[PI024] - Odd Numbers

You've always found odd numbers a bit strange — perhaps even inferior. But today, you're giving them a special place.

You have a list of numbers you need to sort, but with a twist: odd numbers should be treated as smaller than even numbers.

Task

P>You are given a sequence of integers and must sort them according to the following custom rules:

- If two numbers have the same parity (both odd or both even), the smaller number comes first.
- If two numbers have different parity, the odd number is considered smaller and should come first.

Input

The first line of input contains an integer n (1 ≤ n ≤ 500) — the number of integers in the sequence.

The second line contains the sequence of n integers separated by spaces. Each integer is between 1 and 100,000, inclusive.

Output

Print one line with the n integers sorted according to the rules described above, separated by spaces.

Example 1

Input

```
6
3 10 2 5 2 8
```

Output

```
3 5 2 2 8 10
```

Example 2

Input

```
6
5 10 4 10 1 10
```

Output

```
1 5 4 10 10 10
```