

Problem F

Locker Riddle I

Time limit: 1s
Memory limit: 1GB

A room contains n lockers, numbered from 1 to n . Each locker is either open or closed. A group of n heirs must solve a puzzle with these lockers before they can receive their inheritance.

The heirs are also numbered from 1 to n . In each step, you may choose one heir to perform an operation. When the i -th heir is chosen, they flip the state of every locker whose index is a multiple of i . More precisely, for every positive integer j such that $i \times j \leq n$, the state of the $(i \times j)$ -th locker is changed from open to closed or vice versa. An heir may be chosen more than once.

The puzzle is solved when all n lockers are closed.

Find a sequence of operations that closes all the lockers, or determine that no such sequence exists.

Input

- The first line contains a single integer t ($1 \leq t \leq 100$), the number of test cases.
- For each test case:
 - The first line contains a single integer n ($1 \leq n \leq 100$), the number of lockers.
 - The second line contains n integers $a_1, a_2, \dots, a_n$ ($0 \leq a_i \leq 1$), the initial states of the lockers, where $a_i = 1$ means the i -th locker is open and $a_i = 0$ means it is closed.

Output

For each test case, output your answer as follows:

- If no valid sequence of operations exists, print a single integer -1 .
- Otherwise, print a single integer k ($0 \leq k \leq n^2$) on the first line, the number of operations in your sequence.
- If $k > 0$, print k integers $b_1, b_2, \dots, b_k$ ($1 \leq b_i \leq n$) on the second line, where b_i denotes the heir chosen in the i -th operation.

If there are multiple valid sequences, you may output any of them.

Sample Input	Sample Output
8 3 0 0 0 3 0 0 1 3 0 1 0 3 0 1 1 3 1 0 0 3 1 0 1 3 1 1 0 3 1 1 1	0 1 3 1 2 2 2 3 3 1 2 3 2 1 2 2 1 3 1 1
3 7 1 0 0 0 0 1 1 11 1 1 1 1 1 1 0 1 0 1 0 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 1 2 3 5 4 1 7 9 11 1 1

Notes

In the first test case of the first example, all lockers are already closed, so no operations are needed.

In the fifth test case of the first example, choosing heirs 1, 2, and 3, in this order, changes the locker states as follows: $(1, 0, 0) \rightarrow (0, 1, 1) \rightarrow (0, 0, 1) \rightarrow (0, 0, 0)$. Thus, the sequence shown in the output closes all lockers.