COCI '14 Contest 2 #5 Šuma

Mirko lives in a big enchanted forest where trees are very tall and grow really quickly. That forest can be represented as an $N \times N$ matrix where each field contains one tree.

Mirko is very fond of the trees in the enchanted forest. He spent years observing them and for each tree measured how many meters it **grew in a year**. The trees grow **continuously**. In other words, if the tree grows 5 meters in a year, it will grow 2.5 meters in half a year.

Apart from trees, Mirko likes mushrooms from the enchanted forest. Sometimes, he eats suspicious colorful mushrooms and starts thinking about peculiar questions. Yesterday, this unfortunate thing happened and he wondered what would be the size of the **largest connected group of trees** that are all of **equal height** if the trees continue to grow at the same speed they're growing at that moment.

Mirko quickly measured the current height of all trees in the forest and asked you to answer his question.

Two trees are **adjacent** if their fields in the matrix share a common edge.
Two trees are **connected** if there is a sequence of adjacent trees that leads from the first to the second.
A group of trees is **connected** if every pair of trees in the group is **connected**.

Input Specification

The first line of input contains the integer N $(1 \leq N \leq 700)$.

After the first line, N lines follow, each of them containing N integers.

The ith line contains integers h_{ij} $(1 \leq h_{ij} \leq 10^9)$, the initial height of tree in the ith row and j^{th} column, given in meters.

After that, N more lines follow with N integers.

The ith line contains integers v_{ij} $(1 \leq v_{ij} \leq 10^6)$, the growth speed of the tree in the ith row and j^{th} column, given in meters.

Warning: Please use faster input methods because the amount of input is very large. (For example, use `scanf` instead of `cin` in C++ or `BufferedReader` instead of `Scanner` in Java).

Output Specification

The first and only line of output must contain the required number from the task.

Scoring

In test cases worth 30% of total points, it will hold $1 \leq N \leq 70$.

Sample Input 1

```
3
1  2  3
3  2  2
5  2  1
3  2  1
1  2  1
1  2  3
```

Sample Output 1

```
7
```

Sample Input 2

```
2
3  1
3  3
2  5
2  5
```

Sample Output 2

```
3
```

Explanation of Output for Sample Input 2

After 8 months (two thirds of a year), the trees located at $(0, 0)$, $(0, 1)$ and $(1, 0)$ will be $\dfrac{13}{3}$ meters in height.