

Given a sorted array of integers  $a$ , find an integer  $x$  from  $a$  such that the value of  $\text{abs}(a[0] - x) + \text{abs}(a[1] - x) + \dots + \text{abs}(a[a.\text{length} - 1] - x)$  is the *smallest possible* (here  $\text{abs}$  denotes the absolute value). If there are several possible answers, output the *smallest* one.

### Example

For  $a = [2, 4, 7]$ , the output should be `absoluteValuesSumMinimization(a) = 4`.

### Input/Output

- **[execution time limit] 0.5 seconds (cpp)**
- **[input] array.integer a**

A non-empty array of integers, sorted in ascending order.

*Guaranteed constraints:*

$1 \leq a.\text{length} \leq 1000$ ,  
 $-10^6 \leq a[i] \leq 10^6$ .

- **[output] integer**