Problem L. 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`".

Sample 1

Input	Output
4 1 2 2 1	1 2 1 2

Sample 2

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