CS116 Lab 08B

Question 2 - Sorting a Collection of Pack and SpecPack (10 points)
Update your Pack/SpecPack classes so you can sort a collection (array, use polymorphism, Comparable interface and Arrays.sort) by the zone in increasing order and within same zone, sort by decreasing volume.

Then write a void main() (Main.java) that will read 5 Pack or SpecPack records (in the below comma delimited format), one to a line from System.in, create Pack or SpecPack objects and store in an array. Then sort using Arrays.sort() and output Pack or SpecPack one to a line.

Input file format is comma delimited with these fields:
R or S (for Regular or Special package)
companyName
zone
date(mm/dd/yyyy)
weight
volum
timeDeadline(only for S records)

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Test Case 1 - all Pack, no duplicate zones
R,Orange Inc.,C2,3/16/2007,7,30
R,Orange Inc.,A1,3/16/2007,8,7
R,HAL Industries,C3,3/16/2007,8,1
R,Peak Enterprises,A2,3/16/2007,6,7
R,Giggle Industries,A7,3/17/2007,10,7
ID:2 Company:Orange Inc. Zone:A1 Date:3/16/2007 Weight:8 Volume:7
ID:4 Company:Peak Enterprises Zone:A2 Date:3/16/2007 Weight:6 Volume:7
ID:5 Company:Giggle Industries Zone:A7 Date:3/17/2007 Weight:10 Volume:7
ID:1 Company:Orange Inc. Zone:C2 Date:3/16/2007 Weight:7 Volume:30
ID:3 Company:HAL Industries Zone:C3 Date:3/16/2007 Weight:8 Volume:1

Test Case 2 - all Pack, duplicate zones
R,Peak Enterprises,C2,3/16/2007,2,5
R,Giggle Industries,C3,3/16/2007,10,7
R,Giggle Industries,A1,3/16/2007,7,1
R,HAL Industries,C3,3/16/2007,4,9
R,HAL Industries,C2,3/16/2007,9,7
ID:3 Company:Giggle Industries Zone:A1 Date:3/16/2007 Weight:7 Volume:1
ID:5 Company:HAL Industries Zone:C2 Date:3/16/2007 Weight:9 Volume:7
ID:1 Company:Peak Enterprises Zone:C2 Date:3/16/2007 Weight:2 Volume:5
ID:4 Company:HAL Industries Zone:C3 Date:3/16/2007 Weight:4 Volume:9
ID:2 Company:Giggle Industries Zone:C3 Date:3/16/2007 Weight:10 Volume:7

Test Case 3 - all SpecPack, no duplicate zones
S,HAL Industries,A2,3/16/2007,10,7,11
S,HAL Industries,A1,3/17/2007,8,30,11
S,Orange Inc.,C3,3/16/2007,8,7,12
S,HAL Industries,B1,3/17/2007,8,30,12
S,Orange Inc.,D2,3/16/2007,1,30,12
ID:2 Company:HAL Industries Zone:A1 Date:3/17/2007 Weight:8 Volume:30 Time:11
ID:1 Company:HAL Industries Zone:A2 Date:3/16/2007 Weight:10 Volume:7 Time:11
ID:4 Company:HAL Industries Zone:B1 Date:3/17/2007 Weight:8 Volume:30 Time:12
ID:3 Company:Orange Inc. Zone:C3 Date:3/16/2007 Weight:8 Volume:7 Time:12
ID:5 Company:Orange Inc. Zone:D2 Date:3/16/2007 Weight:1 Volume:30 Time:12

Test Case 4 - all SpecPack, duplicate zones
S,HAL Industries,A2,3/16/2007,10,7,11
S,HAL Industries,A1,3/17/2007,8,30,11
S,Orange Inc.,C3,3/16/2007,8,7,12
S,HAL Industries,C3,3/16/2007,1,7,13
S,Orange Inc.,A2,3/16/2007,10,1,13
ID:2 Company:HAL Industries Zone:A1 Date:3/17/2007 Weight:8 Volume:30 Time:11
ID:1 Company:HAL Industries Zone:A2 Date:3/16/2007 Weight:10 Volume:7 Time:11
ID:5 Company:Orange Inc. Zone:A2 Date:3/16/2007 Weight:10 Volume:1 Time:13
ID:3 Company:Orange Inc. Zone:C3 Date:3/16/2007 Weight:8 Volume:7 Time:12
ID:4 Company:HAL Industries Zone:C3 Date:3/16/2007 Weight:1 Volume:7 Time:13
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Test Case 5 - both Pack and SpecPack, no duplicate zones
R,HAL Industries,C2,3/16/2007,9,7
S,HAL Industries,A1,3/17/2007,2,30,12
S,HAL Industries,B1,3/17/2007,8,30,12
R,Giggle Industries,C3,3/17/2007,5,7
R,Giggle Industries,A5,3/17/2007,10,7
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ID:2 Company:HAL Industries Zone:A1 Date:3/17/2007 Weight:2 Volume:30 Time:12
ID:5 Company:Giggle Industries Zone:A5 Date:3/17/2007 Weight:10 Volume:7
ID:3 Company:HAL Industries Zone:B1 Date:3/17/2007 Weight:8 Volume:30 Time:12
ID:1 Company:HAL Industries Zone:C2 Date:3/16/2007 Weight:9 Volume:7
ID:4 Company:Giggle Industries Zone:C3 Date:3/17/2007 Weight:5 Volume:7

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Test Case 6 - both Pack and SpecPack, duplicate zones
R,Orange Inc.,C2,3/16/2007,7,22
R,Orange Inc.,C2,3/17/2007,1,30
R,Orange Inc.,A1,3/16/2007,8,7
S,HAL Industries,A2,3/16/2007,10,7,11
S,HAL Industries,A1,3/17/2007,8,30,11
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ID:5 Company:HAL Industries Zone:A1 Date:3/17/2007 Weight:8 Volume:30 Time:11
ID:3 Company:Orange Inc. Zone:A1 Date:3/16/2007 Weight:8 Volume:7
ID:4 Company:HAL Industries Zone:A2 Date:3/16/2007 Weight:10 Volume:7 Time:11
ID:2 Company:Orange Inc. Zone:C2 Date:3/17/2007 Weight:1 Volume:30
ID:1 Company:Orange Inc. Zone:C2 Date:3/16/2007 Weight:7 Volume:22