# 5649. Decode XORed Array

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There is a **hidden** integer array `arr` that consists of `n` non-negative integers.

It was encoded into another integer array `encoded` of length `n - 1`, such that `encoded[i] = arr[i] XOR arr[i + 1]`. For example, if `arr = [1,0,2,1]`, then `encoded = [1,2,3]`.

You are given the `encoded` array. You are also given an integer `first`, that is the first element of `arr`, i.e. `arr[0]`.

Return *the original array* `arr`. It can be proved that the answer exists and is unique.

| | |
|---|---|
| User Accepted: | 0 |
| User Tried: | 1 |
| Total Accepted: | 0 |
| Total Submissions: | 1 |
| Difficulty: | Easy |

**Example 1:**

```
Input: encoded = [1,2,3], first = 1
Output: [1,0,2,1]
Explanation: If arr = [1,0,2,1], then first = 1 and encoded = [1 XOR 0, 0 XOR 2, 2 XOR 1] = [1,2,3]
```

**Example 2:**

```
Input: encoded = [6,2,7,3], first = 4
Output: [4,2,0,7,4]
```

**Constraints:**

- `2 <= n <= 10^4`
- `encoded.length == n - 1`
- `0 <= encoded[i] <= 10^5`
- `0 <= first <= 10^5`

JavaScript

```
/**
 * @param {number[]} encoded
 * @param {number} first
 * @return {number[]}
 */
var decode = function(encoded, first) {

};
```

Custom Testcase Use Example Testcases

Run Submit