Nasko made a great kozunak for Easter. There was only one rule – anyone who solves the task can taste the kozunak. The task is as follows: Given N integers - $a\_{1},a\_{2}, … a\_{N}$. The following operation is performed until no numbers are left in the sequence – the number with the smallest absolute value in the sequence is taken. If there are several such numbers, the one with the smallest index is taken. From the absolute value of each number in the sequence, we subtract the absolute value of the selected number in each iteration, meaning negative numbers increase and positive numbers decrease. If any number becomes 0, it is removed from the sequence.

The cost of one operation is the absolute value of the initially selected number in each iteration. Nasko asks for the total cost of all operations. Yoan managed to quickly devise a solution and confirmed that the kozunak is excellent. Give it a try!

**Input**

The first line of the file **operationsJ.in** consists of the integer N. The second line contains N integers - $a\_{1}, a\_{2}, … a\_{N}$, describing the numbers in the sequence. The numbers are sorted by absolute value: $ |a\_{1}|\geq |a\_{2}|\geq … \geq |a\_{N}|$.

**Output**

In the file **operationsJ.out** print the total cost.

**Constraints**

$$N=3\*10^{6}$$

$$-10^{2}\leq a\_{i}\leq 10^{2}$$

$$|a\_{1}|\geq |a\_{2}|\geq … \geq |a\_{N}|$$

**Time limit: 0.05 sec.**

**Memory limit: 256 MB**

**Sample test**

|  |  |
| --- | --- |
| **Input (operationsJ.in)** | **Output (operationsJ.out)** |
| 45 -3 -2 -1 | 5 |

**Sample test explanation**

The operations on the sequence go as follows: 5 -3 -2 -1 $→$ 4 -2 -1 $→$3 -1 $→$2 $→$end. Above the arrows are the costs of the operations. The sum of the costs is 1 + 1 + 1 + 2 = 5.