

5916. Minimum Operations to Convert Number

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You are given a **0-indexed** integer array `nums` containing **distinct** numbers, an integer `start`, and an integer `goal`. There is an integer `x` that is initially set to `start`, and you want to perform operations on `x` such that it is converted to `goal`. You can perform the following operation repeatedly on the number `x`:

If $0 \leq x \leq 1000$, then for any index `i` in the array ($0 \leq i < \text{nums.length}$), you can set `x` to any of the following:

- `x + nums[i]`
- `x - nums[i]`
- `x ^ nums[i]` (bitwise-XOR)

Note that you can use each `nums[i]` any number of times in any order. Operations that set `x` to be out of the range $0 \leq x \leq 1000$ are valid, but no more operations can be done afterward.

Return the **minimum** number of operations needed to convert `x = start` into `goal`, and `-1` if it is not possible.

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Example 1:

Input: `nums = [1,3], start = 6, goal = 4`
Output: 2
Explanation:
We can go from `6` → `7` → `4` with the following 2 operations.
– `6 ^ 1 = 7`
– `7 ^ 3 = 4`

Example 2:

Input: `nums = [2,4,12], start = 2, goal = 12`
Output: 2
Explanation:
We can go from `2` → `14` → `12` with the following 2 operations.
– `2 + 12 = 14`
– `14 - 2 = 12`

Example 3:

Input: `nums = [3,5,7], start = 0, goal = -4`
Output: 2
Explanation:
We can go from `0` → `3` → `-4` with the following 2 operations.
– `0 + 3 = 3`
– `3 - 7 = -4`
Note that the last operation sets `x` out of the range $0 \leq x \leq 1000$, which is valid.

Example 4:

Input: `nums = [2,8,16], start = 0, goal = 1`
Output: -1
Explanation:
There is no way to convert `0` into `1`.

Example 5:

Input: nums = [1], start = 0, goal = 3

Output: 3

Explanation:

We can go from 0 → 1 → 2 → 3 with the following 3 operations.

- 0 + 1 = 1
- 1 + 1 = 2
- 2 + 1 = 3

Constraints:

- 1 ≤ nums.length ≤ 1000
- $-10^9 \leq \text{nums}[i], \text{goal} \leq 10^9$
- 0 ≤ start ≤ 1000
- start ≠ goal
- All the integers in nums are distinct.

JavaScript



```
1 /**
2  * @param {number[]} nums
3  * @param {number} start
4  * @param {number} goal
5  * @return {number}
6  */
7 var minimumOperations = function(nums, start, goal) {
8
9  };
```

☐ Custom Testcase

Use Example Testcases

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