

non-ascending order using merge sort. Output the sorted array.

Input

The first line is an integer n , being the size of the integer array. The second line contains n integers a_1, a_2, \dots, a_n , being the elements of the integer array.

Constraints

- $1 \leq n \leq 10^6$
- $-10^{16} \leq a_i \leq 10^{16}$ for $i = 1, 2, \dots, n$

Output

Output the sorted array in one line.

Sample Input 1

```
5
4 8 7 6 3
```

Sample Output 1

```
8 7 6 4 3
```

Source

Adalab Online Judge <http://127.0.0.1>

Submissions

Rankings

View Contest

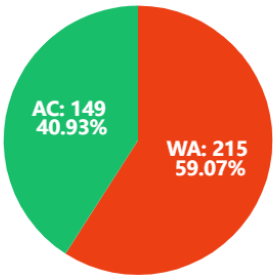
Information

ID	1
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	root
Level	Low
Score	100
Tags	Show

Statistic

Details

AC WA



Language: C

Theme: Solarized Light

1

You have solved the problem

Submit for Sample Test

Submit

Contest has ended

ADAlab Online Judge
Powered by [OnlineJudge](#) Version: 20220706-3ff68

