#include<bits/stdc++.h>

using namespace std;

int part(int \*arr, int pivot, int low, int high){

int i=low, j=low;

cout<<"pivot -> "<<pivot<<endl;

while(i<=high){

if(arr[i]<=pivot){

cout<<"Swapping "<<arr[i]<<" and "<<arr[j]<<endl;

swap(arr[j],arr[i]);

j++;

i++;

}

else{

i++;

}

}

int result = j-1;

cout<<"pivot index -> "<<result<<endl;

return result;

}

void quicksort(int \*arr, int low, int high){

if(low>high){

return;

}

int pivot = arr[high];

int idx = part(arr,pivot,low,high);

quicksort(arr,low,idx-1);

quicksort(arr,idx+1,high);

}

int main(){

int n;

cin>>n;

int arr[n];

for(int i=0;i<n;i++){

cin>>arr[i];

}

quicksort(arr,0,n-1);

for(auto x: arr){

cout<<x<<" ";

}

}