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## Treasures

## Assignment 3

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

### 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 the furthest treasure from the initial position. If no treasure is accessible, tell so.

#### Sample input 1

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

#### Sample output 1

```
maximum distance: 6
```

#### Sample input 2

```
4 10
..t...X...
.....X..t.
XXXXX.X...
.....X..t
4 1
```

#### Sample output 2

```
no treasure can be reached
```

#### Sample input 3

```
5 7
.....
.XXXXXt
.X...Xt
.X.X.XX
...X.Xt
5 5
```

#### Sample output 3

```
maximum distance: 20
```