Statement problem Marcel

Since the finals started, Marcel's son keeps on partying. This time, he is put in front of N^2 beverages placed on a square grid M of N lines and N columns. The amount of units of alcohol of the beverage on the i^{th} line and j^{th} column is an integer (posibly negative) M_{ij}. At each step, our protagonist has to choose between one of these 5 actions:

- He drinks all the beverages from the first line
- He drinks all the beverages from the first column
- He drinks all the beverages from the last line
- He drinks all the beverages from the last column
- He stops drinking

Of course, in order to make a good impression, he can't perform a step that results in drinking less than X units of alcohol, in case he cant perform such a step he will be forced to stop. After a step, the drank beverages are removed from the grid and the party goes on!

On the next day, Marcel looked at the values of N, X and the matrix M and he wonders how many ways the drinking party could have happened. He wants you to give him the answer, modulo $10^9 + 7$.

Input

The input will be read from *stdin*, and it will contain on the first line two numbers, separated by a space, N and X. The next N lines each contain N integers. The j^{th} number of the i^{th} lane represents M_{ij}.

Output

The output will be written to *stdout* and contains a single line with a single number representing the number of ways the drinking party could have happened, modulo $10^9 + 7$.

Restrictions

- $1 \leq N \leq 120$
- $-10^9 \leq X \leq 10^9$
- $-10^6 \leq M_{ij} \leq 10^9$

- Two ways are considered different if there exists a moment when Marcels son decided to take a different action out of the 5 possible ones.

Example

stdin	stdout
1 10 23	5
1 23 10	1
2 10 23 23 23 23	53
3 4 1 4 2 3 9 -6 7 8 5	62

Explanation

In the first case, the party will gave a single round, where the protagonist has to chose between drinking 23 units (possible in 4 different ways) or stop.

In the second case, drinking only 10 units would make a bad impression, so, the only option left is to stop at the start.