Shortest Source to Destination Path

Difficulty: Medium

Accuracy: 24.69%

Submissions: 116K+

Points: 4

Given a 2D binary matrix A(0-based index) of dimensions NxM. Find the minimum number of steps required to reach from (0,0) to (X,Y).

Note: You can only move left, right, up and down, and only through cells that contain 1.

Example 1:

Input:

N=3, M=4

A=[[1,0,0,0],

[1,1,0,1],

[0,1,1,1]

X=2, Y=3

Output:

5

Explanation:

The shortest path is as follows:

$$(0,0)$$
-> $(1,0)$ -> $(1,1)$ -> $(2,1)$ -> $(2,2)$ -> $(2,3)$.

Example 2:

Input:

N=3, M=4
A=[[1,1,1,1],
 [0,0,0,1],
 [0,0,0,1]]
X=0, Y=3

Output:

3

Explanation:

The shortest path is as follows:

$$(0,0)$$
-> $(0,1)$ -> $(0,2)$ -> $(0,3)$.

Your Task:

You don't need to read input or print anything. Your task is to complete the function **shortestDistance()** which takes the integer N, M, X, Y, and the 2D binary matrix A as input parameters and returns the minimum number of steps required to go from (0,0) to (X, Y). If it is impossible to go from (0,0) to (X, Y), then function returns -1. If value of the cell (0,0) is 0 (i.e. A[0][0]=0) then return -1.