

E. Special Elements

time limit per test: 1 second
memory limit per test: 64 megabytes

Pay attention to the non-standard memory limit in this problem.

In order to cut off efficient solutions from inefficient ones in this problem, the time limit is rather strict. Prefer to use compiled statically typed languages (e.g. C++). If you use Python, then submit solutions on PyPy. Try to write an efficient solution.

The array $a = [a_1, a_2, \dots, a_n]$ ($1 \leq a_i \leq n$) is given. Its element a_i is called special if there exists a pair of indices l and r ($1 \leq l < r \leq n$) such that $a_i = a_l + a_{l+1} + \dots + a_r$. In other words, an element is called special if it can be represented as the sum of **two or more consecutive elements** of an array (no matter if they are special or not).

Print the number of special elements of the given array a .

For example, if $n = 9$ and $a = [3, 1, 4, 1, 5, 9, 2, 6, 5]$, then the answer is 5:

- $a_3 = 4$ is a special element, since $a_3 = 4 = a_1 + a_2 = 3 + 1$;
- $a_5 = 5$ is a special element, since $a_5 = 5 = a_2 + a_3 = 1 + 4$;
- $a_6 = 9$ is a special element, since $a_6 = 9 = a_1 + a_2 + a_3 + a_4 = 3 + 1 + 4 + 1$;
- $a_8 = 6$ is a special element, since $a_8 = 6 = a_2 + a_3 + a_4 = 1 + 4 + 1$;
- $a_9 = 5$ is a special element, since $a_9 = 5 = a_2 + a_3 = 1 + 4$.

Please note that some of the elements of the array a may be equal — if several elements are equal and special, then all of them should be counted in the answer.

Input

The first line contains an integer t ($1 \leq t \leq 1000$) — the number of test cases in the input. Then t test cases follow.

Each test case is given in two lines. The first line contains an integer n ($1 \leq n \leq 8000$) — the length of the array a . The second line contains integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq n$).

It is guaranteed that the sum of the values of n for all test cases in the input does not exceed 8000.

Output

Print t numbers — the number of special elements for each of the given arrays.

Example

input	Copy
5 9 3 1 4 1 5 9 2 6 5 3 1 1 2 5 1 1 1 1 1 8 8 7 6 5 4 3 2 1 1 1	
output	Copy
5 1 0 4 0	

Codeforces Round 640 (Div. 4)

Finished

Practice



→ Virtual participation

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Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
229980935	Oct/27/2023 11:41	Accepted
229980517	Oct/27/2023 11:37	Accepted
229975670	Oct/27/2023 11:00	Wrong answer on test 2

→ Problem tags

brute force

implementation

two pointers

*1500

No tag edit access

→ Contest materials

Announcement (en)

Tutorial (en)