

Problem H. Mocha and Hiking

Time limit 1000 ms

Mem limit 262144 kB

The city where Mocha lives in is called Zhijiang. There are $n + 1$ villages and $2n - 1$ directed roads in this city.

There are two kinds of roads:

- $n - 1$ roads are from village i to village $i + 1$, for all $1 \leq i \leq n - 1$.
- n roads can be described by a sequence a_1, \dots, a_n . If $a_i = 0$, the i -th of these roads goes from village i to village $n + 1$, otherwise it goes from village $n + 1$ to village i , for all $1 \leq i \leq n$.

Mocha plans to go hiking with Taki this weekend. To avoid the trip being boring, they plan to go through every village **exactly once**. They can start and finish at any villages. Can you help them to draw up a plan?

Input

Each test contains multiple test cases.

The first line contains a single integer t ($1 \leq t \leq 20$) — the number of test cases. Each test case consists of two lines.

The first line of each test case contains a single integer n ($1 \leq n \leq 10^4$) — indicates that the number of villages is $n + 1$.

The second line of each test case contains n integers a_1, a_2, \dots, a_n ($0 \leq a_i \leq 1$). If $a_i = 0$, it means that there is a road from village i to village $n + 1$. If $a_i = 1$, it means that there is a road from village $n + 1$ to village i .

It is guaranteed that the sum of n over all test cases does not exceed 10^4 .

Output

For each test case, print a line with $n + 1$ integers, where the i -th number is the i -th village they will go through. If the answer doesn't exist, print -1 .

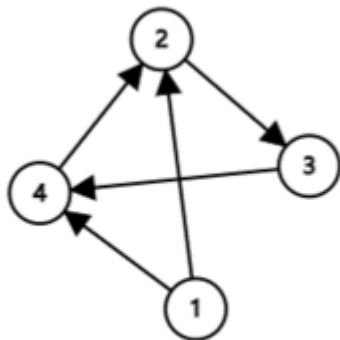
If there are multiple correct answers, you can print any one of them.

Examples

Input	Output
<pre> 2 3 0 1 0 3 1 1 0 </pre>	<pre> 1 4 2 3 4 1 2 3 </pre>

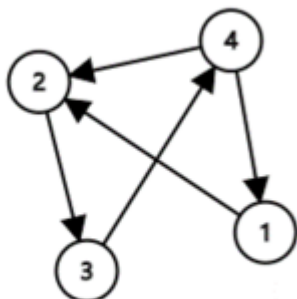
Note

In the first test case, the city looks like the following graph:



So all possible answers are $(1 \rightarrow 4 \rightarrow 2 \rightarrow 3)$, $(1 \rightarrow 2 \rightarrow 3 \rightarrow 4)$.

In the second test case, the city looks like the following graph:



So all possible answers are $(4 \rightarrow 1 \rightarrow 2 \rightarrow 3)$, $(1 \rightarrow 2 \rightarrow 3 \rightarrow 4)$, $(3 \rightarrow 4 \rightarrow 1 \rightarrow 2)$, $(2 \rightarrow 3 \rightarrow 4 \rightarrow 1)$.