package day2;

import java.util.\*;

// An Interval

class Interval

{

int start,end;

Interval()

{

start = 0;

end = 0;

}

Interval(int s,int e){

start = s;

end = e;

}

}

public class Merge\_Intervals {

public ArrayList<Interval> merge(ArrayList<Interval> intervals){

if(intervals == null || intervals.size() <= 1){

return intervals;

}

Collections.sort(intervals, new IntervalComparator());

ArrayList<Interval> result = new ArrayList<Interval>();

Interval prev = intervals.get(0);

for(int i = 1;i<intervals.size();i++){

Interval curr = intervals.get(i);

if(prev.end >= curr.start){

Interval merged = new Interval(prev.start,Math.max(prev.end,curr.end));

prev = merged;

}

else{

result.add(prev);

prev = curr;

}

}

result.add(prev);

return result;

}

class IntervalComparator implements Comparator<Interval>{

public int compare(Interval i1,Interval i2){

return i1.start - i2.start;

}

}

// Driver Code

public static void main(String args[]) {

Merge\_Intervals d = new Merge\_Intervals();

ArrayList<Interval> arr=new ArrayList<Interval>();

arr.add(1,3);

arr.add(2,6);

arr.add(8,10);

arr.add(15,18);

d.merge(arr);

}

}