

6120 Sports Reporters

A news agency wishes to cover n sporting events that will take place soon. For each event E_i , $1 \leq i \leq n$, its starting time s_i , duration time d_i , and geographical site g_i are known in advance. In addition, the travel time $t_{i,j}$ from g_i to g_j is also known for all $1 \leq i, j \leq n$, where $t_{i,j} = t_{j,i}$ and $t_{i,j} \leq t_{i,k} + t_{k,j}$ for every $1 \leq i, j, k \leq n$. In gathering news from an event, the news agency wants one reporter to fully take responsibility for the entire period of the event. This means that two events E_i and E_j may be assigned to the same reporter if $s_i + d_i + t_{i,j} \leq s_j$ or $s_j + d_j + t_{j,i} \leq s_i$.

Under these constraints, a manager of the agency tries to identify a maximum subset of events such that no pair of events in the subset can be assigned to the same reporter. Write a program that solves the manager's problem.

Input

Your program is to read from standard input. The input consists of T test cases. The number of test cases T is given in the first line of the input. Each test case is described by a number of lines. The first line of a test case contains an integer n , indicating the number of sporting events ($1 \leq n \leq 1,000$). Then, the second line contains n integers s_1, s_2, \dots, s_n separated by spaces, where s_i is the starting time of event E_i ($1 \leq s_i \leq 1,000,000$). Similarly, the third line contains n integers d_1, d_2, \dots, d_n , where d_i is the duration time of E_i ($1 \leq d_i \leq 1,000,000$). In the following n lines, the i -th line contains $n - i + 1$ integers $t_{i,i}, t_{i,i+1}, \dots, t_{i,n}$, where $t_{i,j}$ is the travel time from g_i to g_j ($0 \leq t_{i,j} \leq 1,000,000$). You may assume $t_{i,i} = 0$ for every i .

Output

Your program is to write to standard output. Print exactly two lines per each test case. The first line should contain the maximum number k of events in which no two can be assigned to the same reporter. Then, the second line should contain the indices of such k events (i.e., for E_i), separated by a space. If there are multiple solutions, just output any one of them.

The following shows sample input and output for two test cases.

Sample Input

```
2
3
7 8 9
1 1 1
0 2 2
0 1
0
2
7 12
3 2
0 2
0
```

Sample Output

```
3
2 3 1
1
2
```