

Problem F. Necklace

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

Chiaki has n beautiful gems. The color of the i -th gem is c_i and the value is v_i .

Chiaki would like to choose at least 3 gems and make a necklace such that the adjacent gems must have different color. Formally, let the indices of gems used in the necklace be $a_1, a_2, \dots, a_m$ ($m \geq 3$) in clockwise order. For each i ($1 \leq i \leq m$), c_{a_i} should be different from $c_{a_{i \bmod m+1}}$.

Chiaki would like to find a necklace with the maximum possible sum of values: that is, to maximize $\sum_{i=1}^m v_{a_i}$.

Input

There are multiple test cases. The first line of input contains an integer T , indicating the number of test cases. For each test case:

The first line contains an integer n ($1 \leq n \leq 2 \cdot 10^5$): the number of gems.

The second line contains n integers $c_1, c_2, \dots, c_n$ ($1 \leq c_i \leq n$) denoting the color of each gem.

The third line contains n integers $v_1, v_2, \dots, v_n$ ($-10^9 \leq v_i \leq 10^9$) denoting the value of each gem.

It is guaranteed that the sum of n in all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, the first line contains an integer m ($m \geq 3$): the number of gems in the necklace (note that you don't need to maximize it). The second line contains m integers $a_1, a_2, \dots, a_m$ ($1 \leq a_i \leq n$): the indices of gems used in the necklace in clockwise order. If there are several possible answers, print any one of them.

If Chiaki could not find such a necklace, just output an integer -1 on a single line.

Example

standard input	standard output
4	-1
4	4
1 1 1 1	1 3 2 4
1 2 3 4	4
4	5 2 4 7
1 1 2 2	4
1 2 3 4	3 1 4 2
8	
2 6 5 4 3 1 7 7	
-1 4 -1 2 10 -1 3 0	
6	
5 5 3 3 4 6	
5 8 0 -1 -2 -7	