

Problem 4: Mystic Maze

In the heart of the enchanted realm of Eloria lay a legendary maze known as the "Mystic Maze". This labyrinth was not for the faint of heart; it was filled with traps, riddles, and untold treasures, said to be guarded by a mystical guardian. Among those brave enough to face the maze was Captain Lysandra, a renowned adventurer. Armed with her sword and a map, she entered the Mystic Maze, its walls formed from o's and x's, representing paths and barriers. Her quest was simple yet treacherous, find the fastest path that leads to the end of the maze. The first line of input contains two integers indicating the number of rows and columns of the maze. Each dimension has a minimum value of 2 and a maximum value of 200. Each of the next lines contain space-separated characters consisting of o or x, where o represents an open space while x represents a maze barrier. Steps may only be taken in the four cardinal directions: North, South, East, or West.

Create a program to determine the minimum number of steps required to traverse the maze from the top-left to the bottom-right. If no such path exists, output 0.

Sample input 1

Sample output 1

```
7 9
0 X X X X X 0 0 0
0 X X X X X 0 X X
0 0 0 0 0 0 0 0 0
X X 0 X X X X X 0
X X 0 0 0 X X X 0
X X X X 0 X X X 0
X X X X X X X X 0
```

15

There are three paths available, however two of them are dead ends. The middle path, which extends horizontally across the entire maze reaches the bottom-right corner in 15 steps.

Sample input 2

Sample output 2

```
5 5
0 0 0 0 0
0 X X X 0
0 X 0 0 0
0 X 0 X X
0 0 0 0 0
```

9

There are two paths available. One requires 13 steps while the other requires only 9 steps. Thus, the minimum is 9 steps.