

374. Guess Number Higher or Lower

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 3 possible results:

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

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
```

Example 4:

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

Constraints:

- `1 <= n <= 231 - 1`
- `1 <= pick <= n`

```
# The guess API is already defined for you.
# @param num, your guess
```

```
# @return -1 if my number is lower, 1 if my number is higher, otherwise
return 0
# def guess(num: int) -> int:

class Solution:
    def guessNumber(self, n: int) -> int:
        if n==1:
            return 1
        res = 0
        lo = 1
        hi = n
        while lo<=hi:
            mid = (lo+hi)//2
            if guess(mid)==0:
                res = mid
                return res
            elif guess(mid)==1:
                lo = mid+1
            elif guess(mid)==-1:
                hi = mid-1
        # return res
```