

```

import java.util.*;

public class App {

    static Scanner scanner = new Scanner(System.in);

    public static void main(String[] args) throws Exception {

        System.out.print("Input 3 sides of the triangle: ");

        String sidesStr = scanner.nextLine();

        System.out.print("The color is: ");

        String color = scanner.nextLine();

        System.out.print("The triangle is filled (y/n): ");

        String filledStr = scanner.nextLine();

        System.out.println("-----");

        String[] sidesLst = sidesStr.split(" ");

        double sideA = Integer.parseInt(sidesLst[0]);

        double sideB = Integer.parseInt(sidesLst[1]);

        double sideC = Integer.parseInt(sidesLst[2]);

        boolean filled = getBoolFilled(filledStr);

        GeometricObject triangle = new Triangle(sideA,sideB,sideC,color,filled);

        System.out.println(triangle);

    }

    public static boolean getBoolFilled(String filledStr){

        if(filledStr.compareTo("y")==0){

            return true;

        }

    }

```

```
    }  
    else{  
        return false;  
    }  
}  
}
```

```
import java.util.Date;  
  
abstract class GeometricObject{  
    private String color;  
    private boolean filled;  
    private Date dateCreated;  
  
    protected GeometricObject(){  
        this.color = "Black";  
        this.filled = false;  
        this.dateCreated = new Date();  
    }  
  
    protected GeometricObject(String color,boolean filled){  
        this.color = color;  
        this.filled = filled;  
        this.dateCreated = new Date();  
    }  
  
    //setter
```

```
public void setColor(String color){
```

```
    this.color = color;
```

```
}
```

```
public void setFilled(){
```

```
    this.filled = filled;
```

```
}
```

```
//getter
```

```
public String getColor(){
```

```
    return color;
```

```
}
```

```
public boolean isFilled(){
```

```
    return filled;
```

```
}
```

```
public Date getDate(){
```

```
    return dateCreated;
```

```
}
```

```
//abstract method
```

```
abstract public double getArea();
```

```
abstract public double getPerimeter();
```

```
@Override
```

```

    public String toString(){
        return "\nColor: "+color+"\nFilled: "+filled;
    }
}

```

```

class Triangle extends GeometricObject{
    private double sideA,sideB,sideC;
    private double perimeter,area;

    public Triangle(){
        this.sideA = 1;
        this.sideB = 1;
        this.sideC = 1;
    }

    public Triangle(double sideA,double sideB,double sideC,String color,boolean filled){
        super(color,filled);
        this.sideA = sideA;
        this.sideB = sideB;
        this.sideC = sideC;
    }

    @Override
    public double getArea(){
        double s = (sideA + sideB + sideC) / 2;
        return Math.sqrt(s * (s - sideA) * (s - sideB) * (s - sideC));
    }

    @Override
    public double getPerimeter(){
        return sideA + sideB + sideC;
    }

    public String toString(){

```

```
return "Triangle: side1 = " + sideA + " side2 = " + sideB + " side3 = " + sideC +  
"\nArea: "+String.format("%.2f",getArea()) +  
"\nPerimeter: " + String.format("%.2f",getPerimeter()) +  
super.toString();  
}  
}
```