Problem M
Mosaic Mansion



A mosaic is a picture made from square tiles arranged in a grid, at least for today's purposes.

We would like to make a mosaic with exactly the same number of tiles of each colour. We will do this by taking an existing design and removing some of the rows from it.

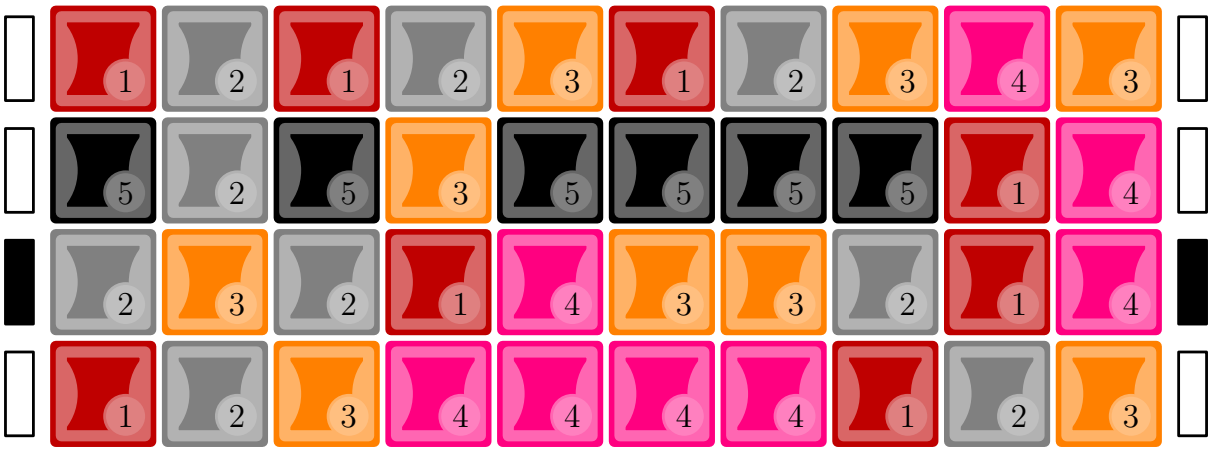


Figure M.1: Illustration of a solution to Sample Input 1. The three rows annotated with white can be kept, giving 6 of each colour of tile.

What is the greatest number of rows we can keep?

Input

- The first line of input contains the number of rows, n ($1 \leq n \leq 40$), the number of columns, m ($1 \leq m \leq 10^5$), and the number of colours, c ($1 \leq c \leq 10^5$) in the mosaic respectively.
- Each of the next n lines contains m colours of cells $p_1 \ldots p_m$ ($1 \leq p \leq c$).

Output

Output the greatest number of rows that can be kept while keeping equal representation for each colour in the input, or 0 if no rows can be kept.

Sample Input 1	Sample Output 1
4 10 5 1 2 1 2 3 1 2 3 4 3 5 2 5 3 5 5 5 5 1 4 2 3 2 1 4 3 3 2 1 4 1 2 3 4 4 4 4 1 2 3	3

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