package quick\_sort;

import java.util.\*;

class Quick\_sort

{

int n;

Quick\_sort(int n)

{

this.n = n;

}

int find\_pivot(int arr[],int l,int r)

{

int m = (int)(Math.random()\*((r-l))+l);

//int m = (r+l)/2;

int tmp = arr[l];arr[l] = arr[m];arr[m] = tmp;

int pivot = arr[l];

int low = l+1;

int right = r ;

while(low<=right)

{

while(arr[low]<pivot) low++;

while(arr[right]>pivot) right--;

if(low<right)

{

tmp = arr[low];arr[low] = arr[right];arr[right] = tmp;

low++;

right--;

}

}

tmp = arr[right];arr[right] = arr[l];arr[l] = tmp;

return right;

}

void i\_sort(int arr[],int l, int h)

{

int i,j,key;

for(i = l+1 ; i<=h ; i++)

{

key = arr[i];

for(j = i-1 ; j>=l && key<arr[j] ; j--)

{

arr[j+1] = arr[j];

}

arr[j+1] = key;

}

}

void sort(int arr[],int l,int r)

{

if(l<r)

{

if(r-l<=17)

{

i\_sort(arr,l,r);

}

else

{

int piv = find\_pivot(arr,l,r);

sort(arr,l,piv);

sort(arr,piv+1,r);

}

}

}

}

public class Main

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

int n,i;

n = sc.nextInt();

int arr[] = new int[n+2];

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

{

arr[i] = sc.nextInt();

}

Quick\_sort qs = new Quick\_sort(n);

qs.sort(arr,0,n-1);

for(i = 0 ; i<n ; i++) System.out.print(arr[i]+" ");

}

}