Problem I. Magic Potion

Input file: `standard input`
Output file: `standard output`

There are n heroes and m monsters living in an island. The monsters became very vicious these days, so the heroes decided to diminish the monsters in the island. However, the i-th hero can only kill one monster belonging to the set M_i. Joe, the strategist, has k bottles of magic potion, each of which 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 Joe find out the maximum number of monsters that can be killed by the heroes if he uses the optimal strategy.

Input

The first line contains three integers n, m, k ($1 \leq n, m, k \leq 500$) — 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 $M_{i,j}$ ($1 \leq j \leq t_i$), the indices (1-based) of monsters that can be killed by the i-th hero ($1 \leq t_i \leq m, 1 \leq M_{i,j} \leq m$).

Output

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

Examples

standard input	standard output
3 5 2 4 1 2 3 5 2 2 5 2 1 2	4
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