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## B. The Number of Products

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

You are given a sequence  $a_1, a_2, \dots, a_n$  consisting of  $n$  non-zero integers (i.e.  $a_i \neq 0$ ).

You have to calculate two following values:

- the number of pairs of indices  $(l, r)$  ( $l \leq r$ ) such that  $a_l \cdot a_{l+1} \cdot \dots \cdot a_{r-1} \cdot a_r$  is negative;
- the number of pairs of indices  $(l, r)$  ( $l \leq r$ ) such that  $a_l \cdot a_{l+1} \cdot \dots \cdot a_{r-1} \cdot a_r$  is positive;

### Input

The first line contains one integer  $n$  ( $1 \leq n \leq 2 \cdot 10^5$ ) — the number of elements in the sequence.

The second line contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $-10^9 \leq a_i \leq 10^9; a_i \neq 0$ ) — the elements of the sequence.

### Output

Print two integers — the number of subsegments with negative product and the number of subsegments with positive product, respectively.

### Examples

input	Copy
5 5 -3 3 -1 1	
output	Copy
8 7	

input	Copy
10 4 2 -4 3 1 2 -4 3 2 3	
output	Copy
28 27	

input	Copy
5 -1 -2 -3 -4 -5	
output	Copy
9 6	

### Codeforces Round #585 (Div. 2)

[Finished](#)
[Practice](#)


### → 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 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](#)

### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

### → Submit?

Language: GNU G++11 5.1.0

Choose file: [选择文件](#) 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.



[Submit](#)

### → Problem tags

[combinatorics](#) [implementation](#)

No tag edit access

### → Contest materials

- Announcement #1 (en) 
- Announcement #2 (ru) 



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