Problem D. Frogs

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

There are n frogs sitting on n rocks which are located on a straight line. Each rock contains exactly one frog. The rocks (as well as the frogs) are numbered by consecutive integers from 1 to n in the order of their positions on the line.

The frogs have a secret plan of taking over the world that involves all of them performing jumps at the same time in such way that, after their jumps, each rock still contains exactly one frog. Denote the destination rock of the i-th frog as p_i. Some frogs may have possibly jumped in place, that is, p_i may be equal to i.

There is a satellite high in the sky that tracks the frogs' movements. For technical reasons, it only tracks targets that are in motion. So the information it provides is the following: for each of the $n-1$ intervals between the rocks, it is known how many frogs crossed this interval in either direction.

The frogs have jumped once as described above. Find any sequence p_i that satisfies the observed $n-1$ numbers of crossings.

Input

The first line contains an integer n, the number of frogs ($2 \le n \le 200\,000$).

The second line contains $n-1$ space-separated integers $a_1, \ldots, a_{n-1}$ ($0 \le a_i \le 200\,000$), i-th of them denotes the number of frogs that crossed the interval between rocks i and $i+1$.

Output

If a required permutation doesn't exist, output "No" (without the quotes).

Otherwise, output "Yes" on the first line. On the second line, output n integers $p_1, p_2, \ldots, p_n$ such that if the frogs perform jumps according to this sequence, each rock still contains exactly one frog, and the observed numbers of crossings of all intervals between the rocks are as given. If there are several possible answers, output any one of them.

Examples

standard input	standard output
5 2 4 2 2	Yes 4 3 2 5 1
4 1 2 3	No