



# Sherlock and MiniMax

 by darkshadows

Problem

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Editorial [Русский](#) | [中文](#)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  $Q$ .

## Constraints

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

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

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

## Output Format

In one line, print the required answer.

## 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  $4$ .[f](#) [t](#) [in](#)Submissions: [7708](#)

Max Score: 70

Difficulty: Hard

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Java 7



```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

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