

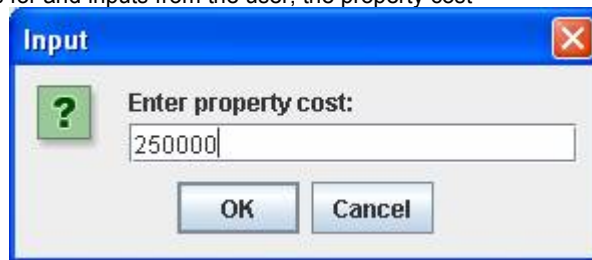
PROBLEM STATEMENT:

Write a java program to compute basic mortgage information. This program must use methods. The methods will have input parameters, return values and call other methods

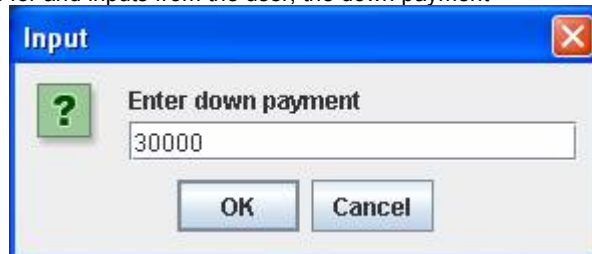
CODE :

Obtain file BasicMethodsLab.txt  
Create a new project for this assignment. The project and folder should be named Lab03A.  
Compile and run the BasicMethodsLab.java program.(Paste the text file into the java file.)  
The program should include a loop that repeatedly does the following:

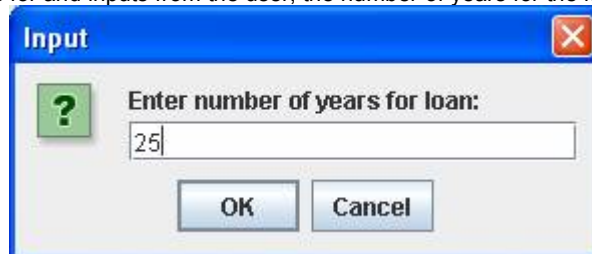
Prompts for and inputs from the user, the property cost

A Java Swing 'Input' dialog box with a blue title bar and a red close button. It contains a green question mark icon, the text 'Enter property cost:', a text field with '250000', and 'OK' and 'Cancel' buttons.

Prompts for and inputs from the user, the down payment

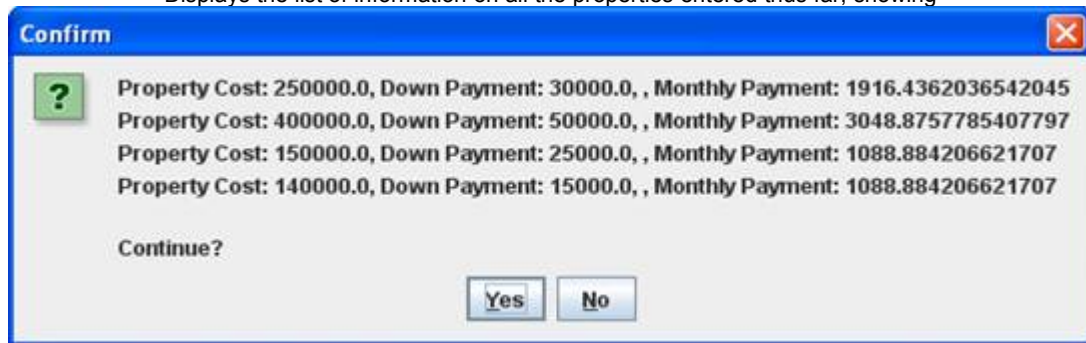
A Java Swing 'Input' dialog box with a blue title bar and a red close button. It contains a green question mark icon, the text 'Enter down payment', a text field with '30000', and 'OK' and 'Cancel' buttons.

Prompts for and inputs from the user, the number of years for the loan

A Java Swing 'Input' dialog box with a blue title bar and a red close button. It contains a green question mark icon, the text 'Enter number of years for loan:', a text field with '25', and 'OK' and 'Cancel' buttons.

Note: You need to add the code to convert this string to integer.  
The program provided currently has a default value that it is using.

Displays the list of information on all the properties entered thus far, showing



After you extend the program it will look like the following:



Extend the program. Now you will modify and extend the program as described in the following steps.

