Problem : Coin Game

Problem Description

Alice is playing a simple but interesting computer game on her computer. The game plays as follows: when Alice wants to play the game, the computer shows 3 bottles (say A, B, and C), which contains several coins in each bottle. She and the computer repeatedly take coins from one bottle (either from A, from B, or from C). Alice and computer can not take coins from more than one bottle at a time. When Alice(computer) has the chance to take coins, she (it) can take either 1, 2 or 3 coins at a time. **Whoever takes the last coin will lose the game.** Alice always starts the game. In other words, she takes coins first. Assume both Alice and computer are smart enough to understand a strategy to win the game.

Here are some examples: Assume that initial number of coins in bottles A, B, and C is (1, 1, 0), which means that there is 1 coin in bottle A, 1 in bottle B, no coins in bottle C. Alice takes first 1 coin from either bottle A or bottle B. Then computer takes the last coin and it loses the game, i.e., Alice wins the game. If initial coins are (2, 1, 0) then Alice can win the game, because she takes 2 coins from bottle A first. If initial coins are (1, 1, 1) then Alice will lose the game.

Given initial coins of three bottles, you are asked to make a program which determine whether Alice can win the game or lose it.

Input

The name of input file is 'coin.inp.' The first line of the input file contains an integer $n(1 \leq n \leq 1{,}000)$ to denote the number of games to play. In the following n lines, each line contains 3 numbers c_A, c_B, c_C , which denotes the number of coins in bottle A, B, and C, respectively. Each of c_A, c_B, and c_C does not exceed 100.

Output

The name of output file is 'coin.out.' For each test input, print a line as shown below in samples. If Alice can win the game, print 1 at the end after colon. Otherwise -1.

The following shows sample input and output.

Sample Input	Output for the Sample Input
8 3 4 5 2 1 2 1 1 1 1 2 3 3 3 3 4 4 1 100 100 100 100 0 0	(3 4 5) : 1 (2 1 2) : 1 (1 1 1) : -1 (1 2 3) : -1 (3 3 3) : 1 (4 4 1) : -1 (100 100 100) : 1 (100 0 0) : 1

Constraints: The file name should be 'coin.{c, cpp, java}.'