

## Topics to discuss

Bit manipulation Problem - 4

- XOR operation in an Array.



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# 1486. XOR Operation in an Array

Easy

Topics

Companies

Hint

You are given an integer `n` and an integer `start`.

Define an array `nums` where `nums[i] = start + 2 * i` (**0-indexed**) and `n == nums.length`.

Return the bitwise XOR of all elements of `nums`.

$$n = 5, \text{ start} = 0$$
$$\text{num}[5] = \{0, 2, 4, 6, 8\}$$
$$\text{XOR} = 0 \wedge 2 \wedge 4 \wedge 6 \wedge 8$$

## Example 1:

**Input:** `n = 5, start = 0`

**Output:** 8

**Explanation:** Array `nums` is equal to `[0, 2, 4, 6, 8]` where  $(0 \wedge 2 \wedge 4 \wedge 6 \wedge 8) = 8$ .  
Where `"^"` corresponds to bitwise XOR operator.

## Example 2:

**Input:** `n = 4, start = 3`

**Output:** 8

**Explanation:** Array `nums` is equal to `[3, 5, 7, 9]` where  $(3 \wedge 5 \wedge 7 \wedge 9) = 8$ .

```
public int xorOperation(int n, int start) {  
    int xor = 0;  
    int[] nums = new int[n];  
    for (int i = 0; i < n; i++) {  
        num[i] = start + 2 * i  
        xor = xor ^ num[i];  
    }  
    return xor;  
}
```

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