

Begin:
2024-08-29
21:00
UTC+5.5

☆ Placement Test
Series - 2

End:
2024-08-29
23:15
UTC+5.5

Elapsed:
1:53:47


Running

Remaining:
0:21:12

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Time limit
2000 ms

Mem limit
1048576 kB

A - 10x developer



Problem Statement

Imagine a team of N developers working on a project. Each developer has a certain level of productivity, which we can represent as a sequence of positive integers $A = (A_1, A_2, \dots, A_N)$. You want to ensure that all developers are contributing fairly and efficiently. To do this, you can redistribute tasks among them.

You can assign more tasks to a developer with high productivity (adding a to their experience) and reduce the workload of a developer with low productivity (subtracting b from their experience).

However, you also want to avoid overwhelming any developer or leaving them with too little work. So, you need to find a way to redistribute tasks in such a way that the minimum experience level among all developers is maximized.

More formally, On sequence A , you can perform the following operation any number of times (possibly zero):

- Choose distinct indices i, j ($1 \leq i, j \leq N$). Add a to A_i and subtract b from A_j .

Find the maximum possible value of $\min(A_1, A_2, \dots, A_N)$ after your operations.

Constraints

- $2 \leq N \leq 3 \times 10^5$
- $1 \leq a \leq b \leq 10^9$
- $1 \leq A_i \leq 10^9$

Input



Input is given from Standard Input in the following format:

```
N a b
A1 A2 ... AN
```

Output

Print the maximum possible value of $\min(A_1, A_2, \dots, A_N)$ after your operations.

Sample 1

Input	copy	Output	copy
3 2 2 1 5 9		5	

Here is one way to achieve $\min(A_1, A_2, A_3) = 5$.

- Perform the operation with $i = 1, j = 3$. A becomes $(3, 5, 7)$.
- Perform the operation with $i = 1, j = 3$. A becomes $(5, 5, 5)$.

Sample 2

Input	copy	Output	copy
3 2 3 11 1 2		3	

Here is one way to achieve $\min(A_1, A_2, A_3) = 3$.

- Perform the operation with $i = 1, j = 3$. A becomes $(13, 1, -1)$.
- Perform the operation with $i = 2, j = 1$. A becomes $(10, 3, -1)$.
- Perform the operation with $i = 3, j = 1$. A becomes $(7, 3, 1)$.



- Perform the operation with $i = 3, j = 1$. A becomes $(4, 3, 3)$.



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