Milmon: May You Generate It

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

Given integers n, m. You need to construct an $n \times m$ matrix A such that:

- For any $1 \le i \le n$, $1 \le j \le m$, it holds that $0 \le A_{i,j} \le 2$, and the numbers $0, 1, 2$ appear the same number of times in matrix A;
- The size of any eight-connected component* consisting of equal numbers is at most 3†.
- There do not exist $1 \le i \le n-2$, $1 \le j \le m$ such that $A_{i,j} = A_{i+1,j} = A_{i+2,j}$;
- There do not exist $1 \le i \le n$, $1 \le j \le m-2$ such that $A_{i,j} = A_{i,j+1} = A_{i,j+2}$.

or report that no valid solution exists.

Input

This problem contains multiple test cases.

The first line contains an integer T ($1 \le T \le 10^4$), denoting the number of test cases.

For each test case:

- The first line contains two integers n and m ($1 \le n, m \le 10^6$), denoting the number of rows and columns of the matrix.

It is guaranteed that the sum of $n \times m$ over all test cases does not exceed 10^6.

Output

For each test case:

If there is no matrix satisfying the conditions, output a single line containing the string "`No`".

Otherwise, output the string "`Yes`" on the first line. Then output n lines, where the i-th line contains m numbers, without any separators in between, representing $A_{i,1}, \ldots, A_{i,m}$ of your constructed matrix. If there are multiple valid solutions, you may output any of them.

*Two positions (x_1, y_1) and (x_2, y_2) are eight-connected if and only if $\max(|x_1 - x_2|, |y_1 - y_2|) \le 1$.

†Formally, a set of positions S is called a connected component if and only if:

- All $(x, y) \in S$ correspond to the same value $A_{x,y}$;
- There does not exist a set $\varnothing \subsetneq T \subsetneq S$ such that for any $(x_1, y_1) \in T, (x_2, y_2) \in (S \setminus T)$, (x_1, y_1) and (x_2, y_2) are not eight-connected.

Then the size of every such set S should satisfy $|S| \le 3$.

Example

standard input	standard output
4 1 3 2 2 3 3 3 4	Yes 012 No Yes 001 012 122 Yes 0120 1201 2012