#### Modification One.

Add code to the main method to request and input another input value for each property from the user, using a JOptionPane dialog to get the input from the user.

This input is the type of property, either: (R)Residential, (C) Commercial, or (A) Agricultural.

Display the full names of the property types when displaying the choices to the user for property type, but tell the user to enter just a single letter. (R,C,A). Explain clearly to the user as to what he/she should enter.

Store this letter in a variable named propertyType of type char.

#### Modification Two. Change the loan calculation statement to a method call statement.

Currently the program calculates the property's monthly loan payment by using the annual interest rate, the loan amount and the number of years for the loan in the calculation given. Comment out this calculation.

You need to replace this monthly payment calculation statement with a statement that calls the method calculatePayment and passes the appropriate parameters to the method.

You must pass four parameters to the calculatePayment method: (1) property cost (type double), (2) down payment (type double), and (3) number of years (integer), and (4) type of property (type char).

The calculatePayment method is described in the next numbered item below.

Modification Three. Write the calculatePayment method. Write the code for the method named calculatePayment.  
Place this method definition code below the main method of the existing program class. Include the modifier static in the method header.  
The calculatePayment method must:

Take four parameters as input: (1) property cost (type double), (2) down payment (type double), and (3) number of years (integer), and (4) type of property (type char). Hint: The option pane returns a string – use the charAt(0) string method to get the first letter.  
Declare a local constant: RATE, 6.5% of type double.  
Calculate payment by using the formula given in the main method. Note: For Lab Exercise Part A, the property type is not used in the payment calculation. In Lab PartB, the property type will be used.  
Return a result of type double, namely the calculated payment for the month.

Modification Four Write the getPropertyTypeName method.  
Place this method definition code below the main method of the existing program class. Include the modifier static in the method header.  
The getPropertyTypeName method must:

Take one parameter as input: the property type as a value of type char.  
Determine the full name of the property type: Residential, Commercial, or Agricultural. You must write a switch statement for this.  
Return the full name of the property type as a string.

Modification Five Display information on all properties. Your program must display all the information on all the properties, one property per line. Use an output string as in previous lab exercises. For each property, the displayed information must include the following on one line, with each item labeled:

The property cost.  
The loan amount.  
The type of property (Residential, Commercial, or Agricultural). Call the getPropertyTypeName method to get the full name of the property type for each property. Pass the value of the variable propertyType as parameter to the method.  
The calculated payment for the month.  
The number of years for the loan.

Modification Six Apply formatting to all displayed monetary values of type double so that they always show a dollar sign and show two digits to the right of the decimal. To implement the formatting, follow the instructions provided in Lab assignment #2.

Modification Seven Display all the information on all properties during each pass through loop. The program must continue to display the output string (with formatting as described above) in a JOptionPane popup dialog window during each pass through the loop. The information on each property must include the full name of the property type, cost, loan amount, and computed payment. The number of lines will grow as additional properties are added by the user.

Reformat the program code: Reformat the Java code so that it has proper indentation and vertical and horizontal alignment:

Recompile, test, and debug your program. Test your program using a sufficient variety of data to make sure that it works on all cases.

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\_03A\_cs209.zip".  
Do not use spaces in the name of the file, use underscores or hyphens instead.

Deliverables:

Send to [streller@ecc.edu](mailto:streller@ecc.edu) an email this the exact subject

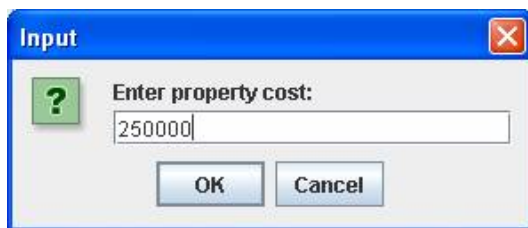
cs209\_\_ Lab\_03A

In this email attached the above named zip file

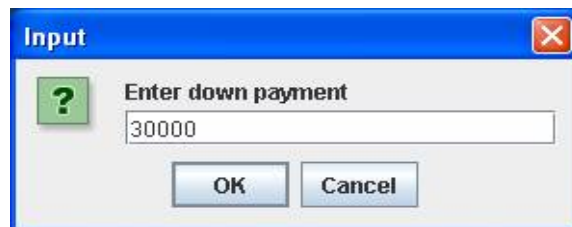
LastName\_ Lab\_03A\_cs209.zip

Due Date : 7:30pm 18 September 2014

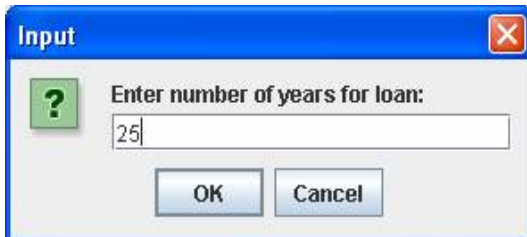
Example window captures for the completed working program below:



