5616. Minimize Deviation in Array

My Submissions (/contest/weekly-contest-217/problems/minimize-deviation-in-array/submissions/) Back to Contest (/contest/weekly-contest-217/)

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

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 3 - 2 = 1.
```

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 will be 5 - 2 = 3.
```

Example 3:

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

Constraints:

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

Java

```
class Solution {
    public int minimumDeviation(int[] nums) {

    }
}
```