Problem M. Matrix Construction

Time limit: 1 second
Memory limit: 1024 megabytes

Constructing a matrix, and the sample includes a test case "2 3"... Haven't we seen a problem like this recently?

—Stewed-chicken

Mary loves constructing matrices!

Today, Mary wants to fill a permutation† of length $n \times m$ into an $n \times m$ matrix A, such that the sum of any two adjacent elements is unique.

In other words, for any $1 \le x_1, x_2, x_3, x_4 \le n, 1 \le y_1, y_2, y_3, y_4 \le m$, if all of the following conditions are satisfied:

- $x_2 \ge x_1, y_2 \ge y_1, x_4 \ge x_3, y_4 \ge y_3$;
- $|x_2 - x_1| + |y_2 - y_1| = 1, |x_4 - x_3| + |y_4 - y_3| = 1$;
- $(x_1, y_1) \ne (x_3, y_3)$ or $(x_2, y_2) \ne (x_4, y_4)$;

then:

$$A_{x_1,y_1} + A_{x_2,y_2} \ne A_{x_3,y_3} + A_{x_4,y_4}$$

For example, when $n = 2$ and $m = 3$, matrix B is a valid solution, while matrix C is not valid because $C_{1,1} + C_{2,1} = C_{1,2} + C_{1,3}$.

$$B = \begin{bmatrix} 1 & 3 & 2 \\ 6 & 5 & 4 \end{bmatrix}, \quad C = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

Given n and m, can all the conditions above be satisfied? If so, output a valid solution.

† A permutation of length n is an array consisting of n distinct integers from 1 to n in arbitrary order. For example, $[2, 3, 1, 5, 4]$ is a permutation, but $[1, 2, 2]$ is not a permutation (2 appears twice in the array), and $[1, 3, 4]$ is also not a permutation ($n = 3$ but there is a 4 in the array).

Input

Each test file contains multiple test cases. The first line contains the number of test cases T ($1 \le T \le 10^4$). The description of the test cases follows.

The first line contains two integers n, m ($1 \le n, m \le 1000$).

For each test file, it is guaranteed that the sum of $n \times m$ over all test cases does not exceed 10^6.

Output

For each test case, output on the first line whether a valid solution exists. If there is a valid solution, output "`Yes`"; otherwise, output "`No`". You can output the answer in any case (upper or lower). For example, the strings "`yEs`", "`yes`", "`Yes`", and "`YES`" will be recognized as positive responses.

If a valid solution exists, you must also output n lines, each containing m integers. The j-th number on the i-th line represents the number at row i and column j in the matrix. You must make sure that the output numbers form a permutation of length $n \times m$. If there are multiple solutions, you may print any of them.

Example

standard input	standard output
2 1 1 2 3	yEs 1 YES 1 3 2 6 5 4