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https://codefights.com/img/coins_new.png2000

With which foot should I step on the nth crack?

Ever since I was young, I used a pattern to decide with which foot I should step on the next crack in the ground. My goal was to 'balance', to the greatest extent possible, the number of times I stepped on cracks with each foot.

If the first time I stepped on a crack it was with my left foot, then the next time I stepped on the crack it would have to be with my right foot, so that I 'balanced' the fact that the left foot had already stepped on one.

Then the third time I stepped on a crack, it was again with my right foot, since even though each foot had had a turn, I had stepped with my left foot first, which was not completely 'balanced.' Now I had stepped twice with my right foot and once with my left foot, so in order to 'balance', the fourth time I would again step with my left foot.

Only when I was 21 years old and sitting in a course called Chaos Theory and Fractal Geometry in college, did I learn that this was actually a special pattern: the [Thue-Morse sequence](https://en.wikipedia.org/wiki/Thue%E2%80%93Morse_sequence).

Given the first foot with which I stepped on a crack, find the foot with which I should step on the nth crack.

**Example**

* For step = "left" and n = 2, the output should be  
  stepOnCrack(step, n) = "right".
* For step = "right" and n = 3, the output should be  
  stepOnCrack(step, n) = "left".

Since the first time I step on the crack with my right leg, the second and the third steps will be made with my right leg.

* **[input] string first**

The first foot with which I stepped on a crack. Either "left" or "right".

* **[input] integer n**

The 1-based number of the crack on which I will step, 2 ≤ n ≤ 50.

* **[output] string**

The foot with which I should step on the nthcrack. Either "left" or "right".

<https://codefights.com/challenge/qcnFqZ9TyqKidsTDT/main?utm_source=challengeOfTheDay&utm_medium=email&utm_campaign=email_notification>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

//lo hice en base a la secuencia thue Morse <https://es.wikipedia.org/wiki/Sucesi%C3%B3n_de_Thue-Morse>

static string stepOnCrack(string first, int n)

{

List<bool> pasos = new List<bool>();

if (first == "left")

{

pasos.Add(false);

}

else

{

pasos.Add(true);

}

while (pasos.Count < n)

{

List<bool> inverso = new List<bool>();

for (int i = 0; i < pasos.Count; i++)

{

inverso.Add(pasos[i]);

}

for (int i = 0; i < pasos.Count; i++)

{

inverso.Add(!pasos[i]);

}

pasos = new List<bool>();

for (int i = 0; i < inverso.Count; i++)

{

pasos.Add(inverso[i]);

}

}

if (pasos[n-1])

{

return "right";

}

return "left";

}

static void Main(string[] args)

{

string step = "right" ;

int n = 3;

Console.WriteLine(stepOnCrack(step, n));

Console.ReadLine();

}

}

}