Problem B. Best Tree

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

You are given the degree sequence of a tree (degrees of all its vertices, in arbitrary order).

Among all trees with the given degree sequence, find a tree with the largest maximum matching.

Input

The first line of input contains one integer t ($1 \le t \le 100\,000$): the number of testcases.

Next lines contain t descriptions of a test case.

The first line of each test case contains one integer n ($2 \le n \le 200\,000$): the number of vertices.

The next line contains n integers $d_1, d_2, \ldots, d_n$ ($1 \le d_i \le n - 1$), the degree sequence of a tree.

It is guaranteed that $\sum d_i = 2(n - 1)$ and that there is at least one tree with the given degree sequence.

Also, it is **guaranteed** that the total sum of n in all test cases is at most 200 000.

Output

For each test case, print one integer: the largest maximum matching among all trees with the given degree sequence.

Example

standard input	standard output
2 10 1 1 2 2 2 2 2 2 2 2 5 4 1 1 1 1	5 1

Note

In the first test case, you can construct a path with 10 vertices, it will have the same degree sequence and the largest possible maximum matching.

In the second test case, the only possible tree is a star (one vertex connected with all others), and the largest matching for it is 1.