第一题：线程

```
public class TestMe {
    public static void main(String[] args) {
        Thread t1 = new Thread(new Thread1());
        Thread t2 = new Thread(new Thread2());
        t1.start();
        t2.start();
    }
}
class Thread1 implements Runnable{
    public void run() {
        int sum = 0;
        for(int n = 1;n <= 50;n++)
            sum += n;
        System.out.println("前 50 的和是" + sum);
    }
}
class Thread2 implements Runnable{
    public void run() {
        int sum = 0;
        for(int n = 1;n <= 10;n++)
            sum += n * n;
        System.out.println("前十的平方和是" + sum);
    }
}
```

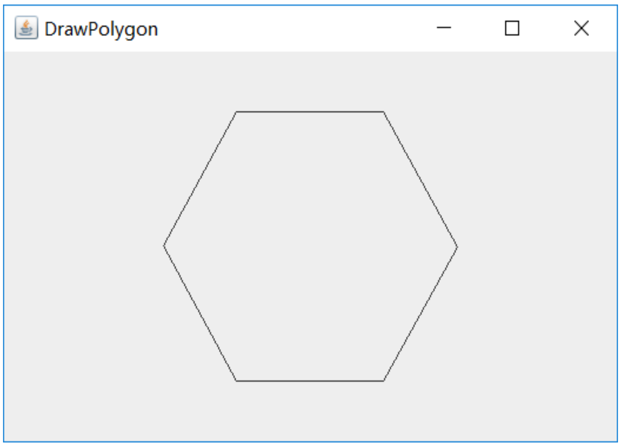
运行结果：前 50 的和是 1275 前十的平方和是 385

第二题：多边形

```
import javax.swing.JFrame;
import javax.swing.JPanel;
import java.awt.Graphics;
import java.awt.Polygon;
public class DrawPolygon extends JFrame {
    public DrawPolygon() {
        setTitle("DrawPolygon");
        add(new PolygonsPanel());
    }
    /* Main method*/
    public static void main(String[] args) {
        DrawPolygon frame = new DrawPolygon();
        frame.setLocationRelativeTo(null); //Center the frame
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(200,250);
        frame.setVisible(true);
```

```
	}
}

//Draw a polygon in the panel
class PolygonsPanel extends JPanel{
	protected void paintComponent(Graphics g) {
		super.paintComponent(g);

		int xCenter = getWidth() / 2;
		int yCenter = getHeight() / 2;
		int radius = (int)(Math.min(getWidth(), getHeight() * 0.4));

		// Create a Polygon object
		Polygon polygon = new Polygon();

		// Add points to the polygon
		polygon.addPoint(xCenter + radius, yCenter);
		polygon.addPoint((int)(xCenter + radius * Math.cos(2 * Math.PI
/6)), (int)(yCenter - radius * Math.sin(2 * Math.PI /6)));
		polygon.addPoint((int)(xCenter + radius * Math.cos(2 * 2 *
Math.PI /6)), (int)(yCenter - radius * Math.sin(2 * 2 * Math.PI /6)));
		polygon.addPoint((int)(xCenter + radius * Math.cos(3 * 2 *
Math.PI /6)), (int)(yCenter - radius * Math.sin(3 * 2 * Math.PI /6)));
        polygon.addPoint((int)(xCenter + radius * Math.cos(4 * 2 *
Math.PI /6)), (int)(yCenter - radius * Math.sin(4 * 2 * Math.PI /6)));
        polygon.addPoint((int)(xCenter + radius * Math.cos(5 * 2 *
Math.PI /6)), (int)(yCenter - radius * Math.sin(5 * 2 * Math.PI /6)));

        // Draw the polygon
        g.drawPolygon(polygon);
    }
}
```

运行结果：



第三题：TV

```
class TV {
    int channel = 1;   //Default channel is 1
    int volumeLevel = 1;   //Default volume level is 1
    boolean on = false;   //By default TV is off
```

```
public TV() {}

public void turnOn() {

    on = true;

}

public void turnOff() {

    on = false;

}

public void setChannel(int newChannel) {

    if(on && newChannel >= 1 && newChannel <= 120)

        channel = newChannel;

}

public void setVolume(int newVolumeLevel) {

    if(on && newVolumeLevel >= 1 && newVolumeLevel <= 7)

        volumeLevel = newVolumeLevel;

}

public void channelUp() {

    if(on && channel < 120)

        channel++;

}

public void channelDown() {

    if(on && channel > 1)

        channel--;
    }
    public void volumeUp() {
        if(on && volumeLevel < 7)
            volumeLevel++;
    }
    public void volumeDown() {
        if(on && volumeLevel > 1)
            volumeLevel--;
    }
}
public class TestTV {
    public static void main(String[] args) {
        TV tv1 = new TV();
        tv1.turnOn();
        tv1.setChannel(30);
        tv1.setVolume(3);

        TV tv2 = new TV();
        tv2.turnOn();
        tv2.channelUp();
        tv2.channelUp();
        tv2.volumeUp();
        System.out.println("tv1's channel is " + tv1.channel + " and volume level is" + tv1.volumeLevel);
        System.out.println("tv2's channel is " + tv2.channel + " and volume level is" + tv2.volumeLevel);
    }
}
```

