Sayed and the Machines - Hard Verison

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

After you helped Sayed solve the easy version, he was able to find the maximum number of machines he can have based on the requirements and the cluster capacity. But unfortunately, the numbers are not good. So Sayed went to management and got a budget approved to purchase extra RAM, CPU and Disk resources in order to get a higher number of machines.

So again, given a machine requires R RAM, C CPU and D Disk to run, and given that the current cluster capacity is N_R RAM units, N_C CPU units and N_D disk units. And this time, we are also given the price of a RAM unit (P_R), the price of a CPU unit(P_C) and the price of a Disk unit (P_D) and the total budget Sayed has is N dollars.

Help Sayed figure out the maximum number of machines he can run in his cluster using the new budget he has.

Input

First line of input contains an integer T ($1 \leq T \leq 30$), representing the number of test cases, then T test cases follow.

The first line of each test case contains 3 integers R, C, D representing the requirements needed by each machine to run for RAM, CPU and Disk units respectively, where ($1 \leq R, C, D \leq 100$).

The second line of each test case contains 3 integers N_R, N_C, N_D representing the maximum capacity for RAM, CPU and Disk units available in the cluster respectively, where ($1 \leq N_R, N_C, N_D \leq 100$).

The third line of each test case contains 3 integers P_R, P_C, P_D representing the price of a single RAM, CPU or Disk unit respectively, where ($1 \leq P_R, P_C, P_D \leq 100$).

The forth line of each test case contains a single integer N representing the budget that Sayed has to buy extra resources, where ($1 \leq N \leq 10^9$).

Output

For each test case, print a single integer representing the maximum number of machines that Sayed can have in his cluster given the requirements and the budget he has.

Example

standard input	standard output
2 2 5 3 11 14 6 2 2 5 70 6 1 2 25 1 15 2 2 2 1	5 1

Note

Download the input.txt file and run your code locally, then upload an output.txt file with your answers like in the output section.