Problem H. GamingForces

Time limit 2000 ms
Mem limit 262144 kB

Monocarp is playing a computer game. He's going to kill n monsters, the i-th of them has h_i health.

Monocarp's character has two spells, either of which he can cast an arbitrary number of times (possibly, zero) and in an arbitrary order:

- choose exactly two alive monsters and decrease their health by 1;
- choose a single monster and kill it.

When a monster's health becomes 0, it dies.

What's the minimum number of spell casts Monocarp should perform in order to kill all monsters?

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — the number of testcases.

The first line of each testcase contains a single integer n ($1 \le n \le 100$) — the number of monsters.

The second line contains n integers $h_1, h_2, \dots, h_n$ ($1 \le h_i \le 100$) — the health of each monster.

The sum of n over all testcases doesn't exceed $2 \cdot 10^4$.

Output

For each testcase, print a single integer — the minimum number of spell casts Monocarp should perform in order to kill all monsters.

Examples

Input	Output
3 4 1 2 1 2 3 2 4 2 5 1 2 3 4 5	3 3 5

Note

In the first testcase, the initial health list is $[1, 2, 1, 2]$. Three spells are casted:

- the first spell on monsters 1 and 2 — monster 1 dies, monster 2 has now health 1, new health list is $[0, 1, 1, 2]$;
- the first spell on monsters 3 and 4 — monster 3 dies, monster 4 has now health 1, new health list is $[0, 1, 0, 1]$;
- the first spell on monsters 2 and 4 — both monsters 2 and 4 die.

In the second testcase, the initial health list is $[2, 4, 2]$. Three spells are casted:

- the first spell on monsters 1 and 3 — both monsters have health 1 now, new health list is $[1, 4, 1]$;
- the second spell on monster 2 — monster 2 dies, new health list is $[1, 0, 1]$;
- the first spell on monsters 1 and 3 — both monsters 1 and 3 die.

In the third testcase, the initial health list is $[1, 2, 3, 4, 5]$. Five spells are casted. The i-th of them kills the i-th monster with the second spell. Health list sequence: $[1, 2, 3, 4, 5] \rightarrow [0, 2, 3, 4, 5] \rightarrow [0, 0, 3, 4, 5] \rightarrow [0, 0, 0, 4, 5] \rightarrow [0, 0, 0, 0, 5] \rightarrow [0, 0, 0, 0, 0]$.