

Round B China New Grad Test 2014

[A. Sudoku Checker](#)[B. Meet and party](#)**C. Hex**[D. Dragon Maze](#)[E. Ignore all my comments](#)[Questions asked](#)

Submissions

Sudoku Checker

5pt Not attempted
1471/2010 users
correct (73%)9pt Not attempted
1146/1443 users
correct (79%)

Meet and party

9pt Not attempted
496/823 users
correct (60%)15pt Not attempted
47/409 users
correct (11%)

Hex

12pt Not attempted
19/260 users
correct (7%)13pt Not attempted
14/18 users correct
(78%)

Dragon Maze

8pt Not attempted
336/594 users
correct (57%)12pt Not attempted
229/330 users
correct (69%)

Ignore all my comments

17pt Not attempted
216/468 users
correct (46%)

0pt Not attempted

Top Scores

TankEngineer	100
Nekosyndrome	100
I521530	100
W.Junqiao	100
LTzycLT	100
iloahz	100
drazil	87
navi	85
wishstudio	85
redsniper	76

Problem C. Hex

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the [Quick-Start Guide](#) to get started.

Small input
12 points

Solve C-small

Large input
13 points

Solve C-large

Problem

This problem was inspired by a board game called Hex, designed independently by Piet Hein and John Nash. It has a similar idea, but does not assume you have played Hex.

This game is played on an $N \times N$ board, where each cell is a hexagon. There are two players: Red side (using red stones) and Blue side (using blue stones). The board starts empty, and the two players take turns placing a stone of their color on a single cell within the overall playing board. Each player can place their stone on any cell not occupied by another stone of any color. There is no requirement that a stone must be placed beside another stone of the same color. The player to start first is determined randomly (with equal probability among the two players).

The upper side and lower sides of the board are marked as red, and the other two sides are marked as blue. The goal of the game is to form a connected path of one player's stones connecting the two sides of the board that have that player's color. The first player to achieve this wins. Note that the four corners are considered connected to both colors.

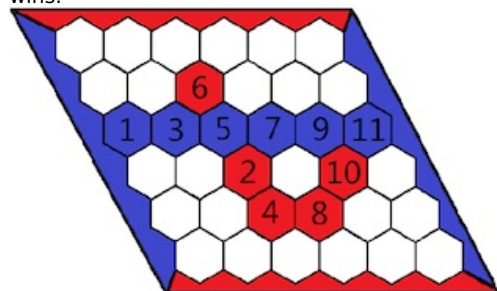
The game ends immediately when one player wins.

Given a game state, help someone new to the game determine the status of a game board. Say one of the following:

- **"Impossible"**: If it was impossible for two players to follow the rules and to have arrived at that game state.
- **"Red wins"**: If the player playing the red stones has won.
- **"Blue wins"**: If the player playing the blue stones has won.
- **"Nobody wins"**: If nobody has yet won the game. Note that a game of Hex can't end without a winner!

Note that in any impossible state, the only correct answer is "Impossible", even if red or blue has formed a connected path of stones linking the opposing sides of the board marked by his or her colors.

Here's a an example game on a 6x6 gameboard where blue won. Blue was the first player to move, and placed a blue stone at cell marked as 1. Then Red placed at cell 2, then blue at cell 3, etc. After the 11th stone is placed, blue wins.



Input

The first line of input gives the number of test cases, T . T test cases follow. Each test case start with the size of the side of the board, N . This is followed by a board of N rows and N columns consisting of only 'B', 'R' and '.' characters. 'B' indicates a cell occupied by blue stone, 'R' indicates a cell occupied by red stone, and '.' indicates an empty cell.

Output

For each test case, output one line containing "Case #x: y", where x is the case number (starting from 1) and y is the status of the game board. It can be "Impossible", "Blue wins", "Red wins" or "Nobody wins" (excluding the quotes). Note that the judge is case-sensitive, so answers of "impossible", "blue wins", "red wins" and "nobody wins" will be judged incorrect.

Limits

 $1 \leq T \leq 100.$

Small dataset

$1 \leq N \leq 10$.

Large dataset

$1 \leq N \leq 100$.

Sample

Input	Output
7	Case #1: Nobody wins
1	Case #2: Blue wins
.	Case #3: Red wins
1	Case #4: Impossible
B	Case #5: Blue wins
1	Case #6: Impossible
R	Case #7: Blue wins
2	
BR	
BB	
4	
BBBB	
BBB.	
RRR.	
RRRR	
4	
BBBB	
BBBB	
RRR.	
RRRR	
6	
.....	
..R...	
BBBBBB	
..R.R.	
..RR..	
.....	

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