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The Virtual Learning Environment for Computer Programming

Treasures in a map (2)

P60796_en

Write a program that, given a map with treasures and obstacles, computes the distance from a given initial position to the nearest accessible treasure. The allowed movements are horizontal or vertical, but not diagonal.

Input

Input begins with the number of rows n>0 and the number of columns m>0 of the map. Follow n rows with m characters each. A dot indicates an empty position, an 'x' indicates an obstacle, and a 't' indicates a treasure. Finally, two numbers r and c indicate the initial row and column (both of them starting at 1) where we must start looking for treasures. You can assume that r is between 1 and n, that c is between 1 and m, and that the initial position is always empty.

Output

Print the minimum number of steps to reach a treasure strating from the initial position. If no treasure is accessible, tell so.

Sample input 1

Sample output 1

7 6 ..t...
..XXX.
.....
tX..X.
.X..Xt
.XX...
.tx...
5 3

```
minimum distance: 4
```

Sample input 2

Sample output 2

```
4 10 ..t...X...
.....X..t.
XXXXX.X...
.....X.t
```

no treasure can be reached

Sample input 3

Sample output 3

```
5 7 .....xxxxxt .x...xt .x..xt .x.xxx ...x.xt 5 5
```

minimum distance: 19

Problem information

Author : Salvador Roura Translator : Carlos Molina

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