Problem 2917: Find the K-or of an Array

Problem Information

Difficulty: Easy
Acceptance Rate: 72.56%
Paid Only: No
Tags: Array, Bit Manipulation

Problem Description

You are given an integer array `nums`, and an integer `k`. Let's introduce **K-or** operation by extending the standard bitwise OR. In K-or, a bit position in the result is set to `1` if at least `k` numbers in `nums` have a `1` in that position.

Return _the K-or of_ `nums`.

Example 1:

Input: nums = [7,12,9,8,9,15], k = 4

Output: 9

Explanation:

Represent numbers in binary:

Number | Bit 3 | Bit 2 | Bit 1 | Bit 0 ---|---|---|---|--- **7** | 0 | 1 | 1 | 1 **12** | 1 | 1 | 0 | 0 **9** | 1 | 0 | 0 | 1 **8** | 1 | 0 | 0 | 0 **9** | 1 | 0 | 0 | 1 **15** | 1 | 1 | 1 | 1 **Result = 9** | 1 | 0 | 0 | 1 Bit 0 is set in 7, 9, 9, and 15. Bit 3 is set in 12, 9, 8, 9, and 15. Only bits 0 and 3 qualify. The result is `(1001)2 = 9`.

Example 2:

Input: nums = [2,12,1,11,4,5], k = 6

Output: 0

**Explanation: **No bit appears as 1 in all six array numbers, as required for K-or with `k = 6`.
Thus, the result is 0.

Example 3:

Input: nums = [10,8,5,9,11,6,8], k = 1

Output: 15

Explanation: Since `k == 1`, the 1-or of the array is equal to the bitwise OR of all its
elements. Hence, the answer is `10 OR 8 OR 5 OR 9 OR 11 OR 6 OR 8 = 15`.

Constraints:

* `1 <= nums.length <= 50` * `0 <= nums[i] < 231` * `1 <= k <= nums.length`

Code Snippets

C++:

```cpp
class Solution {
public:
int findKOr(vector<int>& nums, int k) {


}
};
```

Java:

```java
class Solution {
public int findKOr(int[] nums, int k) {


}
}
```

Python3:

```python
class Solution:
def findKOr(self, nums: List[int], k: int) -> int:
```