Sherlock and MiniMax



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Watson gives Sherlock an array A₁,A₂...A_N.

He asks him to find an integer M between P and Q(both inclusive), such that, $min \{|A_i-M|, 1 \le i \le N\}$ is maximised. If there are multiple solutions, print the smallest one.

Input Format

The first line contains N. The next line contains space separated N integers, and denote the array A. The third line contains two space separated integers denoting P and Q.

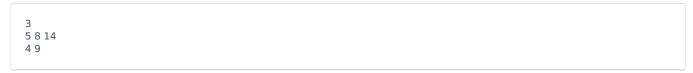
Constraints

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\begin{split} &1 \leq N \leq 10^2 \\ &1 \leq A_i \leq 10^9 \\ &1 \leq P \leq Q \leq 10^9 \end{split}
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Output Format

In one line, print the required answer.

Sample Input



Sample Output

4

Explanation

For M = 4,6,7, or 9, the result is 1. Since we have to output the smallest of the multiple solutions, we print 4.