Mr K marsh



Problem Statement

Mr K has a rectangular land of size $m \times n$. There are marshes in the land where the fence cannot hold. Mr K wants you to find the perimeter of the largest rectangular fence that can be built on this land.

Input format

The first line contains m and n. The next m lines contain n characters each describing the state of the land. 'x' (ascii value: 120) if it is a marsh and '.' (ascii value: 46) otherwise.

Constraints

 $2 \le m, n \le 500$

Output Format

Output contains a single integer - the largest perimeter. If the rectangular fence cannot be built, print "impossible" (without quotes).

Sample Input:1

```
4 5 ..... .x.x. .....
```

Output

14

Fence can be put up across the entire land owned by Mr K. The perimeter is 2*(4-1)+2*(5-1)=14.

Sample Input:2

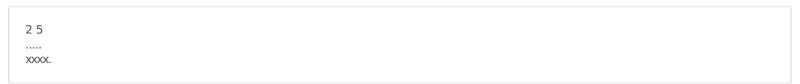
```
2 2
.x
x.
```

Output

impossible

We need minimum of 4 points to place the 4 corners of the fence. Hence, impossible.

Sample Input:3



Output

