

## 5866. GCD Sort of an Array

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You are given an integer array `nums`, and you can perform the following operation **any** number of times on `nums`:

- Swap the positions of two elements `nums[i]` and `nums[j]` if  $\text{gcd}(\text{nums}[i], \text{nums}[j]) > 1$  where  $\text{gcd}(\text{nums}[i], \text{nums}[j])$  is the **greatest common divisor** of `nums[i]` and `nums[j]`.

Return `true` if it is possible to sort `nums` in **non-decreasing** order using the above swap method, or `false` otherwise.

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

### Example 1:

**Input:** `nums = [7,21,3]`

**Output:** `true`

**Explanation:** We can sort `[7,21,3]` by performing the following operations:

- Swap 7 and 21 because  $\text{gcd}(7,21) = 7$ . `nums = [21,7,3]`
- Swap 21 and 3 because  $\text{gcd}(21,3) = 3$ . `nums = [3,7,21]`

### Example 2:

**Input:** `nums = [5,2,6,2]`

**Output:** `false`

**Explanation:** It is impossible to sort the array because 5 cannot be swapped with any other element.

### Example 3:

**Input:** `nums = [10,5,9,3,15]`

**Output:** `true`

We can sort `[10,5,9,3,15]` by performing the following operations:

- Swap 10 and 15 because  $\text{gcd}(10,15) = 5$ . `nums = [15,5,9,3,10]`
- Swap 15 and 3 because  $\text{gcd}(15,3) = 3$ . `nums = [3,5,9,15,10]`
- Swap 10 and 15 because  $\text{gcd}(10,15) = 5$ . `nums = [3,5,9,10,15]`

### Constraints:

- $1 \leq \text{nums.length} \leq 3 * 10^4$
- $2 \leq \text{nums}[i] \leq 10^5$

JavaScript



```
1 /**
2  * @param {number[]} nums
3  * @return {boolean}
4  */
5 var gcdSort = function(nums) {
6
7 };
```