//merge Sort

public class Main

{

public static int arr[]={3,1,2,4,1,5,2,6,4};

public static void merge(int low,int mid,int high){

int temp[]=new int[high+1];

int k=0;

int left=low;

int right=mid+1;

while(left<=mid&&right<=high){

if(arr[left]<=arr[right]){

temp[k]=arr[left];

k+=1;

left+=1;

} else{

temp[k]=arr[right];

k+=1;

right+=1;

}

}

while(left<=mid){

temp[k]=arr[left];

k+=1;

left+=1;

}

while(right<=high){

temp[k]=arr[right];

k+=1;

right+=1;

}

for(int p=low;p<=high;p++){

arr[p]=temp[p-low];

}

}

public static void mSort(int low,int high){

if(low<high){

int mid=(low+high)/2;

mSort(low,mid);

mSort(mid+1,high);

merge(low,mid,high);}

}

public static void main(String[] args) {

for(int i=0;i<arr.length;i++)

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

mSort(0,arr.length-1);

System.out.println("");

for(int i=0;i<arr.length;i++)

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

}

}