

Problem List

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Description

Editorial

Solutions

Submissions

3064. Guess the Number Using Bitwise Questions I

Premium

Solved

Medium

Topics

Hint

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:

- $1 \leq n \leq 2^{30} - 1$
- $0 \leq num \leq 2^{30} - 1$
- If you ask for some `num` out of the given range, the output wouldn't be reliable.

Seen this question in a real interview before?

1/5

Yes

No

Accepted 748 | Submissions 812 | Acceptance Rate 92.1%

Topics

Hint 1

Hint 2

Discussion (2)

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Run

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Python3

Auto

```
1 # Definition of commonSetBits API.
2 # def commonSetBits(num: int) -> int:
3
4 class Solution:
5     def findNumber(self) -> int:
6         res = 0
7         for i in range(30):
8             res += 1<<i if commonSetBits(1<<i) else 0
9         return res
10
```

Ln 7, Col 28

Testcase

Test Result

Accepted

Runtime: 48 ms

Case 1

Input

31

Output

31

Expected

31