Problem 4D: Smashing Rocks

You don't like rocks, but unfortunately you have n rocks. You want to get rid of these rocks with a very specific procedure: you find the two largest rocks and smash them together. Let w_i and w_j be the weight of the two largest rocks, two things can happen:

- when $w_i = w_j$, then both rocks get destroyed completely,
- when $w_i < w_j$, then rock i will be destroyed and the weight of rock j (w_j) gets reduced to $w_j - w_i$,
- $w_i > w_j$ is analogous to $w_i < w_j$.

If one of the rocks survives, you add it back to the pile and find the two rocks that are now the largest and repeat. In the end you will either have one rock or no rocks.

Input

The input consists out of:

- One line with one integer n, where
    - n ($1 \leq n \leq 10^5$) is the number of rocks.
- n lines, the ith of which contains one integer w_i, where
    - w_i ($1 \leq w_i \leq 10^4$) is the weight of the ith rock.

Output

When a rock survives print the weight of this rock, else print `NONE`.

Sample Input 1	Sample Output 1
4 1 5 8 3	1

Sample Input 2	Sample Output 2
3 2 3 1	NONE