



F. Double Knapsack

time limit per test: 2.5 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

You are given two multisets A and B . Each multiset has exactly n integers each between 1 and n inclusive. Multisets may contain multiple copies of the same number.

You would like to find a nonempty subset of A and a nonempty subset of B such that the sum of elements in these subsets are equal. Subsets are also multisets, i.e. they can contain elements with equal values.

If no solution exists, print -1 . Otherwise, print the indices of elements in any such subsets of A and B that have the same sum.

Input

The first line of the input contains a single integer n ($1 \leq n \leq 1\,000\,000$) — the size of both multisets.

The second line contains n integers, denoting the elements of A . Each element will be between 1 and n inclusive.

The third line contains n integers, denoting the elements of B . Each element will be between 1 and n inclusive.

Output

If there is no solution, print a single integer -1 . Otherwise, your solution should be printed on four lines.

The first line should contain a single integer k_a , the size of the corresponding subset of A . The second line should contain k_a distinct integers, the indices of the subset of A .

The third line should contain a single integer k_b , the size of the corresponding subset of B . The fourth line should contain k_b distinct integers, the indices of the subset of B .

Elements in both sets are numbered from 1 to n . If there are multiple possible solutions, print any of them.

Sample test(s)

input
10 10 10 10 10 10 10 10 10 10 10 10 9 8 7 6 5 4 3 2 1
output
1 2 3 5 8 10

input
5 4 4 3 3 3 2 2 2 2 5
output
2 2 3 2 3 5

Wunder Fund Round 2016 (Div. 1 + Div. 2 combined)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate this other person during a virtual contest.

Start virtual contest

→ Submit?

Language: GNU G++ 5.1.0

Choose file: 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

→ Problem tags

constructive algorithms two pointers
 No tag edit access

→ Contest materials

- Announcement
- Tutorial



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不翻译

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