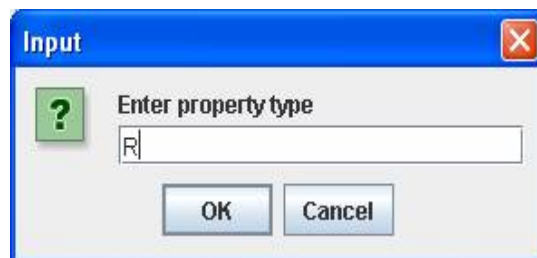
Input dialog box titled "Input" with a green question mark icon. The text "Enter property cost:" is displayed above a text input field containing "250000". Below the input field are "OK" and "Cancel" buttons.



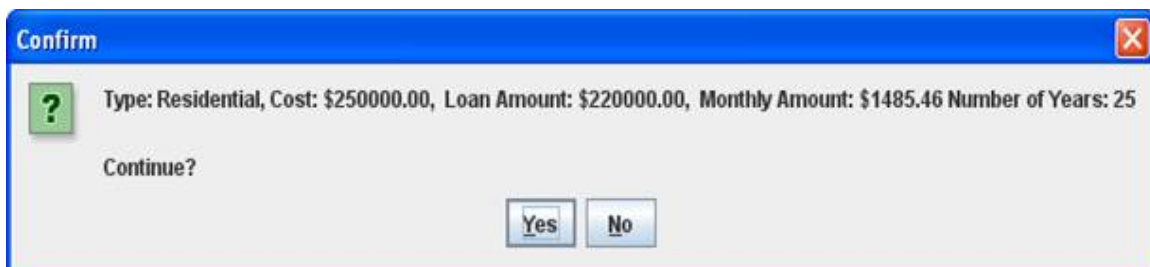
Input dialog box titled "Input" with a green question mark icon. The text "Enter down payment" is displayed above a text input field containing "30000". Below the input field are "OK" and "Cancel" buttons.



Input dialog box titled "Input" with a green question mark icon. The text "Enter number of years for loan:" is displayed above a text input field containing "25". Below the input field are "OK" and "Cancel" buttons.



Input dialog box titled "Input" with a green question mark icon. The text "Enter property type" is displayed above a text input field containing "R". Below the input field are "OK" and "Cancel" buttons.



Confirm dialog box titled "Confirm" with a green question mark icon. The text "Type: Residential, Cost: \$250000.00, Loan Amount: \$220000.00, Monthly Amount: \$1485.46 Number of Years: 25" is displayed above the text "Continue?". Below the text are "Yes" and "No" buttons.

Confirm

?

Type: Residential, Cost: \$250000.00, Loan Amount: \$220000.00, Monthly Amount: \$1485.46 Number of Years: 25  
Type: Commercial, Cost: \$400000.00, Loan Amount: \$350000.00, Monthly Amount: \$3048.88 Number of Years: 15  
Type: Agricultural, Cost: \$150000.00, Loan Amount: \$125000.00, Monthly Amount: \$931.97 Number of Years: 20  
Type: Residential, Cost: \$140000.00, Loan Amount: \$125000.00, Monthly Amount: \$790.09 Number of Years: 30

Continue?

Yes

No

Property Loan Amounts

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Type: Residential, Cost: \$250000.00, Loan Amount: \$220000.00, Monthly Amount: \$1485.46 Number of Years: 25  
Type: Commercial, Cost: \$400000.00, Loan Amount: \$350000.00, Monthly Amount: \$3048.88 Number of Years: 15  
Type: Agricultural, Cost: \$150000.00, Loan Amount: \$125000.00, Monthly Amount: \$931.97 Number of Years: 20  
Type: Residential, Cost: \$140000.00, Loan Amount: \$125000.00, Monthly Amount: \$790.09 Number of Years: 30

OK