

Exercise 20A Sorting *BankAccount* Objects

44-11

Of primary interest is the *BankAccount* class. It will now include a *compareTo* method that we will use to sort an array of *BankAccount* objects. Each object has name and balance (deposit)

First, add the *compareTo* method to the *BankAccount* class. This method is given on page 44-2 of this lesson. Don't forget to designate *implements Comparable* in the class signature.

Next, modify the *Tester* class as detailed below.

```
import java.io.*;
import java.util.*;
import java.text.*; //for NumberFormat
public class Tester
{
    public static void main(String args[])
    {
        NumberFormat formatter = NumberFormat.getNumberInstance( );
        formatter.setMinimumFractionDigits(2);
        formatter.setMaximumFractionDigits(2);

        for(j=0; j < ba.length; j++)
        {
            Scanner kbReader = new Scanner(System.in);
            System.out.print("Please enter the name to whom the account belongs. ");
            name = kbReader.nextLine( );

            System.out.print("Please enter the amount of the deposit. ");
            double amount = kbReader.nextDouble( );
            System.out.println(" "); //gives a blank line between accounts

            Instantiate object ba[j] using name and amount

        }

        Sort the ba array using the sort method in the Arrays class

        Harry Houdini >>> 298.44
    }
}
```

The following is a typical run:

Please enter the name to whom the account belongs. Bill Gates
 Please enter the amount of the deposit. 473.92

Please enter the name to whom the account belongs. George Bush
 Please enter the amount of the deposit. 3873.20

Please enter the name to whom the account belongs. Colin Powell
 Please enter the amount of the deposit. 379.23

Please enter the name to whom the account belongs. Jim Carey
 Please enter the amount of the deposit. 372.82

Please enter the name to whom the account belongs. Dennis Quaid
 Please enter the amount of the deposit. 3721.49

```

Jim Carey >>> 372.82
Colin Powell >>> 379.23
Bill Gates >>> 473.92
George Bush >>> 3,873.20
  
```

Project 20B Sorting *BankAccount* Objects Alphabetically

Modify the last project so that it sorts alphabetically on the names instead of on the balances in the accounts. The only thing that needs to be changed is the *compareTo* method in the *BankAccount* class. The output should appear as follows:

```

Bill Gates >>> 473.92
Colin Powell >>> 379.23
Dennis Quaid >>> 3,721.49
George Bush >>> 3,873.20
Jim Carey >>> 372.82
  
```

