

Look Out, Steve!

Filename: steve

The Problem

Minecraft Steve has a problem. Night is quickly approaching, and he has run out of time to build anything else. Not having much time, he looks to you and your awesome programming skills to help him determine a safe place to spend the night. He will give you a description everything in the world within running distance of him. It is your job to write a program that will use this information to determine whether there is a safe place within this area where the zombies cannot reach him, and that he can still reach.

In order to simplify things, Steve will leave out any extra information you don't need. He will also give you the world information as a flat map, since he doesn't have time to dig. He will simply describe his world using the following: '#' is a solid block, which neither zombies nor Steve can get through. 'W' is a wooden door, which Steve can always get through, but zombies can only get through on hardcore mode. 'I' is an iron door, which Steve can get through, but zombies cannot ever get through. '.' is open space, which of course anyone can walk through. The map will also contain exactly one occurrence of 'S', which is Steve's starting location (which obviously does not contain any blocks). Both zombies and Steve can walk in the 4 cardinal directions: up, down, left, and right. Steve has been thorough about his illumination of his area, though, so zombies will only start from squares on the edge of the map that are open spaces ('.').

The Input

The input will start with a line containing one integer, T , the number of test cases. To follow will be T test cases. Each test case will start with a line containing two integers, R and C ($1 \leq R, C \leq 200$), the number of rows and columns, respectively. Following that will be R lines each with C characters (with no spaces between them) describing the area you are to check. Each of these characters will be one of the 4 explained previously.

The Output

For each test case, output "World #k: ", where k is the test case number starting at 1, followed by the case below that correctly describes the situation:

If Steve is in or can get to a place completely isolated from the zombies, output:
Sleep for the night, you are safe.

If Steve can only reach a safe place separated by a wooden door ('W'), output:
I hope you're not in hardcore.

If Steve cannot reach a safe place at all, but one exists, output:
I see you didn't think this one through. Good luck tonight.

If Steve cannot reach any safe place because one does not exist, output:
It's been nice knowing you.

Sample Input

```
2
5 5
#####
#...#
#.S.#
#...#
#####
5 5
.....
.###.
.W.#.
.###.
..S..
```

Sample Output

```
World #1: Sleep for the night, you are safe.
World #2: I hope you're not in hardcore.
```