CS003B
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Design Document P20.4

Step 1: Find out which methods you are asked to supply.
Create a simple calculator that shows a bar graph of all the interest grown

Step 2: Specify the public interface.
Public Class BankBarChartTester
Public Class BankBarChartFrame
Public Class BankBarChartPanel

Step 3: Document the public interface.

// allows the java gui to be displayed for user and inputted
Public Class BankBarChartTester
{

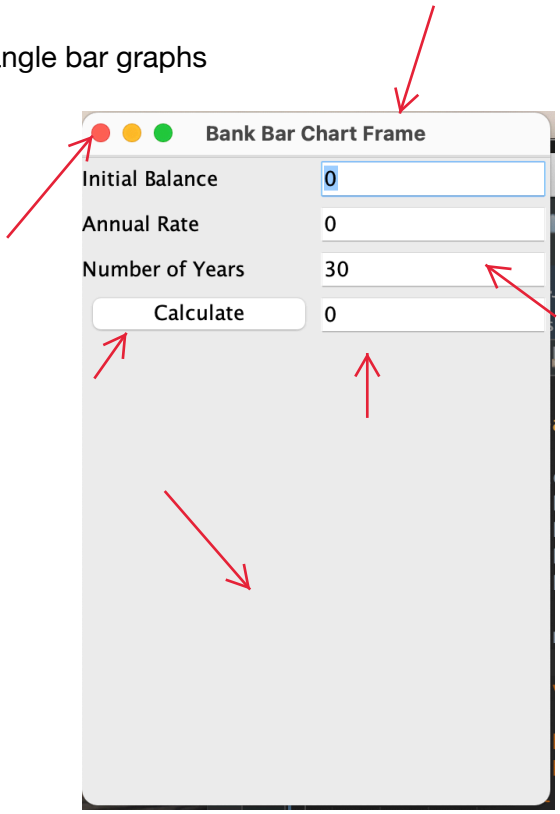
}

// shows the skeleton of the gui along with calculating the interest
Public Class BankBarChartFrame
{

}

// shows the height and width along with painting the rectangle bar graphs
Public Class BankBarChartPanel
{

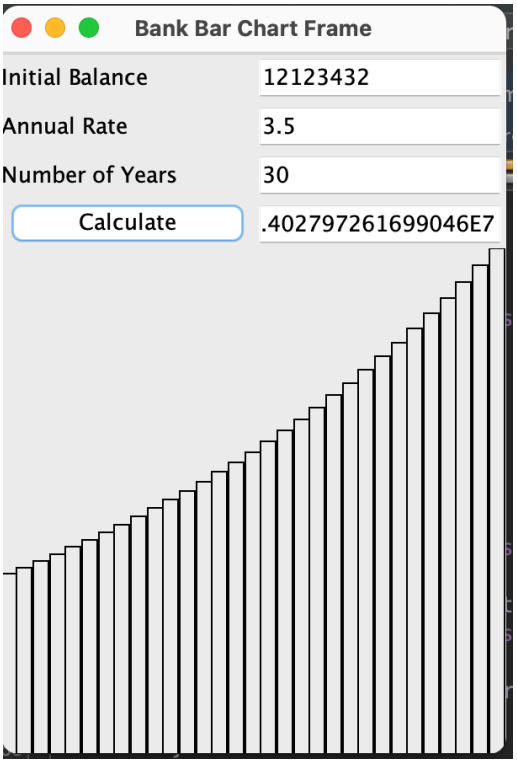
}



Step 4: Determine instance variables.
```
private int valuesSize;
private double[] values;
private static final int WIDTH = 300;
private static final int HEIGHT = 300;
```

Step 5: Implement constructors and methods.
```
public void setCount(int count)
{
    values = new double[count];
    valuesSize = 0;
    repaint();
}
```

```
  public void addValue(double v)
  {
     if (valuesSize == values.length)
     {
        return;
     }

     values[valuesSize] = v;
     valuesSize++;
     repaint();
  }

public void paintComponent(Graphics g)
  {
     super.paintComponent(g);
     Graphics2D g2 = (Graphics2D) g;

     if (valuesSize == 0)
     {
        return;
     }

     double max = values[0];
     for (int i = 0; i < valuesSize; i++)
     {
        if (values[i] > max)
        {
           max = values[i];
        }
     }

     for (int i = 0; i < valuesSize; i++)
     {
        double width = getWidth()/values.length;
        double height = values[i]*getHeight()/max;

        Rectangle2D.Double bar = new Rectangle2D.Double(i*getWidth()/values.length,
getHeight()-height, width, height);
        g2.draw(bar);
     }
  }
```



Step 6: Test your class.