

```
public class Number
{
    private int number;
    private int frequency;

    public Number(int number)
    {
        this.number = number;
        frequency = 0;
    }

    public int getNumber()
    {
        return number;
    }

    public int getFrequency()
    {
        return frequency;
    }

    public void increaseFreq()
    {
        frequency++;
    }

    public String toString()
    {
        return number + " -> " + frequency;
    }
}
```

```
import java.util.ArrayList;
public class Frequencies
{
    private int min;
    private int max;

    private ArrayList<Integer> alValues = new ArrayList<>();
    private ArrayList<Number> alFrequencies = new ArrayList<>();

    public Frequencies(int min, int max)
    {
        this.min = min;
        this.max = max;
    }

    public int generateNumber(int min, int max)
    {
        return (int) (Math.random() * (max - min + 1)) + min;
    }

    public void fillValuesList(int nbr)
    {
        for (int i = 0; i < nbr; i++)
            alValues.add(generateNumber(min, max));
    }

    public void sortValues()
    {
        for (int i=0; i<alValues.size()-1; i++)
        {
            int min = alValues.get(i);
            int posMin = i;
            for (int j=i+1; j<alValues.size(); j++)
            {
                if (alValues.get(j) < min)
                {
                    min = alValues.get(j);
                    posMin = j;
                }
            }

            if (i != posMin)
            {
                int temp = alValues.get(i);
                alValues.set(i, alValues.get(posMin));
                alValues.set(posMin, temp);
            }
        }
    }

    public void computeFrequencies()
    {
        for (int i = min; i <= max; i++)
            alFrequencies.add(new Number(i));

        int p;
        for (int i = 0; i < alValues.size(); i++)
        {
            p = alValues.get(i) - min;
            alFrequencies.get(p).increaseFreq();
        }
    }

    public Object[] toArrayValues()
    {
        return alValues.toArray();
    }

    public Object[] toArrayFrequencies()
    {
        return alFrequencies.toArray();
    }
}
```

```

public class MainFrame extends javax.swing.JFrame
{
    private Frequencies freq = null;

    public MainFrame()
    {
        initComponents();
    }

    public void updateView()
    {
        if (freq != null)
        {
            valuesList.setListData(freq.toArrayValues();
            freqList.setListData(freq.toArrayFrequencies());
        }
    }
}
// Skipped: ... initComponents { ... }
private void generateButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_generateButtonActionPerformed
{//GEN-HEADEREND:event_generateButtonActionPerformed
    int min = Integer.valueOf(minTextField.getText());
    int max = Integer.valueOf(maxTextField.getText());
    int nbr = Integer.valueOf(nbrTextField.getText());
    freq = new Frequencies(min, max);
    freq.fillValuesList(nbr);
    freq.computeFrequencies();
    updateView();
}
//GEN-LAST:event_generateButtonActionPerformed

private void sortButtonActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_sortButtonActionPerformed
{//GEN-HEADEREND:event_sortButtonActionPerformed
    freq.sortValues();
    updateView();
}
//GEN-LAST:event_sortButtonActionPerformed

private void maxTextFieldActionPerformed(java.awt.event.ActionEvent evt)//GEN-FIRST:event_maxTextFieldActionPerformed
{//GEN-HEADEREND:event_maxTextFieldActionPerformed
    // TODO add your handling code here:
}
//GEN-LAST:event_maxTextFieldActionPerformed
// Skipped: ... Look & Feel
// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JList freqList;
private javax.swing.JButton generateButton;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel5;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JScrollPane jScrollPane2;
private javax.swing.JTextField maxTextField;
private javax.swing.JTextField minTextField;
private javax.swing.JTextField nbrTextField;
private javax.swing.JButton sortButton;
private javax.swing.JList valuesList;
// End of variables declaration//GEN-END:variables
}

```