

## Problem L. Senren Banka

Input file:            standard input  
 Output file:          standard output  
 Time limit:           12 seconds  
 Memory limit:        1024 megabytes

Kamome is making efforts to train the AI to play games. She is having the AI train the game “Senren Banka”.

This game consists of  $n$  choice branches in each round. You are considered to pass the game if and only if you select each branch correctly in one round. Each round starts with branch 1, and for each  $i = 1, 2, \dots, n - 1$ , You can select the  $i + 1$ -th branch only after selecting the  $i$ -th branch correctly. If you make a wrong choice, you will enter the Bad Ending and have to start over from the beginning. This is regarded as a new round of the game.

Kamome’s AI can learn from past choices. More specifically, if this is the  $j$ -th time choosing the  $i$ -th branch, then the AI has a probability of  $p_{i,\min(m,j)}$  of choosing the correct option.

Kamome wants to know the number of expected rounds it would take for this AI to pass the game for the first time. Output the result modulo 998244353.

### Input

The first line contains two integers  $n, m$  ( $1 \leq n \leq 20, 1 \leq m \leq 5 \times 10^4$ ), indicating the number of choice branches and the threshold of this AI.

The next  $n$  lines, each line contains  $m$  integer  $p'_{i,j}$  ( $1 \leq p'_{i,j} \leq 100$ ), indicating  $p_{i,j} = \frac{p'_{i,j}}{100}$ .

### Output

Output one line contains one integer, indicating the answer modulo 998244353.

### Examples

standard input	standard output
1 1 50	2
2 2 25 50 50 25	499122183
10 10 1 2 3 4 5 6 8 7 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	473598335