

C. Building Permutation

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Permutation p is an ordered set of integers p_1, p_2, \dots, p_n , consisting of n distinct positive integers, each of them doesn't exceed n . We'll denote the i -th element of permutation p as p_i . We'll call number n the size or the length of permutation p_1, p_2, \dots, p_n .

You have a sequence of integers a_1, a_2, \dots, a_n . In one move, you are allowed to decrease or increase any number by one. Count the minimum number of moves, needed to build a permutation from this sequence.

Input

The first line contains integer n ($1 \leq n \leq 3 \cdot 10^5$) — the size of the sought permutation. The second line contains n integers a_1, a_2, \dots, a_n ($-10^9 \leq a_i \leq 10^9$).

Output

Print a single number — the minimum number of moves.

Please, do not use the %lld specifier to read or write 64-bit integers in C++. It is preferred to use the cin, cout streams or the %I64d specifier.

Examples

input
2
3 0
output
2

input
3
-1 -1 2
output
6

Note

In the first sample you should decrease the first number by one and then increase the second number by one. The resulting permutation is (2, 1).

In the second sample you need 6 moves to build permutation (1, 3, 2).

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #175 (Div. 2)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.




Start virtual contest

→ Problem tags

greedy implementation sortings

No tag edit access

→ Contest materials

- Announcement 
- Tutorial #1 
- Tutorial #2 
- Tutorial #3 