

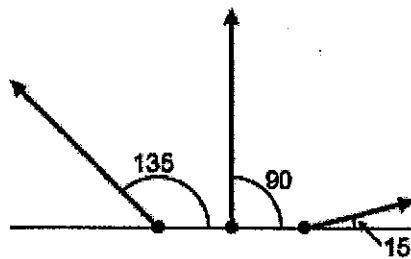
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Problem A

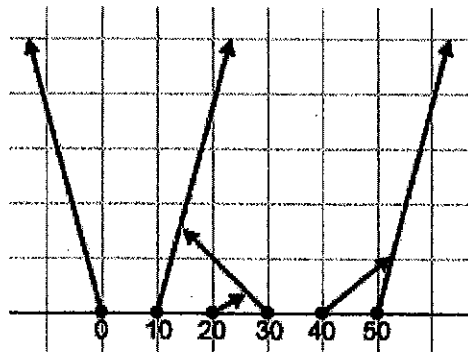
Crossing

Input File: crossing.in

You are watching a car race. Each car starts at a different point on the x-axis, travels at the same speed, and starts at the same time. However, each car is traveling along a different road (which extends to infinity in one direction, and is stopped by the x-axis in the other direction), and each road has its own direction specified by an angle between 1 and 179, inclusive. An angle of 90 indicates that the road heads directly in the positive y direction, while an angle of 1 indicates that the road heads just a little bit north of the positive x direction.



Sometimes, two or more roads intersect at some point. When this happens, the car that reaches the intersection first is able to block the intersection so that no other cars can pass through it. If two cars arrive at an intersection at the same time, the car that appears earlier in the input (lower index) will be the only car to pass through.



In this picture, the cars following the paths at 0, 10 and 50 pass all intersections, while the cars following the other paths are stopped. The first test case corresponds to the picture.

Given the x-positions and starting angles of a list of cars, you must decide which of the cars will pass all the intersections along their roads.

Input

There will be multiple test cases in the input. Each test case consists of three lines. The first line of each test case contains an integer n ($1 \leq n \leq 50$), the number of cars in the race. The second line contains n integers specifying the x-coordinate of the starting position (x-position) of each car, the i^{th} integer for the i^{th} car. The third line contains n integers specifying the starting angle of each car, the i^{th} integer for the i^{th} car. Each x-position will be unique and between 0 and 1000000, inclusive. Each angle will be between 1 and 179, inclusive. The cars are indexed from 0.

Output

There should be 2 lines of output for each test case. The first line contains a single integer indicating the number of cars that will pass all the intersections along their roads. The second line contains a list of these cars in ascending order.

Sample Input	Output for the Sample Input
6 0 40 20 10 30 50 105 40 30 75 135 75	3 0 3 5
3 0 40 20 40 40 140	2 0 1
2 10 20 89 91	1 0
0	