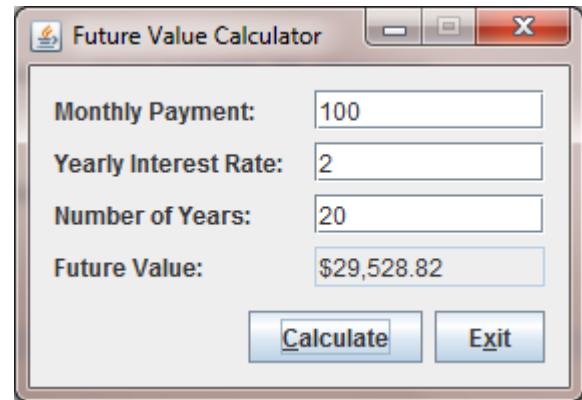


## Lab 16: Form Validation

In the text book, there is a "Future Value" application described on page 130. A future value is the value of an asset at a specific date. It measures the future sum of money that an investment will be worth, given a constant interest rate.

A GUI application was created in NetBeans that will calculate future values. Note that because it was created from a GUI IDE, vs from scratch, it will have much richer UI control.



The source code `FutureValueFrame.java` was created by the IDE based on a form that was created in the IDE. While easier to code GUIs using a GUI tool, our job is to understand what it is going on.

1) Review and trace the code `FutureValueFrame.java`.

Pay attention to all of the detail needed to graphically align and set up the interface using the `GroupLayout.class`. Look up in the Java 7 API documentation any methods, constants, or properties you do not understand. (The goal is NOT to become expert on building GUIs without a GUI tool; rather the goal is to be able to read code generated from a GUI tool and get a good sense of what is going on.)

How is this class used? Does it need a separate driver program?

2) This version of the calculator has no validation. Add all appropriate validation checks from `SwingValidator.java` to the GUI. Also, add additional checks to `SwingValidator.com`:

- The monthly investment must be at least one cent
- The interest rate must be between half a percent and 30 percent inclusive
- The calculator cannot take a number of years greater than 25.