Problem 3287: Find the Maximum Sequence Value of Array

Problem Information

Difficulty: Hard
Acceptance Rate: 20.04%
Paid Only: No
Tags: Array, Dynamic Programming, Bit Manipulation

Problem Description

You are given an integer array `nums` and a **positive** integer `k`.

The **value** of a sequence `seq` of size `2 * x` is defined as:

* `(seq[0] OR seq[1] OR ... OR seq[x - 1]) XOR (seq[x] OR seq[x + 1] OR ... OR seq[2 * x - 1])`.

Return the **maximum** **value** of any subsequence of `nums` having size `2 * k`.

Example 1:

Input: nums = [2,6,7], k = 1

Output: 5

Explanation:

The subsequence `[2, 7]` has the maximum value of `2 XOR 7 = 5`.

Example 2:

Input: nums = [4,2,5,6,7], k = 2

Output: 2

Explanation:

The subsequence `[4, 5, 6, 7]` has the maximum value of `(4 OR 5) XOR (6 OR 7) = 2`.

Constraints:

* `2 <= nums.length <= 400` * `1 <= nums[i] < 27` * `1 <= k <= nums.length / 2`

Code Snippets

C++:

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

}
};
```

Java:

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

}
}
```

Python3:

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