

2. Knight Traversal

Problem ID: 9563

Required Problem

100pt(s)

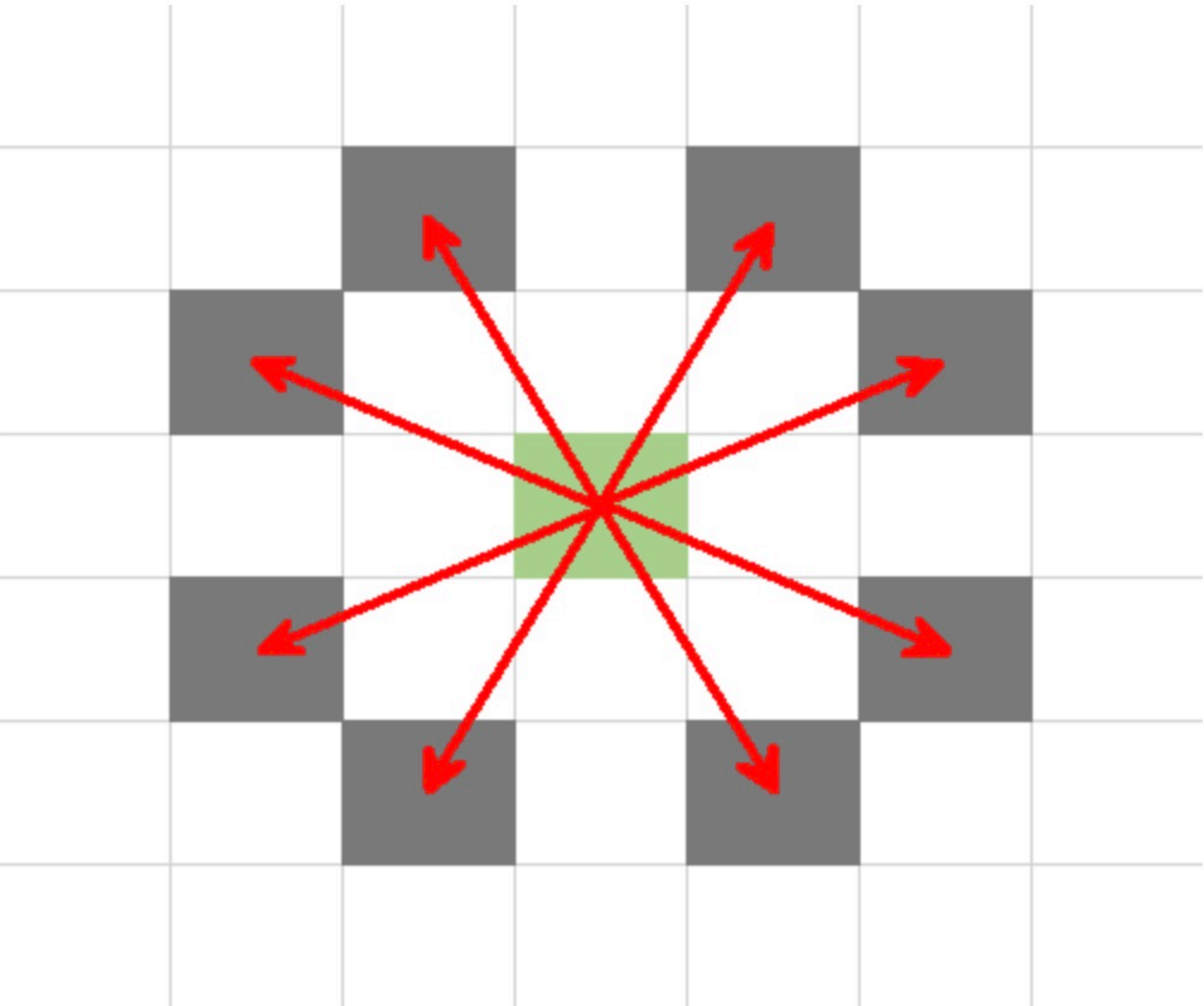
Time Limit: 1000ms

Memory Limit: 131072kB

Description

Description:

There is an $n*m$ chessboard ($1 < n,m \leq 400$), and the knight starts from a given cell of the chess board. Please compute the minimum number of steps it takes for the knight to reach each cell on the chess board, and print the results as a matrix. In this problem's context, the top left corner is (1, 1).



Input:

Four integers: n , m , the dimension of the board, and x , y , the coordinates of the knight's starting cell

Output:

An $n*m$ matrix, each cell's value representing the minimum number of steps it takes for the knight to reach that cell (each printed cell should be aligned to the left and be 5 spaces wide, and output -1 if the knight can't reach the cell).

Sample Input:

```
3 3 1 1
```

Sample Output:

```
0    3    2
3   -1    1
2    1    4
```

Note that in this example, the knight's starting cell is (1,1), therefore it takes 0 steps to reach the starting cell.