Problem GcdMatrix

Input file	`stdin`
Output file	`stdout`

You are given a matrix A of integers with N lines and M columns, each indexed from 1.

Compute the numbers of submatrices of A for which the **greatest common divisor** of their elements is 1 (the **greatest common divisor** of a set of numbers is the greatest number which divides each of them without remainder).

A submatrix of matrix A is a matrix which consists of all elements which come from the rows with indices $x1, x1+1, ..., x2$ and the columns with indices $y1, y1+1, ..., y2$ of matrix A, where $1 \leq x1 \leq x2 \leq N$ and $1 \leq y1 \leq y2 \leq M$ are the edge rows and columns of the submatrix.

Input data

The first line contains two integers integer N and M, the numbers of rows and columns of the matrix A respectively.

The next N lines each contain M integers, where the $j-th$ element from the $i-th$ line of the input represents the matrix element $A[i][j]$ (each dimension being indexed from 1).

Output data

You need to write a single line with an integer: the numbers of submatrices of A for which the **greatest common divisor** of their elements is 1.

Restrictions

- $1 \leq N, M \leq 800$.
- $1 \leq$ `A[i][j]` $\leq 400; 1 \leq i \leq N$ și $1 \leq j \leq M$.

#	Points	Restrictions
1	10	$N, M < 16$
2	25	$N, M < 64$
3	25	$N, M < 128$ and $max\{A[i][j]$ with $1 \leq i \leq N$ and $1 \leq j \leq M\} < 64$
4	25	$max\{A[i][j]$ with $1 \leq i \leq N$ and $1 \leq j \leq M\} < 4$
5	15	No further restrictions.

Examples

Input file	Output file
2 2 1 2 3 4	5

Explanations

In the **sample case**, one example of a submatrix where the **greatest common divisor** of its elements is 1 is the whole matrix.