package issuingbank.

A SavingsAccount is a BankAccount that bears interest.
A fee is charged for too many transactions in a month.

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*

/**
* A SavingsAccount is a BankAccount that bears interest.
* A fee is charged for too many transactions in a month.
* 
* @see BankAccount
*
* @version 7
*/

public class SavingsAccount extends BankAccount
{
private int transactionsThisMonth;

/**
* Override getTransactionFee() to return a non-zero fee
* after the appropriate number of free monthly transactions.
*
* @return the fee for current transaction.
*/
protected int getTransactionFee()
{
if (transactionsThisMonth >
getIssuingBank().getMaxFreeTransactions()) {
return getIssuingBank().getTransactionFee();
} else {
return 0;
}
}

/**
* Increment count of transactions, for this account for
* this month and in total and for the issuing bank, by one.
*
* @exception InsufficientFundsException when appropriate.
*/
public void countTransaction()
throws InsufficientFundsException
{
transactionsThisMonth++;
super.countTransaction();
}

/**
* Constructor, accepting an initial balance.
* @param initialBalance the opening balance.
* @param issuingBank the bank that issued this account.
* @exception InsufficientFundsException when appropriate.
*/
public SavingsAccount( int initialBalance, Bank issuingBank )
throws InsufficientFundsException
{
super( initialBalance, issuingBank);
transactionsThisMonth = 1;
}

/**
* A SavingsAccount earns interest each month.
* @exception InsufficientFundsException when appropriate.
*/
public void newMonth()
throws InsufficientFundsException
{
double monthlyRate = getIssuingBank().getInterestRate()/12;
incrementBalance( (int)(monthlyRate * getBalance()));
transactionsThisMonth = 0;
}