

1130. Last Stone Weight II

Difficulty : Medium

<https://leetcode.com/problems/last-stone-weight-ii>

You are given an array of integers `stones` where `stones[i]` is the weight of the i^{th} stone.

We are playing a game with the stones. On each turn, we choose any two stones and smash them together. Suppose the stones have weights x and y with $x \leq y$. The result of this smash is:

- If $x = y$, both stones are destroyed, and
- If $x \neq y$, the stone of weight x is destroyed, and the stone of weight y has new weight $y - x$.

At the end of the game, there is **at most one** stone left.

Return *the smallest possible weight of the left stone*. If there are no stones left, return 0.

Example 1:

Input: `stones = [2,7,4,1,8,1]`

Output: 1

Explanation:

We can combine 2 and 4 to get 2, so the array converts to `[2,7,1,8,1]` then,
we can combine 7 and 8 to get 1, so the array converts to `[2,1,1,1]` then,
we can combine 2 and 1 to get 1, so the array converts to `[1,1,1]` then,
we can combine 1 and 1 to get 0, so the array converts to `[1]`, then that's the optimal value.

Example 2:

Input: `stones = [31,26,33,21,40]`

Output: 5

Constraints:

- $1 \leq \text{stones.length} \leq 30$
- $1 \leq \text{stones}[i] \leq 100$