package bank;

import java.util.Random;

public abstract class BankAccount
{

private int balance = 0; // Account balance (whole dollars)
private int transactionCount = 0; // Number of transactions performed.
private Bank issuingBank; // Bank issuing this account

/**
* Construct a BankAccount with the given initial balance and
* issuing Bank. Construction counts as this BankAccount's
* first transaction.
*
* @param initialBalance the opening balance.
* @param issuingBank the bank that issued this account.
*/

public BankAccount( int initialBalance, Bank issuingBank )
{
this.issuingBank = issuingBank;
deposit( initialBalance );
}

/**
* Withdraw the given amount, decreasing this BankAccount's
* balance and the issuing Bank's balance. Counts as a transaction.
*
* @param amount the amount to be withdrawn
* @return amount withdrawn
*/

public int withdraw( int amount )
{
incrementBalance( -amount );
countTransaction();
return amount;
}

/**
* Deposit the given amount, increasing this BankAccount's
* balance and the issuing Bank's balance. Counts as a transaction.
*
* @param amount the amount to be deposited
* @return amount deposited
*/

public int deposit(int amount)
{
icrementBalance( amount);
countTransaction();
return amount;
}

/**
* Request for balance. Counts as a transaction.
*
* @return current account balance.
*/

public int requestBalance()
{
countTransaction();
return getBalance();
}

/**
* Get the current balance.
* Does NOT count as a transaction.
*
* @return current account balance
*/

public int getBalance()
{
return balance;
}

/**
* Increment account balance by given amount.
* Also increment issuing Bank's balance.
* Does NOT count as a transaction.
*
* @param amount the amount of the increment.
*/

public void incrementBalance( int amount )
{
balance += amount;
this.getIssuingBank().incrementBalance( amount );
}

/**
* Get the number of transactions performed by this
* account. Does NOT count as a transaction.
*
* @return number of transactions performed.
*/

public int getTransactionCount()
{
return transactionCount;
}

private void countTransaction()
{
transactionCount++;
}

private void incrementBalance( int amount )
{
this.balance += amount;
this.issuingBank.increaseBalance( amount );
}

private Bank getIssuingBank()
{
return issuingBank;
}

private void deposit( int amount )
{
this.balance += amount;
this.issuingBank.increaseBalance( amount );
}

} // end class BankAccount

} // end package bank.
public int getTransactionCount()
{
  return transactionCount;
}

/**
 * Increment by 1 the count of transactions, for this account
 * and for the issuing Bank.
 */

public void countTransaction()
{
  transactionCount++;
  this.getIssuingBank().countTransaction();
}

/**
 * Get the bank that issued this account.
 *
 * @return issuing bank.
 */

public Bank getIssuingBank()
{
  return issuingBank;
}

/**
 * Action to take when a new month starts.
 */

public abstract void newMonth();