NOI '09 P1 - Transformed Sequence

Time limit: 0.6s   **Memory limit:** 256M

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For N integers $0, 1, \ldots, N-1$, a transformed sequence T can change i to T_i, where $T_i \in \{0, 1, \ldots, N-1\}$ and $\bigcup_{i=0}^{N-1}\{T_i\} = \{0, 1, \ldots, N-1\}$. $\forall x, y \in \{0, 1, \ldots, N-1\}$, define the distance between x and y to be $D(x, y) = \min\{|x - y|, N - |x - y|\}$. Given the distance $D(i, T_i)$ between each i and T_i, you must determine a transformed sequence T that satisfies the requirements. If many sequences satisfy the requirements, then output the lexicographically smallest one.

Note: For two transformed sequences S and T, if there exists a $p < N$ that satisfies $S_i = T_i$ and $S_p < T_p$ for $i = 0, 1, \ldots, p - 1$, then we say that S is lexicographically smaller than T.

Input Specification

The first line of input contains a single integer N, the length of the sequence. The following line contains N integers D_i, where D_i is the distance between i and T_i.

Output Specification

If there exists at least one transformed sequence T, then output one line containing N integers, representing the lexicographically smallest transformed sequence T. Otherwise, output No Answer .

Note: Pairs of adjacent numbers in the output must be separated by a single space, and there cannot be trailing spaces.

Sample Input

```
5
1 1 2 2 1
```

Sample Output

```
1 2 4 0 3
```

Constraints

For 20% of the test data, $N \leq 50$.
For 60% of the test data, $N \leq 500$.
For 100% of the test data, $N \leq 10\,000$.