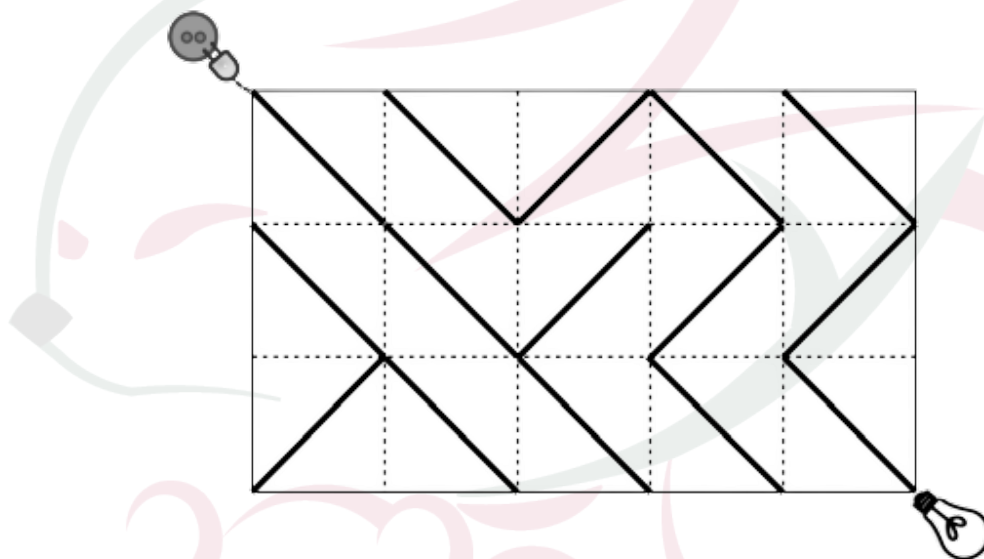


## NAOI TST - Day 2

### Problem 4 : Switch the Lamp On

Red1 is designing an electronic circuit on an  $N \times M$  rectangular grid plate. There are  $N \times M$  square tiles that are aligned to the grid on the plate. Two (out of four) opposite corners of each tile are connected by a wire.

A power source is connected to the top left corner of the plate. A lamp is connected to the bottom right corner of the plate. The lamp is on only if there is a path of wires connecting power source to lamp. In order to switch the lamp on, any number of tiles can be turned by  $90^\circ$  (in both directions).



In the picture above, the lamp is off. If any one of the tiles in the second column from the right is turned by  $90^\circ$ , power source and lamp get connected, and the lamp is on.

Write a program to find out the minimal number of tiles that have to be turned by  $90^\circ$  to switch the lamp on.

#### Constraints

- $1 \leq N, M \leq 500$

#### Subtask 1 [40%]

- $1 \leq N \leq 4$
- $1 \leq M \leq 5$

#### Subtask 2 [60%]

- No additional constraints.

## Input Specification

The first line of input contains two integers  $N$  and  $M$ , the dimensions of the plate. On each of the following  $N$  lines, there are  $M$  characters – either ‘\’ or ‘/’ – which indicate the direction of the wire connecting the opposite vertices of the corresponding tile.

## Output Specification

There must be exactly one line of output. If it is possible to switch the lamp on, this line must contain only one integer: the minimal number of tiles that have to be turned to switch on the lamp. If it is not possible, output the string: NO SOLUTION.

## Sample Input

```
3 5
\\//\
\\///
/\\\\
```

## Sample Output

```
1
```