

## B. z-sort

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

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
4 1 2 2 1
output
1 2 1 2

input
5 1 3 2 2 5
output
1 5 2 3 2