DMPG '17 B3 - Heroes

Time limit: 2.0s **Memory limit:** 64M

Roger is addicted to the game Fire Emblem Heroes! His main hero is Hector, who has h_H health and deals d_H damage per turn. Hector is up against a foe who deals d_F damage per turn, and has h_F health. However, Hector's special, *Buckler*, activates every 4th turn and negates all damage done against him in that turn, as well as continues to deal the regular amount of damage.

Given N of these enemies, can you find out who will come out victorious if Hector attacks first, and how many turns it will take?

Note: assume the turn counter, as well as Hector's health, reset with each foe.

Constraints

Subtask 1 [60%]

$1 \leq N \leq 1\,000$

$1 \leq h_H, d_H, h_F, d_F \leq 100$

Subtask 2 [40%]

$1 \leq N \leq 10^6$

$1 \leq h_H, d_H, h_F, d_F \leq 10^9$

Input Specification

Line 1: Three space separated integers, N, h_H, and d_H.
Lines $2 \ldots N+1$: Two space separated integer, the h_F and d_F for each foe.

Output Specification

N lines, of the format `Win x` if Hector wins in x turns, or `Lose x` if Hector loses in x turns.

Sample Input

```
4 12 5
4 2
999 999
5 12
20 3
```

Sample Output

```
Win 1
Lose 1
Win 1
Win 4
```