Problem I. Nine Judges

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

It is time to choose problems for the XCPC finals! There are k problems proposed for the contest, and exactly p of them must be chosen for the final problem set.

The problems have been evaluated by n judges. Each judge has built their own preference list containing all the proposed problems, in order from the problem they like the most to the problem they like the least.

There is still plenty of time until the XCPC finals... well, nobody knows if it is going to be held at all. Therefore, the actual problem set is going to be chosen by an infinite procedure.

Initially, $t = 0$ and S_0 contains p problems chosen from the proposed k problems uniformly at random. Then, the following sequence of actions will be repeated indefinitely:

- Choose problems i and j such that $i \in S_t$ and $j \notin S_t$ uniformly at random.
- If at least $\frac{n+1}{2}$ judges have put j before i in their preference list, let $S_{t+1} = S_t \setminus \{i\} \cup \{j\}$. Otherwise, let $S_{t+1} = S_t$.
- Increase t by one.

A problem set S is called *plausible* if there exists a positive probability threshold ε such that there are infinitely many moments t when the probability of this set being equal to S_t is more than ε. Here is an equivalent mathematical notation:

$$S \text{ is plausible} \iff \exists \varepsilon > 0 \; \forall T \geq 0 \; \exists t \geq T\colon \; P(S_t = S) > \varepsilon$$

You would like to save the judges some time and find any plausible problem set.

Input

The first line of the input contains three integers n, k, and p ($1 \leq n \leq 9$; n is odd; $1 \leq p < k \leq 50\,000$), denoting the number of judges, the number of problems proposed, and the number of problems to be chosen.

Each of the following n lines contains k integers $a_{i,1}, a_{i,2}, \ldots, a_{i,k}$ ($1 \leq a_{i,j} \leq k$; $a_{i,j} \neq a_{i,j'}$ for $j \neq j'$), denoting the preference list of the i-th judge: $a_{i,1}$ is the index of the problem they like the most, $a_{i,2}$ is the index of the second most liked problem, and so on.

Output

Display p distinct integers between 1 and k in any order, denoting any plausible set of problems.

Example

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

Note

In the example test case, some other possible answers are `1 2 5` and `2 4 5`.