Grid Coloring

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Mtaylor has a multicolored chessboard with n rows and m colums, but he doesn't like such a board with so many colors , so he decided to color some of it's cells to make every row in the chessboard has exactly 2 distinct colors and the whole chessboard has exactly 2 distinct colors .

Let's suppose the color of the i'th row and j'th column is $x_{i,j}$, and all the colors that Mtaylor has are numbered from 1 to k and the colors in the chessboard are between 1 and k .

Unfortunately Mtaylor is busy , so he asked you to help him to find the minimum number of cells to color , such that the chessboard will fulfill his conditions .

Input

The first line contains 3 integers n , m and k ($2 \leq n$, $m \leq 1000$,$2 \leq k \leq 1000000$).

The next n lines each contains m integers $x_{i,j}$ ($1 \leq x_{i,j} \leq k$) where $x_{i,j}$ the color of the cell in the ith row and jth column .

Output

Print one integer , the answer of the problem .

Example

standard input	standard output
2 2 3 1 2 2 1	0