package merge\_sort;

import java.util.\*;

import java.util.ArrayList;

class Merge\_sort

{

int n;

int srt[];

Merge\_sort(int n)

{

this.n = n;

srt = new int[n];

}

void merge(int arr[],int l,int m , int h)

{

int i = l;

int j = m+1;

int k = l;

while(i<=m && j<=h)

{

if(arr[i]<=arr[j]) srt[k++] = arr[i++];

else srt[k++] = arr[j++];

}

while(i<=m) srt[k++] = arr[i++];

while(j<=h) srt[k++] = arr[j++];

k = l;

while(k<=h)

{

arr[k] = srt[k++];

}

}

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 merge\_sort(int arr[],int l,int h)

{

if(l<h)

{

if(h-l<=10) i\_sort(arr,l,h);

else

{

int m = l+(h-l)/2;

merge\_sort(arr,l,m);

merge\_sort(arr,m+1,h);

merge(arr,l,m,h);

}

}

}

}

public class Main

{

public static void main(String[] args)

{

int n,i,a;

Scanner sc = new Scanner(System.in);

n = sc.nextInt();

int arr[] = new int[n];

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

{

arr[i] = sc.nextInt();

}

Merge\_sort ms = new Merge\_sort(n);

ms.merge\_sort(arr,0,n-1);

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

{

System.out.print(arr[i]+ " ");

}

}

}