COCI '08 Contest 6 #4 Cuskija

Time limit: 0.6s **Memory limit:** 32M

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

Input Specification

The first line contains an integer N $(1 \leq N \leq 10\,000)$, the number of elements in the array. The second line contains the elements of the array separated by single spaces. The elements will be non-negative integers less than $1\,000\,000$.

Output Specification

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

Sample Input 1

```
3
1 2 3
```

Sample Output 1

```
2 3 1
```

Sample Input 2

```
5
4 6 3 9 8
```

Sample Output 2

```
3 4 6 8 9
```

Sample Input 3

```
6
3 7 6 4 2 8
```

Sample Output 3

```
3 7 4 6 2 8
```

Sample Input 4

```
3
3 12 9
```

Sample Output 4

```
impossible
```