Problem G
Glamorous Garment Gameshow

It's official! The VNOI (Vietnamese National Outfit Innovation) organization has been selected to host the 2023 Glamorous Garment Gameshow. Promising to be a dazzling event, it will be broadcasted live to millions of viewers in Vietnam. The competition features $2 \times n$ talented contestants, evaluated by esteemed Vietnamese celebrity designers in a high-stakes, multi-stage format. The i-th contestant has a calculated **strength index** s_i (known as *chỉ số sức mạnh* in Vietnamese), determined by factors such as social media popularity, fan base, and even mouse movement speed, among others.

The preliminary stage consists of two rounds. In each round, contestants are divided into n pairs, engaging in intense one-on-one design battles. To maintain excitement, contestants who face off in the first round won't meet again in the second, ensuring an engaging spectacle. Mathematically, let a_i and b_i be the opponents of the i-th contestant in the first and second rounds, respectively. The following conditions must be met for all $1 \le i \le 2 \times n$:

- $a_i \neq i$;
- $b_i \neq i$;
- $a_i \neq b_i$;
- $i = a_{a_i} = b_{b_i}$.

The organizers aim to create compelling matchups by pairing contestants with minimal differences in their strength indices. In other words, they seek to minimize

$$\max_{i=1\ldots2n} \{\max(|s_i - s_{a_i}|, |s_i - s_{b_i}|)\}$$

Given the strength indices of all contestants, your task is to organize the contestants into pairs for the two rounds of the preliminary stage, aiming to minimize the differences in strength indices among all pairs.

Input

The input consists of multiple test cases. Each test case is presented in two lines:

- The first line contains a single integer n $(2 \le n \le 2 \times 10^5)$.
- The second line contains $2 \times n$ integers $s_1, s_2, \ldots, s_{2\times n}$ $(1 \le s_i \le 10^9)$ – the strength indices of the contestants. Note that the contestants are numbered from 1 to $2 \times n$.

The input is terminated by a line containing a single 0 which does not represent a test case.

It is guaranteed that the sum of n over all test cases does not exceed 2×10^5.

Output

For each test case, output two lines:

- The first line contains $2 \times n$ integers $a_1, a_2, \ldots, a_{2\times n}$ $(1 \le a_i \le 2 \times n)$ – the indices of the contestants' opponents in the first round.
- The second line contains $2 \times n$ integers $b_1, b_2, \ldots, b_{2\times n}$ $(1 \le b_i \le 2 \times n)$ – the indices of the contestants' opponents in the second round.

If there are multiple optimal solutions, you can output any of them.

Sample Explanation

The given strength indices of $2 \times n = 4$ contestants are $s = [1, 2, 3, 4]$

In the first round:

- Contestants 1 and 2 are paired, exhibiting a strength difference of $|s_1 - s_2| = |1 - 2| = 1$.
- Contestants 3 and 4 are paired, displaying a strength difference of $|s_3 - s_4| = |3 - 4| = 1$.

In the second round:

- Contestants 1 and 3 are paired, showcasing a strength difference of $|s_1 - s_3| = |1 - 3| = 2$.
- Contestants 2 and 4 are paired, demonstrating a strength difference of $|s_2 - s_4| = |2 - 4| = 2$.

This arrangement yields a maximum difference of $\max(1, 1, 2, 2) = 2$.

It's proven to be the arrangement that minimizes the differences among all possible configurations.

Sample Input 1	Sample Output 1
2 1 2 3 4 0	2 1 4 3 3 4 1 2