Can They Meet?

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

A and B are x metres apart on a straight road. In one move, A can move a metres towards or away from B and B can move b metres towards or away from A. Note that they both have to move simultaneously in each move. You can't have only one of them moving. Also, A and B can move in different directions in a single move.

Your task is to check if they can meet or they will keep moving throughout eternity.

Input

First line contains a positive integer $t(1 \leq t \leq 10^4)$. Next t lines contain 3 non-negative integers $(0 \leq a, b, x \leq 10^{15})$.

Output

Output t lines. For each test case, you should print a single line with integer 1 if they can meet and 0 if they cannot meet.

Example

standard input	standard output
3	1
5 3 8	1
4 2 8	0
2 4 3	

Note

In the first case, A and B can move toward each other in one move and they will meet.

In the second case, A can keep moving toward B and B can keep moving away from A. In this way, they will meet after 4 moves.

You can prove that it is impossible to meet in 3rd case.