Problem 3334: Find the Maximum Factor Score of Array

Problem Information

Difficulty: Medium
Acceptance Rate: 40.81%
Paid Only: No
Tags: Array, Math, Number Theory

Problem Description

You are given an integer array `nums`.

The **factor score** of an array is defined as the _product_ of the LCM and GCD of all elements of that array.

Return the **maximum factor score** of `nums` after removing **at most** one element from it.

Note that _both_ the LCM and GCD of a single number are the number itself, and the _factor score_ of an **empty** array is 0.

Example 1:

Input: nums = [2,4,8,16]

Output: 64

Explanation:

On removing 2, the GCD of the rest of the elements is 4 while the LCM is 16, which gives a maximum factor score of `4 * 16 = 64`.

Example 2:

Input: nums = [1,2,3,4,5]

Output: 60

Explanation:

The maximum factor score of 60 can be obtained without removing any elements.

Example 3:

Input: nums = [3]

Output: 9

Constraints:

* `1 <= nums.length <= 100` * `1 <= nums[i] <= 30`

Code Snippets

C++:

```
class Solution {
public:
long long maxScore(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public long maxScore(int[] nums) {

}
}
```

Python3:

```
class Solution:
def maxScore(self, nums: List[int]) -> int:
```