

Problem 0.1 Hands-On Bacteria Handoff

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Overview: Interactively simulate a bacteria game.

Description: Oh no! The Chief Financial Officers of mAudia and BUJ are at it again. In an epic battle of hand-slapping, they have decided to take turns slapping one of their hands to one of their opponents' hands. During each turn, bacteria on the slapping hand duplicate and transfer over so that at the end of the turn, the slapped hand has the sum of the original number of bacteria on both hands. Whenever there are more than 6 bacteria on a hand, that hand decays and can no longer play.

The CFO of mAudia has already eliminated one of the CFO of BUJ's hands, so her only remaining hand must single-handedly stay the fight. In an act of arrogance, mAudia's CFO has boasted that the CFO of BUJ can claim victory if she eliminates either of his hands. Of course, she loses if her one remaining hand is eliminated. Who will win? Help BUJ's CFO determine the answer to that question.

Time Allocation: 1 second

Input/Output: This is an interactive problem. This means that your program will receive input from the grading environment based on the output your program produces. All input and output will be done through the console (`scanf` for C, `cin` for C++, `System.in` for Java, `sys.stdin` for Python).

Rules of interaction:

1. Your program should begin by reading in three integers h l r , each separated by a single space. h represents the number of bacteria on your (CFO of BUJ's) hand, while l and r represent the number of bacteria on your opponent's (mAudia's CEO's) left and right hands, respectively.
2. Then, for each turn during normal gameplay, your program should output a single character `L` or `R`, indicating which of your opponent's two hands you choose to slap.
3. In response, your opponent will give you a single character `L` or `R`, indicating which hand he used to hit your hand.
4. If your hand has more than 6 bacteria after your opponent's move, your program should output `Lose` and quit.
5. If either of your opponent's hands would have more than 6 bacteria after your move, your program follow the output of `L` or `R` with a space and the word `Win` in the same line, and quit.
6. You MUST output a new line character and flush the output stream after each output! To do this:

In C, use `printf("\n"); fflush(stdout);`

In C++, use `cout << endl << flush;`

In Java, use `System.out.println(); System.out.flush();`

In Python, use `sys.stdout.write("\n"); sys.stdout.flush();`

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Assumptions and
Expectations:

h , l , and r will each be an integer between 1 and 6, inclusive.
Your program does not need to play according to an optimal strategy,
nor should you assume that your opponent plays optimally.
If any output is invalid, your program will be deemed incorrect.

Sample Run #1:

Input: 3 1 1
Output: R
Input: R
Output: L Win

Bacteria counts: 3 1 3
Bacteria counts: 6 1 3
Bacteria counts: 6 7 3

Sample Run #2:

Input: 1 1 2
Output: R
Input: L
Output: L
Input: L
Output: R Win

Bacteria counts: 1 1 3
Bacteria counts: 2 1 3
Bacteria counts: 2 3 3
Bacteria counts: 5 3 3
Bacteria counts: 5 3 8

Sample Run #3:

Input: 3 1 2
Output: L
Input: L
Output: Lose

Bacteria counts: 3 4 2
Bacteria counts: 7 4 2