

# Problem I. z-sort

**Time Limit** 1000 ms  
**Mem Limit** 262144 kB

A student of Z-school found a kind of sorting called Z-sort. The array  $a$  with  $n$  elements are Z-sorted if two conditions hold:

- 1.  $a_i \geq a_{i-1}$  for all even  $i$ ,
- 2.  $a_i \leq a_{i-1}$  for all odd  $i > 1$ .

For example the arrays  $[1, 2, 1, 2]$  and  $[1, 1, 1, 1]$  are Z-sorted while the array  $[1, 2, 3, 4]$  isn't Z-sorted.

Can you make the array Z-sorted?

## Input

The first line contains a single integer  $n (1 \leq n \leq 1000)$  — the number of elements in the array  $a$ .

The second line contains  $n$  integers  $a_i (1 \leq a_i \leq 10^9)$  — the elements of the array  $a$ .

## Output

If it's possible to make the array  $a$  Z-sorted print  $n$  space separated integers  $a_i$  — the elements after Z-sort. Otherwise print the only word "Impossible".

## Examples

Input	Output
4 1 2 2 1	1 2 1 2
Input	Output
5 1 3 2 2 5	1 5 2 3 2