Given a sequence of 0s and 1s, determine if it is a prefix of Thue-Morse sequence.

The infinite Thue-Morse sequence is obtained by first taking a sequence containing a single 0 and then repeatedly concatenating the current sequence with its binary complement.

A binary complement of a sequence X is a sequence Y of the same length such that the sum of elements X\_i and Y\_i on the same positions is equal to 1 for each i.

Thus the first few iterations to obtain Thue-Morse sequence are: 0 0 1 0 1 1 0 0 1 1 0 1 0 0 1 ...

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

[0, 1, 1]

* **[output] boolean**

true

<https://codefights.com/challenge/B2oN8KmkJt3LxySQt/main>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

static bool isThueMorse(int[] seq)

{

string input = seq.Aggregate("", (s, i) => s + i.ToString());

StringBuilder sb1 = new StringBuilder("0");

StringBuilder sb2 = new StringBuilder("1");

for (int i = 0; sb1.Length <= input.Length; i++)

{

String tmp = sb1.ToString();

sb1.Append(sb2);

sb2.Append(tmp);

}

if (sb1.ToString().Substring(0, input.Length)==input)

{

return true;

}

return false;

}

static void Main(string[] args)

{

//int[] arr = { 1, 2, 3 };

//string result = string.Join("", arr);

//string result = arr.Aggregate("", (s, i) => s + i.ToString());

//Console.WriteLine(result);

int[] seq = { 0, 1, 1, 0, 1 };

Console.WriteLine(isThueMorse(seq));

Console.ReadLine();

}

}

}