A magical string **S** consists of only '1' and '2' and obeys the following rules:

The string **S** is magical because concatenating the number of contiguous occurrences of characters '1' and '2' generates the string **S** itself.

The first few elements of string **S** is the following: **S** = "1221121221221121122……"

If we group the consecutive '1's and '2's in **S**, it will be:

1 22 11 2 1 22 1 22 11 2 11 22 ......

and the occurrences of '1's or '2's in each group are:

1 2 2 1 1 2 1 2 2 1 2 2 ......

You can see that the occurrence sequence above is the **S** itself.

Given an integer N as input, return the number of '1's in the first N number in the magical string **S**.

**Note:** N will not exceed 100,000.

**Example 1:**

**Input:** 6

**Output:** 3

**Explanation:** The first 6 elements of magical string S is "12211" and it contains three 1's, so return 3.