Mr K marsh

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

$2 \leq m, n \leq 500$

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

```
2 5
.....
xxxx.
```

Output

impossible