```java
import java.util.Scanner;


public class longestIncreasingSubsequence {


public int[] lis(int[] A) {
int n=A.length-1;
int[] M=new int[n+1];
int[] P=new int[n+1];
int L=0;
for(int i=1;i<n+1;i++) {
int j=0;
for(int pos=L;pos>=1;pos--) {
if(A[M[pos]] < A[i]) {
j=pos;
break;
}
}
P[i]=M[j];
if(j==L || A[i]< A[M[j+1]]) {
M[j+1]=i;
L=Math.max(L, j+1);
}
}


int[] res=new int[L];
int pos=M[L];
for(int i=L-1;i>=0;i--) {
res[i]=A[pos];
pos=P[pos];
}
return res;
}


public static void main(String[] args) {

System.out.println("To find the Longest Increasing Subsequence");
Scanner sc=new Scanner(System.in);
System.out.println("Enter the no. of elements");
int n=sc.nextInt();
int arr[]=new int[n+1];
System.out.println("Enter "+n+" elements");
for(int i=1;i<=n;i++) {
arr[i]=sc.nextInt();
}


longestIncreasingSubsequence obj=new longestIncreasingSubsequence();
int[] res=obj.lis(arr);

System.out.println("Longest Increasing Subsequence: ");
for(int i=0;i<res.length;i++) {
System.out.print(res[i]+" ");
}
}
```