Simple Quick Sort

Quick sort is a highly efficient sorting algorithm and is based on Divide and Conquer. You are given an array of integers in any order. Sort the elements of given array in ascending order using quick sort.

Input Format

The first line contains an integer, n , the size of the array

The second line contains n space-separated integers a[i].

Constraints

$2<=n<=600$ $1<=a[i]<=2*10^6$

Output Format

Array is sorted and printed in ascending order in one line.

Sample Input 0

```
5
1 2 3 4 5
```

Sample Output 0

```
1 2 3 4 5
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