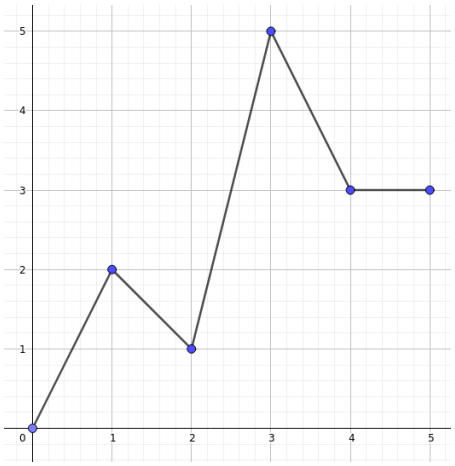

**Goal**

Since the various revelations about the NSA, you no longer trust the random number generator of your operating system. So you have set up the following countermeasure: after drawing a random integer, you pass it to a mysterious homemade (deterministic) function, which associates any integer between 0 and **N** another integer between 0 and **N**.

Your hierarchy has been so seduced by the simplicity of this idea that it has asked you to extend this mysterious function to decimals. For this, you make a linear interpolation on each interval [**i**, **i** + 1] (see example below for an explanation).

However, you begin to doubt: do the numbers near the middle of the interval [0, **N**] appear more often than those at the ends? This would be an unfortunate defect for your random generation. That's why you want to determine the number of times the function goes through **N** / 2.

Example of linear interpolation




The graph above represents the interpolated function from the values:
f (0) = 0, f (1) = 2, f (2) = 1, f (3) = 5, f (4) = 3, f (5) = 3

For example, between 2 and 3, f takes all the values from 1 to 5, each one time. So, there is an x between 2 and 3 such that f (x) = 2.5.

We also see that the function takes the value 1.5 three times:

- between 0 and 1 since f (0) <1.5 <f (1);

- between 1 and 2 since f (1)> 1.5> f (2);
- then between 2 and 3 since f (2) <1.5 <f (3).

Moreover, it takes the value 2 twice (once exactly in 1, since f (1) = 2, and again at a certain point between 2 and 3, since f (2) <2 <f (3)), and the value 3 an infinity of times (indeed, any entry between 4 and 5 will give an output equal to 3, and there is an infinity of real numbers between 4 and 5.).

**Data**

Input

Row *1*: an integer **N** between *1* and *99*.
Row *2*: **N** + *1* integers (not **N**, beware!) Separated by spaces, indicating f (0), f (1), ..., f (N) (f being your function), all are between *0* and **N** included.

Output

An integer indicating the number of different **x** values between *0* and **N** for which f (**x**) is **N** / 2. If this number is infinite, output *INF*.

Examples

The input corresponding to the example given above is the following:

```
5
0 2 1 5 3 3
```

The expected output is *1*, in fact there is exactly one **x** for which
f (x) = 5/2 = 2.5, as mentioned above this **x** is between 2 and 3.

On the following entry:

```
4
0 2 2 1 0
```

The expected output is INF.

You can download sample input and output data files to work locally by clicking on the link at the bottom of the French version of the question.

**Téléchargez des fichiers d'exemple ainsi qu'un modèle de code pour travailler localement.**