Problem B. Magical Palette

Time limit: 1 second
Memory limit: 1024 megabytes

The little white rabbit has a magical palette with a grid of n rows and m columns. Before starting to mix the colors, the little white rabbit will squeeze a kind of pigment to the left of each row, denoted by $a_1, a_2, \ldots, a_n$, and also squeeze a kind of pigment above each column, denoted by $b_1, b_2, \ldots, b_m$.

There are a total of $n \times m$ kinds of selectable pigments, represented by integers $0, 1, 2, \ldots, nm - 1$ for different pigments. Then, in the cell of the i-th row and the j-th column, the little white rabbit will mix a color $c_{i,j} = a_i b_j \bmod nm$ using the pigment a_i to the left of the i-th row and the pigment b_j above the j-th column.

The little white rabbit hopes that each of the $n \times m$ cells has a different color, and you need to find out whether it can be achieved.

Input

The first line of the input contains an integer T ($1 \le T \le 10^4$), indicating the number of test cases. For each test case:

The only line contains two integers n and m ($1 \le n, m \le 10^6$, $1 \le n \times m \le 10^6$), indicating the number of rows and the number of columns.

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 no solution exists, output "`No`" (without quotes) in one line. Otherwise, output three lines:

- The first line contains one string "`Yes`" (without quotes).
- The second line contains n integers $a_1, a_2, \ldots, a_n$ ($0 \le a_i < nm$).
- The third line contains m integers $b_1, b_2, \ldots, b_m$ ($0 \le b_i < nm$).

Example

standard input	standard output
2 2 3 2 2	Yes 1 2 1 3 5 No

Note

For the first sample case, $[c_{1,1}, c_{1,2}, c_{1,3}, c_{2,1}, c_{2,2}, c_{2,3}] = [1, 3, 5, 2, 0, 4]$, which are pairwise different.