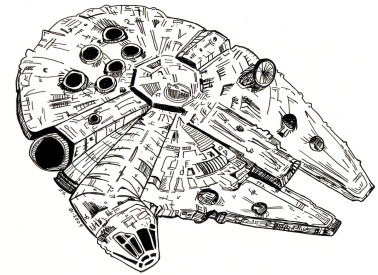


Task 10: Han in Hyperspace

[300 points]

Han Solo is lost in hyperspace and needs your help to guide the Millennium Falcon out.



Problem Statement

Given a 2D map of hyperspace, give instructions to Han Solo so he is able to navigate out of hyperspace while traveling the shortest distance. To get out of hyperspace, Han simply needs to reach the edge of the map. Han cannot travel diagonally and only in the four cardinal directions.

Input Format

- N the height of the map
- M the width of the map
- N lines with M characters each containing the map of hyperspace
 - `*` denotes Han's current location
 - `x` denotes a blocked location
 - `-` denotes an open location Han can fly through

Input Constraints

- $0 < N < 100$
- $0 < M < 100$

Output Format

A single line containing directions for Han to follow. `W` is West, `N` is North, `E` is east, and `S` is South. If there is no way out of hyperspace, print "Goodluck".

Sample Input

5

10

```
xxxx-xxxxx
-----x
xxxxxx-xxx
xxx*---xxx
xxxxxxxxxxx
```

Sample Output

EEENNWWWN

Sample Input

3

4

```
xxxx
x*-x
xxxx
```

Sample Output

Goodluck