

1906. Maximize Score After N Operations

Difficulty : Hard

<https://leetcode.com/problems/maximize-score-after-n-operations>

You are given `nums`, an array of positive integers of size $2 * n$. You must perform n operations on this array.

In the i^{th} operation (**1-indexed**), you will:

- Choose two elements, x and y .
- Receive a score of $i * \text{gcd}(x, y)$.
- Remove x and y from `nums`.

Return *the maximum score you can receive after performing n operations*.

The function `gcd(x, y)` is the greatest common divisor of x and y .

Example 1:

Input: `nums = [1,2]`

Output: 1

Explanation: The optimal choice of operations is:

$(1 * \text{gcd}(1, 2)) = 1$

Example 2:

Input: `nums = [3,4,6,8]`

Output: 11

Explanation: The optimal choice of operations is:

$(1 * \text{gcd}(3, 6)) + (2 * \text{gcd}(4, 8)) = 3 + 8 = 11$

Example 3:

Input: `nums = [1,2,3,4,5,6]`

Output: 14

Explanation: The optimal choice of operations is:

$(1 * \text{gcd}(1, 5)) + (2 * \text{gcd}(2, 4)) + (3 * \text{gcd}(3, 6)) = 1 + 4 + 9 = 14$

Constraints:

- $1 \leq n \leq 7$
- `nums.length == 2 * n`
- $1 \leq \text{nums}[i] \leq 10^6$