Java Subarray

We define the following:

- A subarray of an n-element array is an array composed from a contiguous block of the original array's elements. For example, if $array = [1, 2, 3]$, then the subarrays are $[1]$, $[2]$, $[3]$, $[1, 2]$, $[2, 3]$, and $[1, 2, 3]$. Something like $[1, 3]$ would not be a subarray as it's not a contiguous subsection of the original array.
- The sum of an array is the total sum of its elements.
  - An array's sum is negative if the total sum of its elements is negative.
  - An array's sum is positive if the total sum of its elements is positive.

Given an array of n integers, find and print its number of negative subarrays on a new line.

Input Format

The first line contains a single integer, n, denoting the length of array $A = [a_0, a_1, \ldots, a_{n-1}]$.
The second line contains n space-separated integers describing each respective element, a_i, in array A.

Constraints

- $1 \leq n \leq 100$
- $-10^4 \leq a_i \leq 10^4$

Output Format

Print the number of subarrays of A having negative sums.

Sample Input

```
5
1 -2 4 -5 1
```

Sample Output

```
9
```

Explanation

There are nine negative subarrays of $A = [1, -2, 4, -5, 1]$:

1. $[1:1] \Rightarrow -2$
2. $[3:3] \Rightarrow -5$
3. $[0:1] \Rightarrow 1 + -2 = -1$
4. $[2:3] \Rightarrow 4 + -5 = -1$
5. $[3:4] \Rightarrow -5 + 1 = -4$
6. $[1:3] \Rightarrow -2 + 4 + -5 = -3$
7. $[0:3] \Rightarrow 1 + -2 + 4 + -5 = -2$
8. $[1:4] \Rightarrow -2 + 4 + -5 + 1 = -2$
9. $[0:4] \Rightarrow 1 + -2 + 4 + -5 + 1 = -1$

Thus, we print 9 on a new line.