A number of people are sitting on planks around a central pole out over the ocean. They are numbered from 1 to n, where the person to right of person i is $i + 1$ (for $i < n$) and the person to the right of person n is person 1. Each plank is held up by a number of knots. Each person's objective is to untie the knots holding up their right-hand neighbour's plank, so that the plank drops and the neighbour falls into the ocean. Some planks may have more knots than others, and some people may be quicker at untying knots than others. In the end there may be some people still sitting on their planks.

Each person can only reach the knots on their right-hand neighbour's plank. Once they have untied all these knots, they just sit back and wait, hoping their own knots are not untied — they cannot stop their own knots from being untied and they cannot untie anyone else's knots.

Input

The input consists of an arbitrary number of records, but not more than 20.

The first line of each record indicates the number of people sitting on planks, n ($2 \leq n \leq 100\,000$). The second line of each record has n values $p_1, p_2, \ldots, p_n$, where plank i is held up by p_i knots ($1 \leq p_i \leq 1\,000$). The third line of each record has n values $t_1, t_2, \ldots, t_n$, where person i requires t_i minutes to untie a single knot ($1 \leq t_i \leq 100$).

The end of input is indicated by a line containing only the value '`-1`'.

Output

For each record, output a line listing the people (in ascending order) who are still sitting on their planks after everyone has either fallen into the ocean or finished untying the knots on the plank to their right. If no one is left sitting on a plank, output a line containing '`0`' for that record.

Sample Input

```
6
6 5
 4 3 2 1
1 1
 1 1 1 1
4
2 7
 2 7
1 4
 1 4
3
2 2
 2
3 3
 3
-1
```

Sample Output

```
1
1 3
0
```