

Problem E: Iroh's Tea Shop

Iroh is running a tea shop in Ba Sing Se with the help of his nephew Zuko. He keeps an inventory of all the tea ingredients that he has in stock. For example, he might have 7 units of ginger root and 10 units of white jasmine. He also has recipes of the tea blends that he sells, many of which are of his own invention. For each of these recipes, he has listed out how many units of which ingredients go into the recipe.

He would like a way of knowing how many servings of a recipe he can sell, based on the available stock of ingredients. He can only prepare a serving based off a recipe if he has enough of all the ingredients that recipe contains. You should write a program to help him in this task.



Input

The first line of input contains an integer I , which gives the number of ingredients in stock in the shop. Following that are I lines, each containing an integer, giving the quantity, and the name of the ingredient.

Following these lines is a blank line, and then an integer, R , which is the number of ingredients in the recipe. Following that are R lines, each containing the number of units of that ingredient needed, and the name of the ingredient.

Output

You should output a single integer giving the number of servings of tea that can be made from the recipe given.

Sample Input 1

6
7 ginger root
10 white jasmine
21 ginseng
18 peppermint
4 fire lily root
11 dragon blossom

3
1 ginger root
3 white jasmine
2 dragon blossom

Sample Output 1

3

Sample Input 2

6
7 ginger root
10 white jasmine
21 ginseng
18 peppermint
4 fire lily root
1 dragon blossom

3
1 ginger root
3 white jasmine
2 dragon blossom

Sample Output 2

0