

## Selected files

### 2 printable files

BarChart.java  
BarChartTest.java

#### BarChart.java

```

1  import javax.swing.JPanel;
2  import java.awt.Graphics;
3  import java.awt.Color;
4
5  public class BarChart extends JPanel {
6
7      private int[] numbers;
8      private Color[] colors; // Array to store colors for each bar
9      private final int barSpacing = 30; // Spacing between bars
10     private final int margin = 30; // Margin around the bar chart
11
12     public BarChart(int[] numbers) {
13         this.numbers = numbers;
14
15         // Define colors for each bar
16         colors = new Color[] { Color.BLACK, Color.RED, Color.GREEN, Color.BLUE, Color.ORANGE
17     };
18
19     @Override
20     protected void paintComponent(Graphics g) {
21         super.paintComponent(g);
22
23         int totalSpacing = (numbers.length - 1) * barSpacing; // Total spacing between bars
24         int totalBarHeight = getHeight() - totalSpacing - 2 * margin; // Total height
available for bars after
25                                     // considering margin
26         int barHeight = totalBarHeight / numbers.length; // Height of each bar
27         int max = getMax(numbers);
28
29         for (int i = 0; i < numbers.length; i++) {
30             int width = (int) (((double) numbers[i] / max) * (getWidth() - 2 * margin)); //
Width of each bar after
31                                     //
considering margin
32
33             // Flip the bars from bottom to top
34             int y = margin + i * (barHeight + barSpacing);
35             g.setColor(colors[i % colors.length]); // Assign color to the bar
36             g.fillRect(margin, y, width, barHeight);
37         }
38     }
39
40     private int getMax(int[] numbers) {
41         int max = numbers[0];
42         for (int num : numbers) {
43             max = Math.max(max, num);
44         }
45         return max;
46     }
47 }

```

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**BarChartTest.java**

```
1  import javax.swing.JFrame;
2  import javax.swing.JOptionPane;
3
4  public class BarChartTest {
5      public static void main(String[] args) {
6          int[] numbers = new int[5];
7
8          for (int i = 0; i < numbers.length; i++) {
9              String input = JOptionPane.showInputDialog("Enter an integer:");
10             numbers[i] = Integer.parseInt(input);
11         }
12
13         JFrame frame = new JFrame("Bar Chart");
14         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
15         frame.setSize(400, 300);
16
17         BarChart chart = new BarChart(numbers);
18         frame.add(chart);
19
20         frame.setVisible(true);
21     }
22 }
23
```