C. Number of Ways

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

You've got array $a[1], a[2], ..., a[n]$, consisting of n integers. Count the number of ways to split all the elements of the array into three contiguous parts so that the sum of elements in each part is the same.

More formally, you need to find the number of such pairs of indices i, j $(2 \le i \le j \le n - 1)$, that .

Input

The first line contains integer n $(1 \le n \le 5 \cdot 10^5)$, showing how many numbers are in the array. The second line contains n integers $a[1], a[2], ..., a[n]$ $(|a[i]| \le 10^9)$ — the elements of array a.

Output

Print a single integer — the number of ways to split the array into three parts with the same sum.

Examples

input
5 1 2 3 0 3
output
2

input
4 0 1 -1 0
output
1

input
2 4 1
output
0

Codeforces Round #266 (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

binary search | brute force | data structures | dp | two pointers

No tag edit access

→ Contest materials

- Announcement
- Tutorial