

# Fest Scheduling

## Problem Statement

A college fest is divided into **N** time slots and **M** events take place in each time slot. Overall, **N×M** events take place and each event consists of **K** description tags.

The uniqueness of a time slot is the number of unique description tags which occurs across all the events in that time slot.

The task is to schedule the events in such a way that the sum of uniqueness of events in each time slot is maximum. In other words, the events which take place in the same time slot must be less similar. Note that each event can be organized only once.

## Input Format

- Each input data is provided in a plain text file containing exclusively ASCII characters with lines terminated with a single '\n' character. When a single line contains multiple elements, they are separated by single spaces.
- The first line of each test case consists of three integers, **N**, **M** and **K**, where **N** is the number of time slots, **M** is the number of events in each time slot and **K** is the number of description tags for each event.
- The next **N×M** lines consists of space separated string each, the description tags of the events. The **K** space separated string in the **i<sup>th</sup>** line are the description tags of the **i<sup>th</sup>** event.

## Constraints

- $1 \leq N, M \leq 100$
- $1 \leq K \leq 10$
- The description tag is a string consisting of lowercase characters.

## Output Format

- The output file must contain **N** lines.
- Each line should consist of **M** integers.
- The **M** integers in the  $i^{\text{th}}$  line are the indices of the events which are scheduled to take place in the  $i^{\text{th}}$  time slot.
- Each of the **N**×**M** integers must be an integer between **1** and **N**×**M**.

## Scoring

- For each time slot, the number of points awarded for that time slot is equal to the number of unique description tags in that time slot.
- The total score is the sum of individual scores of all **N** time slots.

## Example

Input File	Description
2 2 2	There are 2 time slots and in each time slot, 2 events take place. For each event, 2 description tags are used to describe the event.
dsa contest	The event consists of two description tags, dsa and contest
web contest	The event consists of two description tags, web and contest
dsa workshop	The event consists of two description tags, dsa and workshop
python workshop	The event consists of two description tags, python and workshop

Output File	Description
1 2	The first time slot consists of event 1 and event 2
3 4	The second time slot consists of event 3 and event 4

For the above output, the score for the first time slot will be equal to the number of unique description tags in event 1 and event 2, which is 3. The unique description tags are {dsa, web, contest}.

The score for the second time slot will be equal to the number of unique description tags in event 3 and event 4, which is 3. The unique description tags are {dsa, python, workshop}.

The total score for the output file will be the sum of scores of first and second time slots, which is  $3+3 = 6$ .

Output File	Description
1 3	The first time slot consists of event 1 and event 3
2 4	The first time slot consists of event 2 and event 4

For the above output, the score for the first time slot will be equal to the number of unique description tags in event 1 and event 3, which is 3. The unique description tags are {dsa, contest, workshop}.

The score for the second time slot will be equal to the number of unique description tags in event 2 and event 4, which is 4. The unique description tags are {web, python, contest, workshop}.

The total score for the output file will be the sum of scores of first and second time slots, which is  $3+4 = 7$ .

<b>Output File</b>	<b>Description</b>
1 4	The first time slot consists of event 1 and event 4
2 3	The first time slot consists of event 2 and event 3

For the above output, the score for the first time slot will be equal to the number of unique description tags in event 1 and event 4, which is 4. The unique description tags are {dsa, contest, python, workshop}.

The score for the second time slot will be equal to the number of unique description tags in event 2 and event 4, which is 4. The unique description tags are {dsa, web, contest, workshop}.

The total score for the output file will be the sum of scores of first and second time slots, which is  $4+4 = 8$ .