

# Nikita and the Game



Nikita just came up with a new array game. The rules are as follows:

- Initially, there is an array,  $A$ , containing  $N$  integers.
- In each move, Nikita must partition the array into **2** non-empty parts such that the sum of the elements in the left partition is equal to the sum of the elements in the right partition. If Nikita can make such a move, she gets **1** point; otherwise, the game ends.
- After each successful move, Nikita discards either the left partition or the right partition and continues playing by using the remaining partition as array  $A$ .

Nikita loves this game and wants your help getting the best score possible. Given  $A$ , can you find and print the maximum number of points she can score?

## Input Format

The first line contains an integer,  $T$ , denoting the number of test cases. Each test case is described over **2** lines in the following format:

- A line containing a single integer,  $N$ , denoting the size of array  $A$ .
- A line of  $N$  space-separated integers describing the elements in array  $A$ .

## Constraints

- $1 \leq T \leq 10$
- $1 \leq N \leq 2^{14}$
- $0 \leq A_i \leq 10^9$

## Scoring

- $1 \leq N \leq 2^8$  for **30%** of the test data
- $1 \leq N \leq 2^{11}$  for **60%** of the test data
- $1 \leq N \leq 2^{14}$  for **100%** of the test data

## Output Format

For each test case, print Nikita's maximum possible score on a new line.

## Sample Input

```
3
3
3 3 3
4
2 2 2 2
7
4 1 0 1 1 0 1
```

## Sample Output

0  
2  
3

Explanation

Test Case 0:

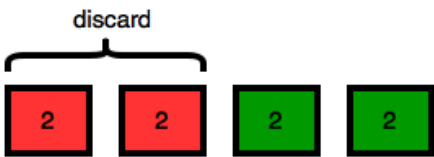
Nikita cannot partition **A** into **2** parts having equal sums. Therefore, her maximum possible score is **0** and we print **0** on a new line.

Test Case 1:

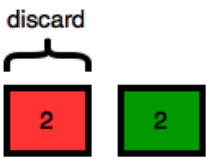
Initially, **A** looks like this:



She splits the array into **2** partitions having equal sums, and then discards the left partition:



She then splits the new array into **2** partitions having equal sums, and then discards the left partition:



At this point the array only has **1** element and can no longer be partitioned, so the game ends. Because Nikita successfully split the array twice, she gets **2** points and we print **2** on a new line.