Problem I

Switch Grid

Input: Standard Input
Output: Standard Output

There is a grid with N rows and M columns. The rows are numbered from 0 to N-1 and columns are numbered from 0 to M-1. Each of the cell in row 0 and each of the cell in column 0 contains a bulb. Except the cell in row 0 and column 0 is empty. All the other rows can contain a switch. The switch in the cell on row r and column c change the states of both bulbs in row r and column c. You are given the initial states and the desired states of each of the bulb. Now given a list of switches you need to press them in such a way that all the bulbs change their states from their initial to desired states.

Input

Input contains multiple test cases. First line contains T the number of test cases. Each of the test case consists of 7 lines.

1. 3 space separated integers N($1 \le N \le 1000$),M($1 \le (1 \le N \le 1000) \le 1000$) and S($1 \le S \le 4000$). N is the number of rows in the grid, M is the number of columns in the grid and S is the number of switches.
2. N-1 space separated integers. Each of these integers is either 0 or 1.The i'th (i starts from 1) denotes the initial state of the bulb in (i,0). 0 means off and 1 means on.
3. N-1 space separated integers. Each of these integers is either 0 or 1. The i'th (i starts from 1) denotes the final state of the bulb in (i,0).
4. M-1 space separated integers. Each of these integers is either 0 or 1. The i'th (i starts from 1) denotes the initial state of the bulb in (0,i).
5. M-1 space separated integers. Each of these integers is either 0 or 1. The i'th (i starts from 1) denotes the final state of the bulb in (0,i).
6. S space separated integers. Each of these integers is between 1 and N-1 inclusive. The i'th (i starts from 0) integers denote the row number of the i'th switch.
7. S space separated integers. Each of these integers is between 1 and M-1 inclusive. The i'th (i starts from 0) integers denote the column number of the i'th switch.

There is a blank line after each of the test case. There will be 100 test cases.

Output

For each test case output contains a single line. When there is no way to transform the state of all the bulbs the line contains -1. Otherwise the line starts with X followed by X integers. X is the number of switch presses required to transform all the bulbs into the desired states. X should be less than 10000.The next X integers denotes the indices of the switches that need to be pressed. All of these X integers should be distinct. Any combination of switch presses that transforms all the bulbs to their desired state will be considered correct.

Sample Input	Output for Sample Input
3 3 3 2 0 0 1 0	-1 2 0 2 4 0 1 3 4

0 0 0 1 1 2 1 2 3 3 3 0 0 1 1 0 0 1 1 1 1 2 1 2 2 4 4 5 0 0 0 0 1 1 0 0 0 1 0 1 1 1 2 2 3 1 3 1 2 2	

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