

# Linear Inequalities

Time: 1 sec / Memory: 256 MB

## Problem Statement

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In this problem, your task is to find the number of non-negative integer solutions to the following system of linear equations:

$$\begin{aligned}a_1 \cdot x_1 + a_2 \cdot x_2 + \dots + a_n \cdot x_n &\leq b \\c_1 &\leq x_1 \leq d_1 \\c_2 &\leq x_2 \leq d_2 \\&\vdots \\c_n &\leq x_n \leq d_n\end{aligned}$$

where  $a_1, a_2, \dots, a_n, c_1, c_2, \dots, c_n, d_1, d_2, \dots, d_n$  and  $b$  are non-negative integers given as input.

## Input

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The first line contains an integer  $n$ , where  $1 \leq n \leq 10$ .

The second line contains  $n$  non-negative integers  $a_1, a_2, \dots, a_n$  separated by spaces, where  $1 \leq a_i \leq 5$ .

The third line contains  $n$  integers  $c_1, c_2, \dots, c_n$  separated by spaces.

The forth line contains  $n$  integers  $d_1, d_2, \dots, d_n$  separated by spaces, where  $0 \leq c_i \leq d_i \leq 5$ .

The fifth line contains an integer  $b$ , where  $1 \leq b \leq 250$ .

## Output

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Output a single integer, the number of non-negative integer solutions to the equation.

## Example

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Input1:

3  
1 2 3  
1 1 0  
5 3 5  
10

Output1:

25