3064. Guess the Number Using Bitwise Questions I

Description

There is a number `n` that you have to find.

There is also a pre-defined API `int commonSetBits(int num)`, which returns the number of bits where both `n` and `num` are `1` in that position of their binary representation. In other words, it returns the number of set bits in `n & num`, where `&` is the bitwise `AND` operator.

Return *the number* `n`.

Example 1:

Input: `n = 31`

Output: `31`

Explanation: It can be proven that it's possible to find `31` using the provided API.

Example 2:

Input: `n = 33`

Output: `33`

Explanation: It can be proven that it's possible to find `33` using the provided API.

Constraints:

- `1 <= n <= 2^30 - 1`
- `0 <= num <= 2^30 - 1`
- If you ask for some `num` out of the given range, the output wouldn't be reliable.