Problem H
Timmy's 21 Crisis

Time limit: **3 seconds**
Memory limit: **1024 megabytes**

Problem Description

Timmy has been enjoying his freshman life a bit too much. Between joining five different clubs, exploring night markets, and grinding ranked games until 4 AM, he completely forgot about one small detail: his GPA.

Professor Lee, his class advisor, is worried. He knows the university's strict "2/1 Rule" (Er-Yi): if the total credits of failed courses reach half (1/2) or more of the total credits taken in a semester, the student faces expulsion.

Looking at the list of N courses Timmy took this semester, Professor Lee starts simulating scenarios in his head. "If he fails this Discrete Math class $\cdots$ and that Java class $\cdots$ oh dear."

Although Professor Lee could just wait for the final grades, his curiosity takes over. He wants to know: In the worst-case scenario (considering all possible pass/fail combinations), how many combinations of failing courses would result in Timmy getting expelled?

He tries to ask the department mascot, the Coding Raccoon, to write a program for this calculation. However, the Raccoon is currently sound asleep after eating too many snacks.

As a diligent student in the Java Programming class, you decide to step in and help Professor Lee (and the sleeping Raccoon) solve this problem.

You are given N integers representing the credits of the courses Timmy is taking. You need to calculate the number of possible subsets of failing courses such that the sum of their credits is greater than or equal to half of the total credits.

NOTE: Different courses with the same credit value are considered distinct entities.

Input Format

The input consists of multiple test cases until EOF. For each test case, the first line contains an integer N, representing the number of courses. The second line contains N integers, representing the credits of each course.

Output Format

For each test case, output a single integer which represents the number of combinations that result in Timmy getting "21".

Technical Specification

- $1 \leq N \leq 20$
- $1 \leq$ the credit of course ≤ 5

Sample Input 1

```
3
2 2 3
5
2 3 4 3 2
```

Sample Output 1

```
4
18
```