

CS150 Assignment 2 Revolving Credit Account

Date Assigned: Wednesday, September 20, 2006

Date Due: Wednesday, September 25, 2006

Total Points: 30

You are employed by the First State Bank of Forest Grove to help generate information about payments on revolving credit accounts. The terms of a revolving credit account are as follows:

<i>Unpaid Balance</i>	<i>Interest rate/month</i>	<i>Minimum Payment</i>
\$0-\$500	19%	Balance
\$500.01 - \$1000	18.75%	\$10
over \$1000	18.5%	10% of Balance

Your job is to write a program that will help the bank provide information about users' balances and payments. First, the program will calculate the interest due on a given unpaid balance. The program will then add the interest on to the existing balance and report the new monthly balance and minimum payment to the user. The user then enters the amount that they wish to pay, and the monthly balance and minimum payment for the next month are reported to the user.

The output should look as follows; sample input is given in bold.

```
*****  
*                               First State Bank of Forest Grove                               *  
*****
```

Enter your full name, followed by 'enter': **Bob Smith**

Enter your unpaid balance: **\$1500**

Bob Smith, your unpaid balance with this month's interest is:
\$1777.50

Your minimum payment for this month is: \$177.75

Enter your actual payment for this month: **\$200**

Your remaining balance for this month is: \$1577.50

Your balance for next month is \$1869.34 and your minimum payment
is \$186.93

Your program is to provide the following error checking:

1. Your program should display an error if the user enters a negative number for the unpaid balance, then exit the program.
You've entered an invalid balance.
2. Your program should display an error if the user enters in a payment value that's smaller than the minimum payment, then exit the program.
You've entered a payment that is less than your minimum payment.
3. If the payment was larger than the balance, your program should report that there is now a credit and should NOT calculate next month's balance and payment.
You now have a credit of \$52.35. No payment is due next month.

To complete this assignment you must

1. Create a new C++ project in Visual Studio. Name your project "02Bankxxxxxxxx", where xxxxxxxx should be replaced by your PU Net Id. As an example, my project would be called "02Bankkhoj0332". It is vital that you name your project correctly!
2. Type the solution (fully documented/commented) to the problem into your project.
3. Remember to enter in your name as the author of the program.
4. Make sure that your program compiles and runs correctly. If you get any errors, double check that you typed everything correctly. Be aware that C++ is case-sensitive.
5. Once you are sure that the program works correctly it is time to submit your program. You do this by logging on to Turing and placing your complete project folder in the CS150-01 drop folder. Make sure that you copy your program folder and don't move it. If you move it, then you will not have your own copy!

Notes

1. You need to format the float values appropriately.
2. You must use combined assignments.
3. You may only use the C++ programming concepts covered thus far in class. Do not use any more advanced concepts that we have not covered or any other programming concepts that you have had experience with.
4. You will need to test this program thoroughly to make sure that you catch all the possible errors.
5. Your output must look exactly like the sample given.
6. You must comment your code appropriately.
7. You must follow the coding standards.
8. Refer to the syllabus for what constitutes plagiarism, and the consequences for plagiarizing.

To receive full credit for this assignment, your project must be in the drop box by 1pm on the day that it is due. Anything later will be considered late. Further, you must bring a hard copy of your program to class and place it on the instructor's desk by 1pm.

Good luck! And remember, if you have any problems, come and see me straight away.

START EARLY!!