package Collections.Sets;  
  
import java.util.\*;  
  
public class SortedSetDemo {  
 public static void main(String[] args) {  
 SortedSet<String> names = new TreeSet<>();  
 names.add("James");  
 names.add("Peter");  
 names.add("Peter");  
 names.add("PETER");  
 names.add("John");  
 names.add("John");  
 names.add("Andrew");  
 names.add("Roy");  
 names.add("Rohan");  
 names.add("Lawrence");  
 System.*out*.println(names);  
  
 // Sorted set functionalities  
 String first = names.first();  
 String last = names.last();  
 System.*out*.println("first:"+first+"last: "+last);  
  
 SortedSet<String> headSet= names.headSet("Lawrence");  
 SortedSet<String> subSet= names.subSet("James","Peter");  
 SortedSet<String> tailSet= names.tailSet("PETER");  
 System.*out*.println("headSet:"+headSet+" tailSet:"+tailSet+" subSet: "+subSet);

// refer set programs for rest unimplemented functions  
 }  
}

C:\Users\Roystan\.jdks\openjdk-21.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.3\lib\idea\_rt.jar=61103:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.3\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath C:\Users\Roystan\IdeaProjects\JavaWorkspace\out\production\JavaWorkspace Collections.Sets.SortedSetDemo

[Andrew, James, John, Lawrence, PETER, Peter, Rohan, Roy]

first:Andrewlast: Roy

headSet:[Andrew, James, John] tailSet:[PETER, Peter, Rohan, Roy] subSet: [James, John, Lawrence, PETER]

Process finished with exit code 0

package Collections.Sets;  
  
import java.util.\*;  
  
public class NavigableSetDemo {  
 public static void main(String[] args) {  
 // navigable set functionalities  
 NavigableSet<String> names = new TreeSet<>();  
 names.add("James");  
 names.add("Peter");  
 names.add("Peter");  
 names.add("PETER");  
 names.add("John");  
 names.add("John");  
 names.add("Andrew");  
 names.add("Roy");  
 names.add("Rohan");  
 names.add("Lawrence");  
 System.*out*.println(names);  
  
 NavigableSet<String> headSet1= names.headSet("Lawrence",true);  
 NavigableSet<String> subSet1= names.tailSet("PETER",true);  
 NavigableSet<String> tailSet1= names.subSet("James",true,"Peter",true);  
 System.*out*.println("headSet1:"+headSet1+" subSet1:"+subSet1+" tailSet1: "+tailSet1);  
  
 String lower = names.lower("Lawrence");  
 String floor = names.floor("Lawrence");  
 String ceiling = names.ceiling("Lawrence");  
 String higher = names.higher("Lawrence");  
 System.*out*.println("lower:"+lower+" ceiling:"+ceiling+" floor:"+floor+" higher:"+higher);  
  
  
 String pollFirst=names.pollFirst();  
 String pollLast=names.pollLast();  
 System.*out*.println("pollFirst:"+pollFirst+" pollLast:"+pollLast);  
  
 NavigableSet<String> descendingSet=names.descendingSet();  
 System.*out*.println("descendingSet: "+descendingSet);  
  
 System.*out*.println("\n Iterated values");  
 Iterator<String> ascendingIterator=names.iterator();  
 {  
  
 while (ascendingIterator.hasNext()) {  
 String value = ascendingIterator.next();  
 if (value.equals( "John")) {  
 ascendingIterator.remove();  
// ascendingIterator.forEachRemaining(x->System.out.println(x+"Remaining"));  
 }  
 System.*out*.print(" "+value);  
 }  
 }  
  
 System.*out*.println("\n descending Iterated values");  
 Iterator<String> descendingIterator=names.descendingIterator();  
 {  
 while (descendingIterator.hasNext()) {  
 String value = descendingIterator.next();  
 if (value.equals( "John")) {  
 descendingIterator.remove();  
// descendingIterator.forEachRemaining(x->System.out.println(x));  
 }  
 System.*out*.print(" "+value);  
 }  
 }  
//refer sets and sorted sets for unimplemented methods

}  
}

C:\Users\Roystan\.jdks\openjdk-21.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.3\lib\idea\_rt.jar=61109:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.3\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath C:\Users\Roystan\IdeaProjects\JavaWorkspace\out\production\JavaWorkspace Collections.Sets.NavigableSetDemo

[Andrew, James, John, Lawrence, PETER, Peter, Rohan, Roy]

headSet1:[Andrew, James, John, Lawrence] subSet1:[PETER, Peter, Rohan, Roy] tailSet1: [James, John, Lawrence, PETER, Peter]

lower:John ceiling:Lawrence floor:Lawrence higher:PETER

pollFirst:Andrew pollLast:Roy

descendingSet: [Rohan, Peter, PETER, Lawrence, John, James]

Iterated values

James John Lawrence PETER Peter Rohan

descending Iterated values

Rohan Peter PETER Lawrence James

Process finished with exit code 0