Problem D
Danger Detection

Time Limit: 1 second
Memory Limit: 512 megabytes

A land is described by a grid of size $n \times n$ square units. The rows are numbered from 1 to n from top to bottom, and the columns are numbered from 1 to n from left to right. The cell located in row i and column j is called cell (i, j). Through an assessment, each cell has a specific load-bearing capacity, and cell (i, j) has a positive integer load-bearing capacity of a_{ij}.

A robot starts moving from cell $(1, 1)$ and needs to reach cell (n, n) by moving to adjacent cells (with a common edge). Suppose the robot has a weight of G, then entering a cell with a load-bearing capacity less or equal to G is considered **dangerous**. Your task is to solve the following two problems:

1. Given the robot's weight G, find its path to minimize the number of dangerous cells it goes through. Determine the number of dangerous cells on such path.
2. For the given grid, determine the maximum weight of the robot so that it can move to the cell (n, n) without entering any dangerous cells.

Input

The first line contains a number 1 or 2 corresponding to problem 1 or 2 you need to solve.

If the first line contains the number 1, the second line contains two integers n and G. If the first line contains the number 2, the second line contains a single integer n.

In the next n lines, the i^{th} line contains n numbers on row i of the grid a with the value from 1 to 10^4.

Output

The output contains a single integer, which is the result of the corresponding problem.

Sample Input	Sample Output
1 5 6 7 1 3 4 6 6 2 1 7 5 2 6 7 2 3 4 2 1 1 7 9 1 6 1 6	3
2 5 7 1 3 4 6 6 2 1 7 5 2 6 7 2 3 4 2 1 1 7 9 1 6 1 6	2