DMOPC '19 Contest 1 P0 - Range Finding

Time limit: 3.0s   **Memory limit:** 64M
C#: 1.4s   C#: 128M
Java: 1.4s   Java: 128M
Python: 1.4s   Python: 128M

You are given N numbers, $a_1, a_2, \ldots, a_N$. Output the range of this list. The range of a list of numbers is the difference between the largest and smallest values in this list.

Constraints

In all tests,
$1 \le N \le 1\,000\,000$
$-10^9 \le a_i \le 10^9$

Input Specification

The first line contains one number, N.
The second line contains N spaced integers, a_i, the numbers in this list.

Output Specification

On one line, output the range of the N numbers.

Sample Input

```
10
9 2 9 6 8 7 1 3 9 6
```

Sample Output

```
8
```