CSEC-ASTU Competitive Programming Contest 2021

Problem 43: Kill the dragon, or run

Time Limit: 1 second

You are running from a dragon.

- You have speed S_1
- The dragon has speed S_2
- You start at position P
- The dragon starts at position 0 and starts running towards you immediately.

You have a sword. When the dragon reaches you, you can hit it with your sword, which injures it. After getting hit, the dragon stops running and stays in its position for H seconds to heal, then continues running after you. Your sword can only hit the dragon X times before it breaks. If the dragon reaches you while your sword is broken, it will eat you.

You survive if you reach position Z before the dragon eats you. Calculate the minimum number of sword hits you need to survive or state that it is impossible.

Input

First line will be the number of test cases T, in each test case you will be given the following:

Five integers S_1, S_2, P, X, H, Z separated by a space such that $(1 \leq S_1, S_2, P, H \leq 10^9)$, $(0 \leq X \leq 10^9)$ and $(P \leq Z \leq 10^{18})$

Output

For each test case, if you can survive output the minimum number of sword hits you need to do in order to survive, otherwise print "Impossible".

Output one line after each test case.

Sample Input 1	Sample Output 1
3 1 2 1 1 2 10 3 2 2 1 2 20 1 39 20 9 4 28	Impossible 0 2