

## 26 Playing 4-9!

15 points



### Introduction

HP is developing an online videogame called "4-9". In a "4-9" game, several players battle over a large field trying to be the last man standing, who turns out to be the single winner of the round. However, if players are being eliminated, the battlefield can start to be too big to allow the remaining players to find their opponents, which could lead the game to take too much to complete in a reasonable amount of time.

To come up with that, when a certain number of players have been eliminated, the game itself delimits a small area in the field where the players must move in. After a given time, all the players laying outside this "safety area" are eliminated, forcing them to get closer and closer while trying to survive if they want to win the round.

Here, we want you to help us develop the algorithm in charge of detecting the position of the players in the field once the "safety area" has been deployed. Basically, we need to know what happens with each player: do they continue playing or are eliminated?

### Input

The input of your program should, first, read the size of the side of the battlefield (it has always a square shape). Later, we provide you a snapshot of the current state of the field in form of matrix. Each position of the matrix holds a single character that can stand for the following:

- If it is a ".", it means that in such position of the field there is nobody.
- If it is a capital letter, it means that the player identified with such character is in that position of the field.
- Finally, the character "!" will be used to delimit the "safety area", which will always have a rectangular shape.

### Output

The output of your program must be a sentence per each player in the battle zone indicating whether they are alive or have been eliminated. More specifically, for a given player X, we will be saying "Player X has been eliminated" if it has been eliminated or "Player X is still alive" if it is inside the "safety area". The order in which the players must be mentioned has to be from top to bottom and from left to right.

### Example

#### Input

```
6
.....F
.!!!!.
.!O.!
.!C!.
.!...!.
.!!!!.
```

#### Output

```
Player F has been eliminated
Player O is still alive
Player C is still alive
```