CS209 Lab05
FA2014
dutta/streller

PROBLEM STATEMENT:

The definition and use of a class to represent a real-world type of entity (a taxpayer).
Adding member variables and methods to a class definition (the code for a class).
The creation of instances (objects) of a class and the invocation of an object's methods.

Notes:

For a helpful example of the code for a Java class, see the example class named Loan on page 268 of your textbook.
This program deliberately does not use any arrays. A real world program would typically deal with numerous Taxpayer objects and would store them in an array. The use of an array of objects will be part of the next assignment.

CODE :

Obtain file Main.txt

Create a new project and add the file from instructor to the project. Paste the contents of the instructor-provided file into the default Main class (file) created by NetBeans for your project.

Do not change the Main class (file) provided to you except for the package name at the top of the file. Use your package name instead of the one in the instructor-provided file.

Create the Loan Java file. The Loan file must be in your new project mentioned above. It must be in a separate file from the Main class.

To create the new file, select menu File>New File. In the New File dialog window, select the top choices (Categories: Java Classes; File Types: Java Class), and then click the Next button. In the New Java Class window, fill in the Class Name with “Taxpayer” (without the quotes) and make sure that the location and package is the same as for the Main file. Then click the Finish button.

As a result, under Source Packages, you should now have the two files listed within your package folder.

Write the code for the Loan class (file). You should follow the instructions listed below carefully, since your Loan class must work with the Main class (file) provided to you. You must use the Main class (file) to demonstrate that your Loan class works correctly. The Loan class must include the following items:

Private member variable named borrowerName of type String.
Private member variable named loanId of type int.
Private member variable named propertyCost double.
Private member variable named downPayment of type double.
Private member variable named numberOfYears of type int.
Private member variable named annualInterestRate of type double (7.5%).
Private DecimalFormat object to format monetary values and fixed decimal numbers, as in previous exercises.
Public constructor that takes five parameters to initialize the member variables. The order of the parameters must be: String nam, int id, double propCost, double downPay, int numYears.

A public get method for each member variable. Naming convention is to uppercase the firstletter of the member variable and then concatenate the word “get” on the left end of the variable (e.g., getBorrowerName, getLoanId, getPropCost, getDownPayment, getNumYears). Each get method takes no parameters and must return the value of the corresponding variable.

A public calculateMonthlyPayment method that takes no parameters and returns a value of type double. The returned value is the loan's monthly payment, computed by using the formula provided in a prior (3) lab. Do not add a member variable for the cost.

A public toString method that takes no parameters and returns a string. The string includes the values of all the member variables as well as the loan's computed monthly payment, with an explanatory label identifying each. All monetary values must be formatted with a dollar sign and two digits to the right of the decimal point. The returned string must not include any line breaks.

Format the source code properly:
Reformat the Java code so that it has proper indentation
and vertical and horizontal alignment.
Be sure to have a blank line right above each method definition.

Compile and debug your modified program.

When you compile your program, the Loan class (file) must be compiled first because it is not dependent on any other classes (files).
The Main file is compiled second because it uses (is dependent on) the Loan class.
Run the Main file to execute the program.
Do not run the Loan file. The Main code invokes the methods of the Loan class (file).
Test your program using a sufficient variety of data to make sure that it works on all cases.

See the example window captures below that illustrate working program.

Create shell script/batch file.

Create a batch file as you did for the previous assignments so that your program can be executed without the use of NetBeans.
Be sure that the batch file is within your top level NetBeans project folder.

As usual create ReadMe.pdf file.

Create a file named ReadMe.pdf
In this document, insert your name at the top, and on the next line insert the assignment number
Then enter any comments regarding the assignment and your program.
Then insert several window captures of windows showing the inputs and outputs from the execution of the program.
Be sure the ReadMe file is within your top level project folder.

Zip the project folder and all its contents.

Change the name the zip file so that its name consists of your name along with the assignment number, as follows: "  LastName_ Lab_05_cs209.zip".
Do not use spaces in the name of the file, use underscores or  hyphens instead.

Deliverables:

