1675. Minimize Deviation in Array

Hard ◌ Topics ⊞ Companies ◌ Hint

You are given an array `nums` of `n` positive integers.

You can perform two types of operations on any element of the array any number of times:

If the element is **even**, **divide** it by `2`.
  - For example, if the array is `[1,2,3,4]`, then you can do this operation on the last element, and the array will be `[1,2,3,2]`.

If the element is **odd**, **multiply** it by `2`.
  - For example, if the array is `[1,2,3,4]`, then you can do this operation on the first element, and the array will be `[2,2,3,4]`.

The **deviation** of the array is the **maximum difference** between any two elements in the array.

Return *the* **minimum deviation** *the array can have after performing some number of operations.*

Example 1:

```
Input: nums = [1,2,3,4]
Output: 1
Explanation: You can transform the array to [1,2,3,2], then to [2,2,3,2], then the deviation will be
```

Example 2:

```
Input: nums = [4,1,5,20,3]
Output: 3
Explanation: You can transform the array after two operations to [4,2,5,5,3], then the deviation wil
```

Example 3:

```
Input: nums = [2,10,8]
Output: 3
```

Constraints:

- `n == nums.length`
- $2 <= n <= 5 * 10^4$
- $1 <= nums[i] <= 10^9$

Seen this question in a real interview before?   1/4

Yes   No

Accepted **92.1K**   Submissions **169.9K**   Acceptance Rate **54.2%**

◌ Topics

⊞ Companies

◌ Hint 1

◌ Hint 2

◌ Hint 3

💬 Discussion (70)