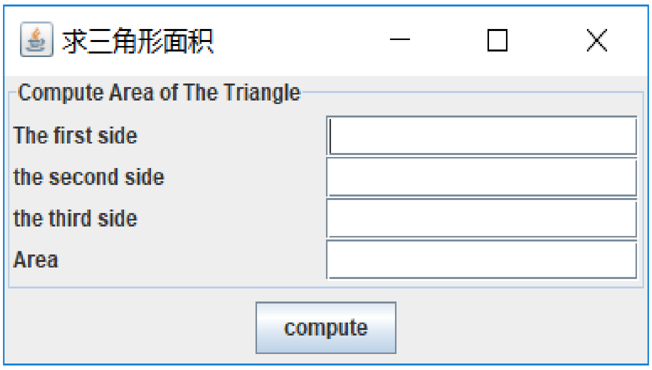
运行结果：

```
tv1’s channel is 30 and volume level is3
tv2’s channel is 3 and volume level is2
```

第四题：三角形（GUI）

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.TitledBorder;
class TriArea {
    private double x,y,z;
    private double p=0, result=0;
    TriArea(double x,double y,double z){
        this.x = x;
        this.y = y;
        this.z = z;
    }
    public double getx() {
        return x;
    }
    public double setx(double x) {
        this.x = x;
        return x;
    }
    public double gety() {
        return y;
    }
    public double sety(double y) {
        this.y = y;
        return y;
    }
    public double getz() {
        return z;
    }
    public double setz(double z) {
        this.z = z;
        return z;
    }
    public double getArea() {
        p = (x + y + z) / 2;
        result = Math.sqrt(p * (p - x) * (p - y) * (p - z));
        System.out.println("三角形面积" + result);
        return result;
    }
}
public class Triangle extends JFrame {
    private JTextField t1 = new JTextField();
    private JTextField t2 = new JTextField();
    private JTextField t3 = new JTextField();
    private JTextField t4 = new JTextField();
    private JButton btn = new JButton("compute");

    public Triangle() {
        JPanel p1 = new JPanel(new GridLayout(4,2));
        p1.add(new JLabel("The first side"));
        p1.add(t1);
        p1.add(new JLabel("the second side"));
        p1.add(t2);
        p1.add(new JLabel("the third side"));
        p1.add(t3);

        p1.add(new JLabel("Area"));

        p1.add(t4);

        JPanel p2 = new JPanel();

        p1.setBorder(new TitledBorder("Compute Area of The Triangle"));

        p2.add(btn);

        add(p1, BorderLayout.CENTER);

        add(p2, BorderLayout.SOUTH);


        btnListenerClass listen1 = new btnListenerClass();

        btn.addActionListener(listen1);

        addWindowListener(new WindowAdapter() {

            public void windowClosing(WindowEvent e) {

                dispose();

                System.exit(0);

            }

        });

    }

    class btnListenerClass implements ActionListener{

        public void actionPerformed(ActionEvent e) {

            float x,y,z;
            double p,result=0;
            String op;
            try {
                x = Float.parseFloat(t1.getText());
                y = Float.parseFloat(t2.getText());
                z = Float.parseFloat(t3.getText());
                if((x+y<=z)||(x+z<=y)||(y+z<=x))
                    throw new Exception("不能构成三角形");
                TriArea Area = new TriArea(x,y,z);
                t4.setText(Double.toString(Area.getArea()));
            }catch(Exception ee) {
                t4.setText("出现错误："+ee.getMessage());
            }
        }
    }
    public static void main(String[] args) {
        Triangle f = new Triangle();
        f.setTitle("求三角形面积");
        f.setSize(400,200);
        f.setVisible(true);
    }
}
```

运行结果：



求三角形面积

Compute Area of The Triangle

The first side

the second side

the third side

Area