CS 2B
Lab Exercise

Name:_____

Due: In One Week.

TOPIC: Java Fundamentals

Preparation: Review the Java Fundamentals discussed in class and the text.

Below you will find shells for two Java classes. The first is a possible encapsulation of a credit card. The second is a simple "driver" which tests instances of this class. Read the included comments and complete the implementation for each. Turn in, stapled inorder:

- This cover sheet
- Completed source listing `for CreditCard.java`
- Completed source listing for `CreditCardTest.java`
- Hard copy of `CreditCardTest`'s execution

```
/**
 * Here is a Shell for class CreditCard
 */
public class CreditCard
{
    // Instance variables:
    private String number;
    private String name;
    private String bank;
    private double balance;
    private int limit;

    // Constructor:
    CreditCard(String number, String name, String bank,
               double balance, int limit)
    {
        this.number = number;
        this.name = name;
        this.bank = bank;
        this.balance = balance;
        this.limit = limit;
    }

    // Getters and setters (accessors and mmodifiers)
    public String getNumber()
    {
        return number;
    }
```

```
    public void setNumber(String newNumber)
    {
        this.number = newNumber;
    }

    // Implement the other Getters and Setters here...

    // Some "Action" methods

    /**
     * Make a charge, if the charge when added to the balance
     * does not exceed the limit, and return true.  Otherwise
     * the method returns false.  This method might modify
     * balance.
     */
    public boolean chargeIt(double charge)
    {
        return true;
    }

    /**
     * Make a payment.  Negative balances are OK.
     */
    public void makePayment(double payment)
    {
    }

    /**
     * A to String Method.  Returns an multi-line string
     * indicating the names and values of all instance
     * variables.  It's just a String instance containing
     * all the credit card information.
     */
    public String toString()
    {
       return "number: " + number +
              "/n name: " + "etc...";
    }
}
```

```
/**
 * This should properly test the methods of class CreditCard
 */
public class CreditCardTest
{
    public static void main(String[] args)
    {
        CreditCard visa =
            new CreditCard("1234 5678 9101 1213", "Sam Slade",
                           "NFCU", 0.0, 5000);
        // Create additional instances for a masterCard
        // and americanExpress here.

        // Now go on a shopping spree and "exercise" each
        // CreditCard instance.  Charge some stuff on each
        // card and show each card's information (using toString()).
        // Make payments etc..

        // Bottom line: completly test class CreditCard.

    }
}
```