

Apartments



SEASON 10 - SIXTH ROUND

Victor got accepted in a prestigious university in England, but they apparently no longer love Bulgarians and want to take everything he has! Now the only way he can pay for his education there is to make some money from his parents' two apartments.

Victor's first school year in the university starts in M months from now. Then, at the beginning of every school year, he has to pay L leva (Bulgarian currency), or otherwise he will get kicked out. At the moment Victor's parents are renting both apartments and are getting A_1 and A_2 leva every month from the first and from the second apartment respectively. When they sell them, they will get respectively B_1 and B_2 leva. Obviously, they can sell each apartment only once and can't continue renting it after that.

Now Victor is asking you to write a program, which calculates the following: first, if he can stay all 4 years in the university, and if he can't - the maximal number of years he can stay, and second, when he will have to sell each apartment. Your program must evaluate several test cases in a single test.

Input (apartments.in)

On the first line of the input file *apartments.in* you are given an integer T - the number of the test cases you should evaluate. Each of the next T lines contains 6 integers, describing one test case - M , L , A_1 , A_2 , B_1 and B_2 .

Output (apartments.out)

For each test case your program must print 3 numbers. The first one should be equal to the maximal number of years Victor can stay in the university (from 0 to 4). The second number should be equal to the number of months, after which Victor will sell the first apartment, and the third one - the number of months, after which he will sell the second apartment (from 0 to $M+47$ or -1 , if he doesn't have to sell it). If there's more than one way to sell the apartments, so that he stays in the university as long as possible, you can print any of them.

Constraints

$$1 \leq T \leq 10$$

$$0 \leq M \leq 24$$

$$1 \leq L, A_1, A_2, B_1, B_2 \leq 1\,000\,000$$

Example

Input

3

4 30000 500 600 50000 60000

10 10000 500 600 80000 190000

20 100000 550 750 35000 45000

Output

4 28 4

4 -1 -1

1 18 19