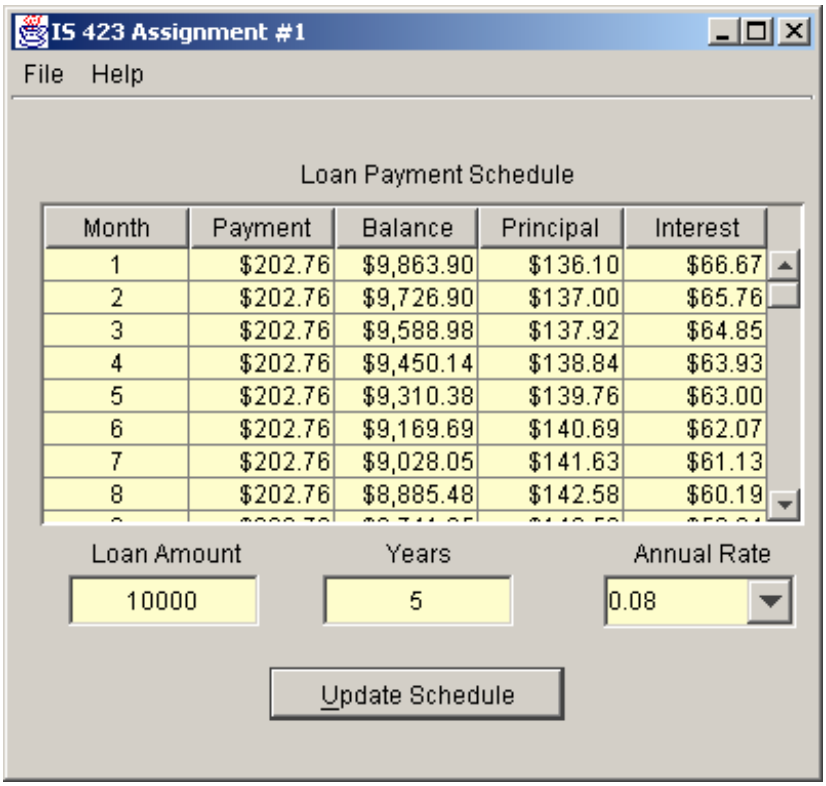
For this assignment, create an application that computes and displays a monthly payment schedule. This application uses a JTable, JComboBox, as well as JTextBoxes and JLabels. A sample application is shown below:



Your application should display the monthly results using a JTable component and the annual interest rate should be taken from a JComboBox component. Instructions on using these components are provided in handouts distributed in class.

To compute the monthly payment, use the following formula:

$$\text{monthly payment} = \frac{\text{loan amount}}{\frac{1 - (1 / (1 + \text{rate}/12))^{12 * \text{years}}}{(1 + \text{rate}/12) - 1}}$$

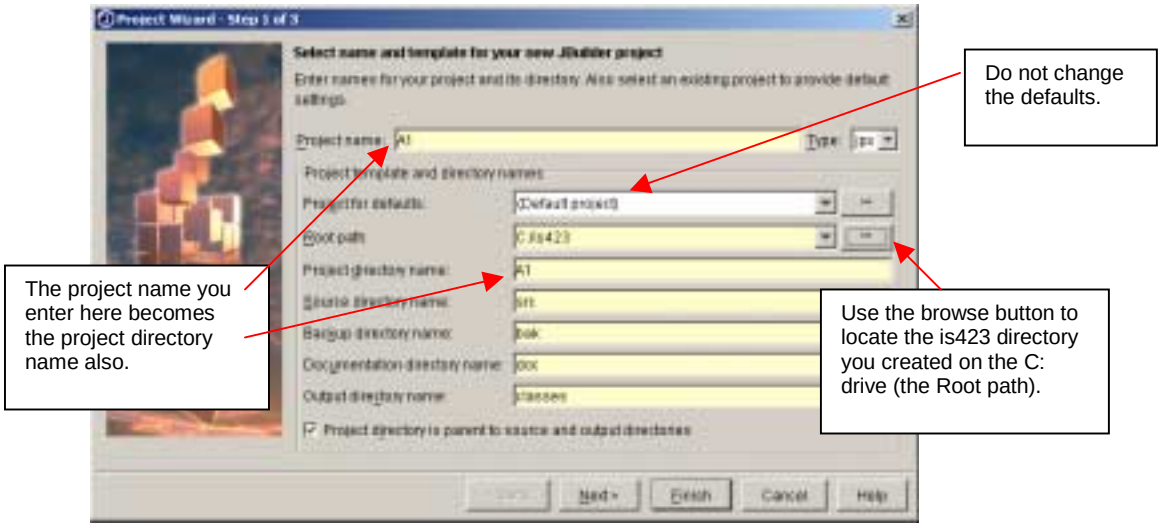
where "rate" is the annual interest rate and "years" is the number of years the loan will extend.

