Searching for the telecos   P98259_en

(The original statement in Catalan has many private jokes. This English version goes straight to the point of the problem.)

Write a program to search for someone called "the telecos" on a given rectangular grid.

Input

Input has several cases. Each case begins with two numbers n and m between 1 and 100. Follow n lines with m characters each: a dot indicates a free cell, a 'P' indicates a person, a '#' indicates a wall, and a 'T' indicates the telecos. The search must always begin from the upper-left cell (which never has a wall), and there is at most one telecos on the grid.

Output

For every case, if it is possible to reach the telecos, print the minimum number of steps to do so, and also the maximum number of persons that can be met in a path to the telecos with the minimum lenght. You can make horizontal and vertical movements, never leaving the grid. If the telecos is not in the grid, or if he is not reachable, tell so.

Sample input 1

```
1 4
....
2 2
..
.T
2 2
.P
.T
2 2
..
PT
2 2
.#
#T
4 6
P#TPPP
.#.PPP
.#PPPP
...PPP
1 1
T
```

Sample output 1

```
The telecos ran away.
2 0
2 1
2 1
The telecos is hidden.
8 2
0 0
```

Problem information

Author: Alex Alvarez
Translator: Salvador Roura

Generation: 2026-01-25T12:16:38.844Z