

Robot Vacuum Cleaner

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

The room has a rectangular shape; the floor of the room is tiled with N rows of M square tiles in each row.

Before cleaning, a number P , consisting of exactly four distinct digits: 1 (“north” $(r, c) \rightarrow (r - 1, c)$), 2 (“east” $(r, c) \rightarrow (r, c + 1)$), 3 (“south” $(r, c) \rightarrow (r + 1, c)$), and 4 (“west” $(r, c) \rightarrow (r, c - 1)$) must be entered into the memory of the robot vacuum cleaner. The order of the digits in the number P describes the sequence of checking neighboring tiles during cleaning (the changes in row and column numbers are provided in parentheses).

At the start of the cleaning process, the robot is placed on the 1st tile in the 1st row and turned on. The robot always cleans the tile it is currently on, after which it remembers that it has already cleaned that tile. Next, according to the number P , it checks the neighboring tiles until it finds an uncleaned one to which it can move. If, instead of a tile, the robot encounters a wall or a door, it considers that tile to be cleaned. After each check, regardless of the result, the number P shifts cyclically to the left (the 1st digit becomes the 4th, and the positions of the others decrease by 1) — thus, the robot always checks the tile corresponding to the first digit (the most significant digit) of the number P at the current moment. If the robot cannot move to an uncleaned cell after 4 consecutive checks, it stops cleaning and turns off.

Your task is to find the smallest number P for which the robot can clean all the tiles in the room, or say that it is impossible.

Input

In the first line, the dimensions of the room N and M are given ($1 \leq N \leq M \leq 1000$).

Output

Output the smallest number P for which the robot can clean all the tiles in the room. If there is no suitable number, output “NO” (without quotes).

Examples

standard input	standard output
2 5	1324
4 4	NO

Note

In the first test case, the sequence of tile visits by the robot is:

1 4 5 8 9
2 3 6 7 10