Stacks of boxes

There are **N** stacks of boxes, all boxes have same dimensions as 1 unit. The height of a stack is defined as the number of boxes in it. The initial height of $\mathbf{i^{th}}$ stack is given as $\mathbf{h_i}$ We need to equalize the heights of stacks by adding, removing or moving the boxes accross the stacks.

The cost of each operation is defined as following:

1. Add a box on top of a stack costs **A**

2. Remove a box from top of a non-empty stack costs **R**

3. Moving a box from top of non-empty stack to top of another stack costs **M**

Input

First line contains one integer **N**

Second line contains 3 integers the costs **A, R, M**

Thrid line contains the **N** integers as heights $\mathbf{h_i}$ for $\mathbf{i^{th}}$ stack.

$\mathbf{1 <= N <= 10^5}$

$\mathbf{0 <= A, R, M <= 10^4}$

$\mathbf{0 <= h_i <= 10^9}$

Output

One integer in a line - the minimum cost of equalising the heights of all stack by using above operations

Example

Input:
5

1 2 2

5 5 3 6 5

Output:
3

(Move 1 box from 4th stack to 3rd stack now height are (cost - 2) -> 5 5 4 5 5 -> now add one box on 3rd stack (cost -1) , total cost=3