Write("n: ");

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

int[] arrayOne = new int[arrayLength];

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

{

Console.Write("{0}: ", i + 1);

arrayOne[i] = int.Parse(Console.ReadLine());

}

int[] arrayTwo = new int[arrayLength];

arrayTwo[0] = 1;

//calculate the length of the maximal elements up to each point in the array

for (int outer = 1; outer < arrayLength; outer++)

for (int inner = 0; inner < outer; inner++)

if (arrayOne[inner] < arrayOne[outer] && arrayTwo[outer] < arrayTwo[inner] + 1)

arrayTwo[outer] = 1 + arrayTwo[inner];

//find the length of the largest maximal input

int highestNumber = int.MinValue;

int position = new int();

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

if (arrayTwo[i] > highestNumber)

{

highestNumber = arrayTwo[i];

position = i;

}

int[] result = new int[highestNumber + 1];

for (int index = position; index >= 0; index--)

if (arrayTwo[index] == highestNumber)

{

result[highestNumber] = arrayOne[index];

highestNumber--;

}

foreach (var value in result)

Console.Write(value + " ");

}

}

}