6. Pegged

Program Name: pegged.java Input File: pegged.in

Write a program that, given a peg game starting position and a limited number of moves, can determine the best achievable score.

Here is the peg board layout along with the number of points scored for a peg in each position:

```
  ...       999
  ...       444
.......   9411149
.......   9410149
.......   9411149
  ...       444
  ...       999
```

Lower scores are better, with the best possible score being 0 (one remaining peg in the central hole).

A single move consists of 'jumping' one peg horizontally or vertically over an adjacent peg into an empty hole and then removing the jumped peg.

Input

The first line of input will consist of a single integer, *n*, indicating the number of game boards to analyze. The remainder of the input consists of those *n* game boards. Each hole on the game board will either be empty or have a peg in it. An empty hole will be represented by a period while a peg will be represented by the lower-case letter 'o'.

Output

For each board in the input, output a single line with the statement, "The best score for board #X is Y points." The value of X will be 1 for the first board, 2 for the second, etc. The value of Y will be the best possible score that can be achieved with a maximum of 10 moves. Note, it is acceptable to use fewer than the maximum number of moves.

Example Input File

```
3
   ...
   ...
.......
....oo.
.......
   ...
   ...
   ...
   ...
..ooo..
..o.o..
..ooo..
   ...
   ...
   ...
   ...
.......
.ooooo.
.......
   ...
   ...
```

Example Output To Screen

```
The best score for board #1 is 0 points.
The best score for board #2 is 2 points.
The best score for board #3 is 10 points.
```