2436. Minimum Split Into Subarrays With GCD Greater Than One Premium

Medium | Topics | Hint

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

Split the array into **one or more** disjoint subarrays such that:

- Each element of the array belongs to **exactly one** subarray, and
- The **GCD** of the elements of each subarray is strictly greater than `1`.

Return *the minimum number of subarrays that can be obtained after the split.*

Note that:

- The **GCD** of a subarray is the largest positive integer that evenly divides all the elements of the subarray.
- A **subarray** is a contiguous part of the array.

Example 1:

```
Input: nums = [12,6,3,14,8]
Output: 2
Explanation: We can split the array into the subarrays: [12,6,3] and [14,8].
- The GCD of 12, 6 and 3 is 3, which is strictly greater than 1.
- The GCD of 14 and 8 is 2, which is strictly greater than 1.
It can be shown that splitting the array into one subarray will make the GCD = 1.
```

Example 2:

```
Input: nums = [4,12,6,14]
Output: 1
Explanation: We can split the array into only one subarray, which is the whole array.
```

Constraints:

- `1 <= nums.length <= 2000`
- `2 <= nums[i] <= 10^9`

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

How does the GCD of an array change when you add more elements to a subarray?

Hint 2

The GCD will always decrease when increasing the size of the subarray,

Hint 3

Keep adding elements to a subarray and if adding a new element will make the GCD = 1, add a new split and a new subarray.

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