

# Problem J

## Find the Right Changes

Time Limit: 1 second

In early days the concept of money was not there, and people used to sell goods by exchanging other goods. Assume that in a society there are two kinds of goods **A** and **B**. Buyer has to pay an amount equivalent to  $c \geq 0$ . If he has the option of giving the equivalent using both type **A** and **B**, their unit values are respectively  $a \geq 0$ ,  $b \geq 0$ . Whereas if one of a and b is negative it is assumed that seller has the corresponding item for exchange. At most one of the a and b will be negative. Now the problem is to find the number of ways the exchanges can be done for the buyer for  $c \geq 0$  if it is possible to do so.

### Input

The first line contains an integer **n** ( $0 \leq n \leq 1001$ ) indicating the number of cases to be considered. Each of the next n lines contains integers **a**, **b** and **c**. You can assume that  $|a|, |b|, |c| < 2^{31}$  and none of a, b or c would be zero.

### Output

For each case, if there are a number of combinations in which exchanges for c can be made using goods A and B, number of such combinations will be printed. In case it is impossible to make such changes the line will contain the phrase "**Impossible**". In case infinite numbers of combinations are there, the line will contain the phrase "**Infinitely many solutions**".

Sample Input	Sample Output
3 3 5 17 7 -23 571 10 36 7	1 Infinitely many solutions Impossible

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