Generalized chess knight P22796_en

Let us define an (a, b) knight as a piece that moves by jumping a cells in one direction and b cells in the other direction, where the possible directions are horizontal and vertical. For instance, the traditional chess knight is a $(1, 2)$ knight.

Given an $n \times m$ board with obstacles, an initial position (i_1, j_1), a final position (i_2, j_2), and the pair (a, b), can you tell if an (a, b) knight initially located at (i_1, j_1) can reach (i_2, j_2) in two or less steps? The knight can never leave the board, nor visit any obstacles.

Input

Input consists of several cases, each with n and m, followed by the board (n lines with m characters each, where an '`X`' indicates an obstacle and a '`.`' indicates a free cell), followed by i_1, j_1, i_2, j_2, a and b. Assume that n and m are between 1 and 42, that (i_1, j_1) and (i_2, j_2) are free positions inside the board, and $1 \leq a < b \leq 5$. The upper-left position is $(0, 0)$.

Output

For every case, print "`yes`" or "`no`" depending on whether the goal position is reachable from the initial position in two or less steps.

Sample input 1

```
2 3
...
...
0 0  1 2  1 2

4 5
.....
XXXXX
XXXXX
.....
0 1  3 0  1 3

5 5
.XXX.
XXXXX
XXXXX
XXXXX
XX.XX
0 4  0 0  2 4

5 5
.XXX.
XXXXX
XXXXX
XXXXX
XXXXX
0 4  0 0  2 4

1 8
XXXXXXX.
0 7  0 7  3 5
```

Sample output 1

```
yes
yes
yes
no
yes
```

Problem information

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