Hero and Monster

Time Limit 1 sec/Memory Limit 256 MB

There are n heroes and m monsters living in an island. The monsters became very dangerous these days, so the heroes decided to kill the monsters in the island.

However, the i-th hero can only kill one monster belonging to the set M_i. Detaomega, the strategist, has k bottles of magic potion, each of potion can buff one hero's power and let him be able to kill one more monster.

Since the potion is very powerful, a hero can only take at most one bottle of potion.

Please help detaomega find out the maximum number of monsters that can be killed by the heroes if he uses the optimal strategy.

Input Format

- The first line contains three integers n, m, k — the number of heroes, the number of monsters and the number of bottles of potion.

- Each of the next n lines contains one integer t_i, the size of M_i

- And the following t_i integers $M_{i,j}$ $(1 \leq j \leq M_i)$, the $j-$th of monsters that can be killed by the $i-$th hero

Output format

- Print the maximum number of monsters that can be killed by the heroes

Constraints

- $1 \leq n, m, k \leq 500$
- $1 \leq t_i \leq m$
- $1 \leq M_{i,j} \leq m$

sample input #1	sample output #1
3 5 2 4 1 2 3 5 2 2 5 2 1 2	4

sample input #2	sample output #2
5 10 2 2 3 10 5 1 3 4 6 10 5 3 4 6 8 9 3 1 9 10 5 1 3 6 7 10	7