Beautiful array

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Dinesh loves giving challenges to Gilfoyle. This time he has an array(the array is 1-indexed) and he calls an array *beautiful* if these 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.

Dinesh gives Gilfoyle an array, and asks him to make it *beautiful*, if possible, by rearranging the elements of the array. Since Gilfoyle has no time for Dinesh's petty puzzles, he asks you to do this task for him.

Input

The first line contains a single integer n ($1 \leq n \leq 10^5$) - 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 *beautiful*, print n space separated integers a_i — the elements after the array becomes *beautiful*. Otherwise print the only word "Impossible".

Examples

standard input	standard output
4 1 2 2 1	1 2 1 2
5 1 3 2 2 5	3 5 2 2 1