

2568. Minimum Impossible OR

Description

You are given a **0-indexed** integer array `nums`.

We say that an integer x is **expressible** from `nums` if there exist some integers $0 \leq \text{index}_1 < \text{index}_2 < \dots < \text{index}_k < \text{nums.length}$ for which $\text{nums}[\text{index}_1] \mid \text{nums}[\text{index}_2] \mid \dots \mid \text{nums}[\text{index}_k] = x$. In other words, an integer is expressible if it can be written as the bitwise OR of some subsequence of `nums`.

Return *the minimum positive non-zero integer that is not expressible from* `nums`.

Example 1:

Input: `nums = [2,1]`

Output: 4

Explanation: 1 and 2 are already present in the array. We know that 3 is expressible, since $\text{nums}[0] \mid \text{nums}[1] = 2 \mid 1 = 3$. Since 4 is not expressible, we return 4.

Example 2:

Input: `nums = [5,3,2]`

Output: 1

Explanation: We can show that 1 is the smallest number that is not expressible.

Constraints:

- $1 \leq \text{nums.length} \leq 10^5$
- $1 \leq \text{nums}[i] \leq 10^9$

