We are playing the Guess Game. The game is as follows:

I pick a number from 1 to n. You have to guess which number I picked.

Every time you guess wrong, I will tell you whether the number I picked is higher or lower than your guess.

You call a pre-defined API int guess(int num), which returns three possible results:

* -1: Your guess is higher than the number I picked (i.e. num > pick).
* 1: Your guess is lower than the number I picked (i.e. num < pick).
* 0: your guess is equal to the number I picked (i.e. num == pick).

Return *the number that I picked*.

**Example 1:**

Input: n = 10, pick = 6  
Output: 6

**Example 2:**

Input: n = 1, pick = 1  
Output: 1

**Example 3:**

Input: n = 2, pick = 1  
Output: 1

**Constraints:**

* 1 <= n <= 231 - 1
* 1 <= pick <= n