The steps necessary to complete the schedule are:

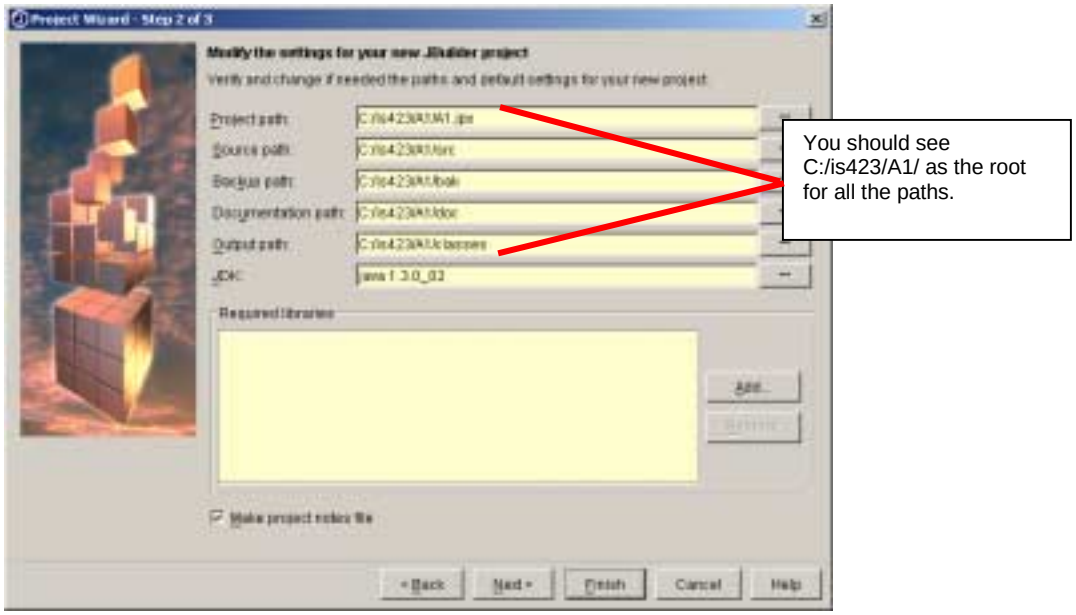
1. Obtain values for years, loanAmount, and rate from the GUI.
2. Compute the monthly payment using the formula above. Remember that to raise to a power you need to use the Math.pow() function.
3. Store the table headings in an array.
4. Create a new DefaultTableModel object and set the JTable's model to the new DefaultTableModel object.
5. Create a String array to hold one month's data (one row in the table).
6. Set balance = loanAmount.
7. For month = 1 to (years * 12):
    a. Compute monthlyInterest = balance * rate / 12.
    b. Compute monthlyPrincipal = payment – monthlyInterest.
    c. Compute balance = balance – monthlyPrincipal.
    d. Format the computed values as appropriate.
    e. Add the month number, the payment, and the three computed amounts to the array used to store the output.
    f. Add a new row to the JTable's model.
8. Adjust the alignment of the JTable's columns.

The JComboBox component should initially include the values .05, .06, …,.12. The values in this component should be editable by the user. See the class handout for help on the use of a JComboBox.

To Turn In: Because JBuilder is a bit "picky" about having projects moved from computer to computer, please store your project on the computer's C: drive in a folder named "is423". Within that folder, the project and its files should be stored in a folder named A1. When you create a new project, you can assure that the correct directory settings will be created if you set the first page of the Project Wizard as shown below:



When you click on Next>, you should confirm that the directory structure has been set up as shown below:



After you have finished your project, use a ZIP utility to zip the project folder (A1 in this case) and all its subfolders and email it as an attachment to is423wb@u.washington.edu. I will grade the project and return an evaluation form and grade. You may use whatever email account you prefer but be aware that the evaluation will be sent back to that same account via a reply.