Rearrange the given array of integers so that the sum of two adjacent elements is never divisible by three.

INPUT

The first line contains an integer N ($1 \leq N \leq 10000$), the number of elements in the array.

The second line contains the elements of the array separated by single spaces. The elements will be positive integers less than 1000000.

OUTPUT

If any valid rearrangement exists, output it on a single line. Otherwise, output "impossible".

EXAMPLES

input	**input**	**input**	**input**
3 1 2 3	5 4 6 3 9 8	6 3 7 6 4 2 8	3 3 12 9
output	**output**	**output**	**output**
2 3 1	3 4 6 8 9	3 7 4 6 2 8	impossible