

## Problem B. Grid

Time limit 1000 ms  
Memory limit 256MB

### Problem Description

The territory of Alice's country is an  $n \times m$  grid. Each cell in the grid is either an empty space ('.') or an obstacle ('#'). The cell at the intersection of the  $i$ -th row and the  $j$ -th column is denoted by  $(i, j)$ .

Alice is currently at cell  $(sx, sy)$  and she wants to travel to the destination cell  $(tx, ty)$ . In a single move, Alice can move to an adjacent cell in one of the four cardinal directions (up, down, left, or right), as long as she does not move out of the grid's boundaries.

Your task is to determine the minimum number of moves Alice needs to reach the destination without entering any cells with obstacles.

### Input format

The first line contains two integers,  $n$  and  $m$ , representing the dimensions of the grid. ( $1 \leq n, m \leq 500$ )

The second line contains four integers,  $sx, sy, tx, ty$ , representing the 1-indexed coordinates of the starting cell and the destination cell. ( $1 \leq sx, tx \leq n, 1 \leq sy, ty \leq m$ )

The next  $n$  lines describe the grid. Each of these lines contains a string of length  $m$ , consisting of the characters '.' (empty space) and '#' (obstacle).

It is guaranteed that the starting cell  $(sx, sy)$  and the destination cell  $(tx, ty)$  are not obstacles.

### Output format

Output a single integer representing the minimum number of moves required. If the destination is unreachable from the starting cell, output  $-1$ .

### Subtask score

Subtask	Score	Additional Constraints
1	20	$n = 1$
2	80	No constraints

### Sample

Sample Input 1

```
2 5
1 1 2 5
.#...
...#.
```

**Sample Output 1**

```
7
```