1. Program 5 Instructions, CS102, Prof. Loftin

Write the code for two classes Name and Person, both of which implement the Comparable interface.

2. Name class

Each object of class Name has as data two strings, representing the first name and last name of a person. Implement the following public methods:

Name (String first, String last)
String toString()
as well as the compareTo method required to implement the Comparable interface. As usual, names are alphabetized by last name first, and then first name (similar code is implemented in the book’s Contact class).

3. Person class

Each object of class Person has as data a Name, and also an int variable to store the person’s year of birth. Implement the following public methods:

Person (String first, String last, int y)
Person (Name n, int y)
String toString ()
as well as the compareTo method. Two objects in Person class should be ordered by their names (call the Name version of compareTo). Note that the constructor of Person is overloaded.

4. Submission

You should submit your Name.java and Person.java as email attachments to loftin@rutgers.edu.

5. Due date: October 19, 2009

6. The driver class Main.java

This class depends on the class SelectionPoly, as discussed in class (see below).

```java
public class Main{
    public static void main (String[] args){
        Name[] names = new Name[5];
        Person[] persons = new Person[6];
        names[0] = new Name("Joe","Smith");
        names[1] = new Name("Harper","Lee");
        persons[0] = new Person("Joe","Smith",2000);
        persons[1] = new Person("Harper","Lee",2001);
        // Your additional code here
    }
}
```
names[2] = new Name("Arthur","Chang");
names[3] = new Name("Victor","Torres");
names[4] = new Name("Dara","Torres");

SelectionPoly.selectionSort(names);

persons[0] = new Person(names[0], 1993);
persons[1] = new Person("David","Chang", 1952);
persons[2] = new Person(names[4], 1980);
persons[3] = new Person("Carmen","Electra",1971);
persons[4] = new Person(names[2],1962);
persons[5] = new Person(names[3], 1940);

SelectionPoly.selectionSort(persons);

for (Name n : names)
    System.out.println(n);
System.out.println();
for (Person p : persons)
    System.out.println(p);
}
}

7. THE CLASS SelectionPoly.java

public class SelectionPoly{
    public static void selectionSort(Comparable[] list){
        // list can refer to an array of any class which
        // implements Comparable
        
        for (int index=0; index < list.length-1; index++){
            int min = index;
            for (int scan = index+1; scan < list.length; scan++)
                if (list[scan].compareTo(list[min]) < 0)
                    min = scan;
            Comparable temp = list[min];
            list[min] = list[index];
            list[index] = temp;
        }
    }
}
8. Output of the driver class

Arthur Chang
Harper Lee
Joe Smith
Dara Torres
Victor Torres

Arthur Chang 1993
David Chang 1952
Carmen Electra 1971
Joe Smith 1962
Dara Torres 1940
Victor Torres 1980