

2780 CPCI/MCA

CPCI/MCA is another type of team contest, different from ACM/ICPC that one team can only consist of three team members at maximum. In CPCI/MCA, there is no restriction for the number of team members. However, the more team members, the more effort on their communication in the teamwork.

Now, you are asked to help the contest director to arrange the contest rooms. The host prepared several standard rooms on fixed capacity sized by number of people in. You should give a schedule to arrange all team members into contest rooms with the constraints that:

- (1) All members from the same team should be arranged into the same room.
- (2) The number of peoples arranged into the same room should not exceed the fixed capacity of the standard room.

To save the budget, we must find the optimal solution with the minimum number of rooms to arrange all teams.

For instance, suppose the capacity of the standard room is 10. Moreover, we have 5 teams totally. The numbers of team members of each team are 1, 4, 10, 5 and 2. So, one of the optimal solution is using 3 standard rooms that room 1 for team 3, room 2 for team 1 and team 2, and room 3 for team 4 and 5.

Input

The format of input file is as follows:

The file line of the input file contains the number of test cases. For each test case, there have two parts:

- (1) one line with two items: room capacity C and the number of teams T ;
- (2) T lines for the number of members of each team M_i ($1 \leq i \leq T$), one team per line.

Note: $1 \leq C \leq 1000$, $1 \leq T \leq 250$, $1 \leq M_i \leq 100$.

Output

For each test case, just output the result of the optimal solution, e.g. the minimum number of standard rooms to be used for that case. We give one line for the output of one case.

Sample Input

```
1
10 5
1
4
10
5
2
```

Sample Output

```
3
```