

# 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