Send to duttat@ecc.edu an email this the exact subject

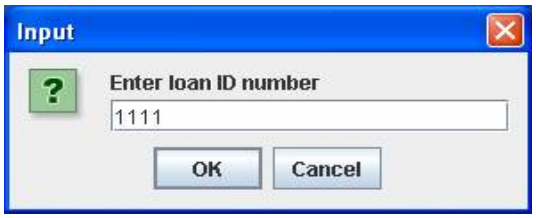
cs209_ Lab_05

In this email attached the above named zip file

LastName_ Lab_05_cs209.zip

Due Date :  5:00pm  9 October 2014


Input
Enter Borrower name
John Smith
OK
Cancel

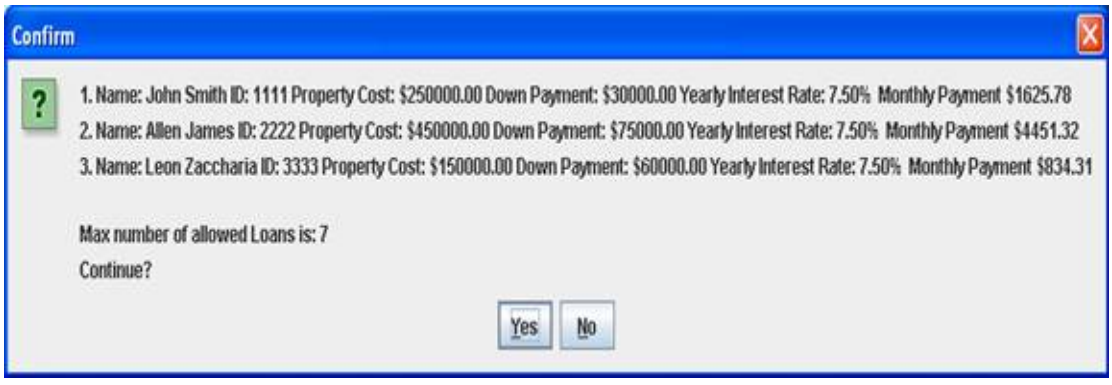

Input
Enter loan ID number
1111
OK
Cancel

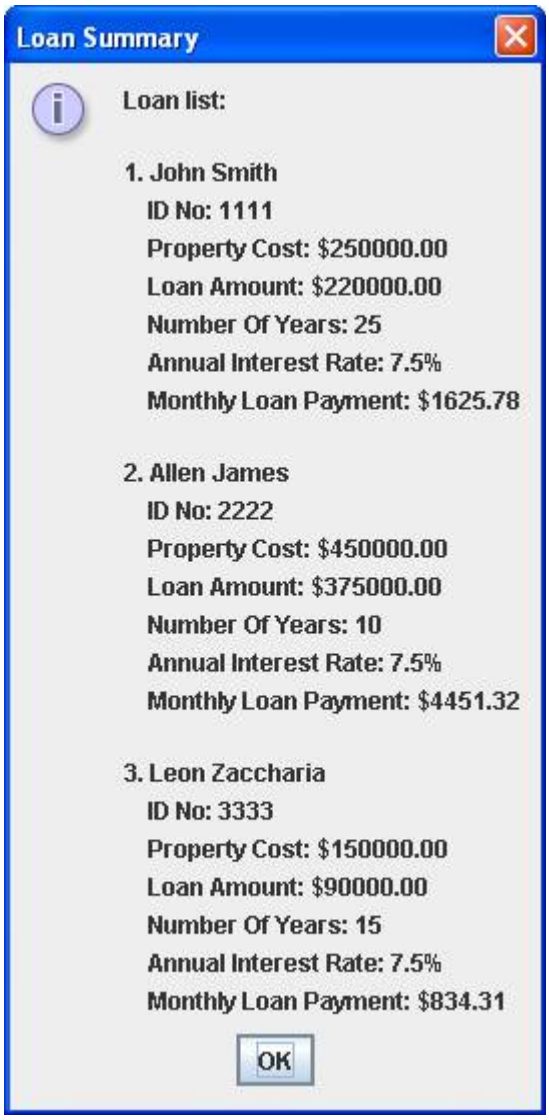

Input
Enter property cost
250000
OK
Cancel


Input
Enter down payment
30000
OK
Cancel


Input
Enter number of years for loan
25
OK
Cancel


Confirm
1. Name: John Smith ID: 1111 Property Cost: $250000.00 Down Payment: $30000.00 Yearly Interest Rate: 7.50% Monthly Payment $1625.78
Max number of allowed Loans is: 7
Continue?
Yes
No


Confirm
1. Name: John Smith ID: 1111 Property Cost: $250000.00 Down Payment: $30000.00 Yearly Interest Rate: 7.50% Monthly Payment $1625.78
2. Name: Allen James ID: 2222 Property Cost: $450000.00 Down Payment: $75000.00 Yearly Interest Rate: 7.50% Monthly Payment $4451.32
3. Name: Leon Zaccharia ID: 3333 Property Cost: $150000.00 Down Payment: $60000.00 Yearly Interest Rate: 7.50% Monthly Payment $834.31
Max number of allowed Loans is: 7
Continue?
Yes
No


Loan Summary
Loan list:
1. John Smith
ID No: 1111
Property Cost: $250000.00
Loan Amount: $220000.00
Number Of Years: 25
Annual Interest Rate: 7.5%
Monthly Loan Payment: $1625.78
2. Allen James
ID No: 2222
Property Cost: $450000.00
Loan Amount: $375000.00
Number Of Years: 10
Annual Interest Rate: 7.5%
Monthly Loan Payment: $4451.32
3. Leon Zaccharia
ID No: 3333
Property Cost: $150000.00
Loan Amount: $90000.00
Number Of Years: 15
Annual Interest Rate: 7.5%
Monthly Loan Payment: $834.31
OK