Problem M
Least Positive Solution

Time limit: 1 second
Memory limit: 256 megabytes

Problem Description

Given a sequence $(d_1, r_1), \ldots, (d_n, r_n)$ of n pairs of integers such that $d_i > r_i \geq 0$. Write a program to compute the least positive integer x such that $x \equiv r_i \bmod d_i$ for every $i \in \{1, \ldots, n\}$. If there does not exists such integer, output `no solution`.

Input Format

The first line of the input contains an integer t ($t \leq 25$) indicating the number of test cases. Each test case consists of 3 lines. The first one is an integer n indicating the length of the sequence. The second one contains n integers $d_1, \ldots, d_n$ separated by blanks. The third line also contains n integers $r_1, \ldots, r_n$. You may assume that $n \leq 100$, $d_1 \cdot d_2 \cdot \cdots \cdot d_n < 2^{63}$ and $0 \leq r_i < d_i$ for $i \in \{1, \ldots, n\}$.

Output Format

For each test case, output the least positive integer x such that $x \equiv r_i \bmod d_i$ for every $i \in \{1, \ldots, n\}$. If there does not exists such integer, output `no solution`. permutation of $\{1, \ldots, n\}$ in lexicographical order.

Sample Input

```
2
3
2 3 4
1 2 3
2
10 8
5 4
```

Sample Output

```
11
no solution
```