A. Chores

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Petya and Vasya are brothers. Today is a special day for them as their parents left them home alone and commissioned them to do n chores. Each chore is characterized by a single parameter — its complexity. The complexity of the i-th chore equals h_i.

As Petya is older, he wants to take the chores with complexity larger than some value x ($h_i > x$) to leave to Vasya the chores with complexity less than or equal to x ($h_i \le x$). The brothers have already decided that Petya will do exactly a chores and Vasya will do exactly b chores ($a + b = n$).

In how many ways can they choose an integer x so that Petya got exactly a chores and Vasya got exactly b chores?

Input

The first input line contains three integers n, a and b ($2 \le n \le 2000$; $a, b \ge 1$; $a + b = n$) — the total number of chores, the number of Petya's chores and the number of Vasya's chores.

The next line contains a sequence of integers $h_1, h_2, ..., h_n$ ($1 \le h_i \le 10^9$), h_i is the complexity of the i-th chore. The numbers in the given sequence are not necessarily different.

All numbers on the lines are separated by single spaces.

Output

Print the required number of ways to choose an integer value of x. If there are no such ways, print `0`.

Examples

input
5 2 3 6 2 3 100 1

output
3

input
7 3 4 1 1 9 1 1 1 1

output
0

Note

In the first sample the possible values of x are 3, 4 or 5.

In the second sample it is impossible to find such x, that Petya got 3 chores and Vasya got 4.