https://github.com/beenapaul82/ProgramsFiftyJava

**Duplicates**

**public** **class** DuplicateCharacters {

**public** **void** findDuplicate(String str){

Map<Character, Integer> map = **new** HashMap<Character, Integer>();

**char**[] chrs = str.toCharArray();

**for**(Character ch:chrs){

**if**(map.containsKey(ch)){

map.put(ch, map.get(ch)+1);

} **else** {

map.put(ch, 1);

}

}

Set<Character> keys = map.keySet();

**for**(Character ch:keys){

**if**(map.get(ch) > 1){

System.***out***.println(ch+"--->"+map.get(ch));

}

}

}

**public** **static** **void** main(String a[]){

DuplicateCharacters dcs = **new** DuplicateCharacters();

dcs.findDuplicate("American airlines");

}

}

++++++++++++++++++++++++++++++++++++++++++++++++++

**package** com.wbl.basics;

**import** java.util.Iterator;

**import** java.util.PriorityQueue;

**import** java.util.Queue;

**import** java.util.Set;

**import** java.util.TreeSet;

**public** **class** Studentdata {

**public** **void** studentQueue(){

Queue<student>queue=**new** PriorityQueue<student>();

student s1= **new** student();

s1.name="Beena";

s1.id=2345;

s1.deptname="QA";

s1.deptid=23;

student s2= **new** student();

s2.name="Joan";

s2.id=3345;

s2.deptname="UI";

s2.deptid=43;

student s3= **new** student();

s3.name="Julia";

s3.id=1222;

s3.deptname="UI";

s3.deptid=43;

queue.add(s1);

queue.add(s2);

queue.add(s3);

Iterator<student> itr=queue.iterator();

**while**(itr.hasNext()){

System.***out***.println(itr.next());

}

}

**public** **void** treeSet(){

Set<student>tset=**new** TreeSet<student>();

student s1= **new** student();

s1.name="Beena";

s1.id=2345;

s1.deptname="QA";

s1.deptid=23;

student s2= **new** student();

s2.name="Joan";

s2.id=3345;

s2.deptname="UI";

s2.deptid=43;

student s3= **new** student();

s3.name="Julia";

s3.id=1222;

s3.deptname="UI";

s3.deptid=43;

tset.add(s1);

tset.add(s2);

tset.add(s3);

**for**(student stu:tset){

System.***out***.println("Student ID::"+stu.id+" Student Name::"+stu.name+" Dept Name::"+stu.deptname);

}

}

}

**package** com.wbl.basics;

**import** java.util.Comparator;

**public** **class** student **implements** Comparable<student>{

**int** id;

String name;

**int** deptid;

String deptname;

@Override

**public** **int** compareTo(student o){

Integer i1=**this**.id;

Integer i2=o.id;

**return** i1.compareTo(i2);

}

**public** **static** **void** main(String[] args) {

Studentdata sd=**new** Studentdata();

sd.treeSet();

Student ID::1222 Student Name::Julia Dept Name::UI

Student ID::2345 Student Name::Beena Dept Name::QA

Student ID::3345 Student Name::Joan Dept Name::UI

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

**public** **class** student **implements** Comparable<student>{

**int** id;

String name;

**int** deptid;

String deptname;

@Override

**public** **int** compareTo(student o){

String i1=**this**.name;

String i2=o.name;

**return** i1.compareTo(i2);

}

Student ID::2345 Student Name::Beena Dept Name::QA

Student ID::3345 Student Name::Joan Dept Name::UI

Student ID::1222 Student Name::Julia Dept Name::UI

++++++

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

ArrayList -sorting using comparable

**import** java.util.Comparator;

**public** **class** student **implements** Comparable<student>{

**int** id;

String name;

**int** deptid;

String deptname;

@Override

**public** **int** compareTo(student o){

String i1=**this**.name;

String i2=o.name;

**return** i1.compareTo(i2);

}

**public** **void** listdata(){

List<student>aset=**new** ArrayList<student>();

student s1= **new** student();

s1.name="Jyena";

s1.id=2345;

s1.deptname="QA";

s1.deptid=23;

student s2= **new** student();

s2.name="Joan";

s2.id=3345;

s2.deptname="UI";

s2.deptid=43;

student s3= **new** student();

s3.name="Julia";

s3.id=1222;

s3.deptname="UI";

s3.deptid=43;

aset.add(s1);

aset.add(s2);

aset.add(s3);

Collections.*sort*(aset);

**for**(student stu:aset){

System.***out***.println("Student ID::"+stu.id+" Student Name::"+stu.name+" Dept Name::"+stu.deptname);

}

Student ID::3345 Student Name::Joan Dept Name::UI

Student ID::1222 Student Name::Julia Dept Name::UI

Student ID::2345 Student Name::Jyena Dept Name::QA

Arraylist using Comaparator-without changing original class student

**Student class**

**import** java.util.Comparator;

**public** **class** student /\*implements Comparable<student>\*/{

**int** id;

String name;

**int** deptid;

String deptname;

/\*@Override

public int compareTo(student o){

String i1=this.name;

String i2=o.name;

return i1.compareTo(i2);

}\*/

**New studentclass**

**import** java.util.Comparator;

**public** **class** StudentComparator **implements** Comparator<student> {

**int** id;

String name;

**int** deptid;

String deptname;

@Override

**public** **int** compare(student o1,student o2){

String i1=o1.name;

String i2=o2.name;

**return** i1.compareTo(i2);

}

}

**public** **void** listdata(){

List<student>aset=**new** ArrayList<student>();

student s1= **new** student();

s1.name="Jyena";

s1.id=2345;

s1.deptname="QA";

s1.deptid=23;

student s2= **new** student();

s2.name="Joan";

s2.id=3345;

s2.deptname="UI";

s2.deptid=43;

student s3= **new** student();

s3.name="Julia";

s3.id=1222;

s3.deptname="UI";

s3.deptid=43;

aset.add(s1);

aset.add(s2);

aset.add(s3);

Collections.*sort*(aset,**new** StudentComparator());

**for**(student stu:aset){

System.***out***.println("Student ID::"+stu.id+" Student Name::"+stu.name+" Dept Name::"+stu.deptname);

}

}

**Queue- only Comparable works**

**public** **class** student **implements** Comparable<student>{

**int** id;

String name;

**int** deptid;

String deptname;

@Override

**public** **int** compareTo(student o){

String i1=**this**.name;

String i2=o.name;

**return** i1.compareTo(i2);

}

**public** **void** studentQueue(){

Queue<student>queue=**new** PriorityQueue<student>();

student s1= **new** student();

s1.name="Zeena";

s1.id=2345;

s1.deptname="QA";

s1.deptid=23;

student s2= **new** student();

s2.name="Joan";

s2.id=3345;

s2.deptname="UI";

s2.deptid=43;

student s3= **new** student();

s3.name="Bulia";

s3.id=1222;

s3.deptname="UI";

s3.deptid=43;

queue.add(s1);

queue.add(s2);

queue.add(s3);

Iterator<student> itr=queue.iterator();

**while**(itr.hasNext()){

System.***out***.println(itr.next().id);

}

}