Kevin and Arithmetic

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

To train young Kevin's arithmetic skills, his mother devised the following problem.

Given n integers $a_1, a_2, \ldots, a_n$ and a sum s initialized to 0, Kevin performs the following operation for $i = 1, 2, \ldots, n$ in order:

- Add a_i to s. If the resulting s is even, Kevin earns a point and repeatedly divides s by 2 until it becomes odd.

Note that Kevin can earn at most one point per operation, regardless of how many divisions he does.

Since these divisions are considered more beneficial for Kevin's development, his mother wants to rearrange a so that the number of Kevin's total points is maximized. Determine the maximum number of points.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 500$). The description of the test cases follows.

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

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^9$).

Output

For each test case, output one integer — the maximum number of points.

Example

standard input	standard output
5 1 1 2 1 2 3 2 4 6 4 1000000000 999999999 999999998 999999997 10 3 1 4 1 5 9 2 6 5 3	0 2 1 3 8

Note

In the first test case, the only arrangement of a is $[1]$. s becomes 1. Kevin earns no points.

In the second test case, the only possible arrangement of a is $[2, 1]$. s becomes 1 and 1 successively. Kevin earns points in both operations.

In the third test case, one possible arrangement of a is $[2, 4, 6]$. s becomes 1, 5, and 11 successively. Kevin earns a point in the first operation.