

```
import java.util.ArrayList;
public class Fibonacci
{
    private ArrayList<Long> alFibo = new ArrayList<>();
    private ArrayList<Double> alGold = new ArrayList<>();

    public Fibonacci(int n)
    {
        generate(n);
    }

    public void generate(int n)
    {
        clear();
        // générer la suite Fibonacci et calculer la liste du nombre d'or
        // en même temps avec 1 seule boucle for
        if (n >= 1)
        {
            alFibo.add((long) 0);
            if (n >= 2)
            {
                alFibo.add((long) 1);
                for (int i = 2; i < n; i++)
                {
                    alFibo.add(alFibo.get(i - 2) + alFibo.get(i - 1));
                    alGold.add((double) alFibo.get(i) / alFibo.get(i - 1));
                }
            }
        }
    }

    public void clear()
    {
        alFibo.clear();
        alGold.clear();
    }

    public Object[] fiboToArray()
    {
        return alFibo.toArray();
    }

    public Object[] goldToArray()
    {
        return alGold.toArray();
    }
}
```

```
public class MainFrame extends javax.swing.JFrame
{
    private Fibonacci fibo = null;

    public MainFrame()
    {
        initComponents();
    }

    public void updateView()
    {
        fiboList.setListData(fibo.fiboToArray());
        goldList.setListData(fibo.goldToArray());
    }
// Skipped: ... initComponents { ... }
    private void generateButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_generateButtonActionPerformed
    { //GEN-HEADEREND:event_generateButtonActionPerformed
        fibo = new Fibonacci(Integer.valueOf(nbrTextField.getText()));
        updateView();
    } //GEN-LAST:event_generateButtonActionPerformed

    private void clearButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_clearButtonActionPerformed
    { //GEN-HEADEREND:event_clearButtonActionPerformed
        if (fibo != null)
        {
            fibo.clear();
            updateView();
        }
    } //GEN-LAST:event_clearButtonActionPerformed
// Skipped: ... Look & Feel
// Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton clearButton;
    private javax.swing.JList fiboList;
    private javax.swing.JButton generateButton;
    private javax.swing.JList goldList;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JScrollPane jScrollPane2;
    private javax.swing.JTextField nbrTextField;
// End of variables declaration//GEN-END:variables
}
```