Problem A. Planting Trees

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	1024 megabytes

Little L likes planting trees.

Little L planted d trees on both the left and right sides of the yard. On the left side, the i-th tree has a height of x_i meters on the first day and grows f_i meters each day. On the right side, the i-th tree has a height of y_i on the first day and grows g_i meters each day.

However, Little L does not want the trees to be too high. To keep things neat, for the tree numbered i, if its height reaches or exceeds m_i, he will prune it by m_i meters until its height is less than m_i.

Now, Little L wants to know, for the tree numbered i, during the first n_i days after planting, after performing pruning each day, how many days the left tree is shorter than the right tree.

Note: pruning is also performed on the first day.

Input

There is only one test case in each test file.

The first line contains a positive integer d ($1 \le d \le 10^4$), denoting the number of trees on each side of the yard.

Each of the next d lines contains six positive integers $f_i, x_i, g_i, y_i, n_i, m_i$ ($1 \le f_i, x_i, g_i, y_i, n_i, m_i \le 10^6$), with the meanings described above.

Output

Output d lines, each line containing a non-negative integer, representing the number of days within n_i days that the left tree is shorter than the right tree for the tree numbered i.

Example

standard input	standard output
1 7 4 6 3 3 4	2

Note

For the first sample, we count the first 3 days:

Day 1: The initial height of the tree on the left side of the road is 4 meters, and the tree on the right is 3 meters. The left tree exceeds the 4-meter limit, so it is pruned. After pruning, the left tree is 0 meters and the right tree is 3 meters; the left is lower than the right.

Day 2: The left tree is 7 meters and the right tree is 9 meters. They both exceed 4 meters, so they are pruned. After pruning, the left tree is 3 meters and the right tree is 1 meter; the left is not lower than the right.

Day 3: The left tree is 10 meters and the right tree is 7 meters. They both exceed 4 meters, so they are pruned. After pruning, the left tree is 2 meters and the right tree is 3 meters; the left is lower than the right.

Therefore, the output is 2.