

Sherlock and MiniMax

Problem Statement

[Русский](#) \ | [🇺🇸](#)

Watson gives Sherlock an array $A_1, A_2 \dots A_N$.

He asks him to find an integer M between P and Q (both inclusive), such that, $\min \{|A_i - M|, 1 \leq i \leq N\}$ 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 .

Output Format

In one line, print the required answer.

Constraints

$$1 \leq N \leq 10^2$$

$$1 \leq A_i \leq 10^9$$

$$1 \leq P \leq Q \leq 10^9$$

Sample Input

```
3
5 8 14
4 9
```

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 .