Circle

```java
package Program01;

public class Circle extends GeometricObject{
    private double radius;

    Circle(){

    }

    public Circle(double radius) {
        this.radius = radius;
    }

    public Circle(String color, boolean fiiled, double radius) {
        super(color, fiiled);
        this.radius = radius;
    }

    public double getRadius() {
        return radius;
    }

    public void setRadius(double radius) {
        this.radius = radius;
    }
    @Override
    public double getArea(){
        return Math.PI*(radius*radius);
    }
    @Override
    public double getPerimeter() {
        return 2*Math.PI*radius;
    }
    public double getDiameter(){
        return 2*radius;
    }

    @Override
    public String toString() {
        return super.toString()+"Circle [radius=" + radius + "]";
    }

}
```

Geometric

```java
package Program01;

import java.util.Date;

public class GeometricObject {
    private String color;
    private boolean filled;
    Date dateCreated;

    GeometricObject(){
        dateCreated = new Date();
    }
    GeometricObject(String color , boolean filled ){
        this.color = color;
        this.filled = filled;
        this.dateCreated = new Date();
    }
    public String getColor() {
        return color;
    }
    public void setColor(String color) {
        this.color = color;
    }
    public boolean isFilled() {
        return filled;
    }
    public void setFilled(boolean filled) {
        this.filled = filled;
    }
    public Date getDateCreated() {
        return dateCreated;
    }
    public double getArea(){
        return 0;
    }
    public double getPerimeter(){
        return 0;
    }
    @Override
    public String toString() {
        return "GeometricObject [color=" + color + ", dateCreated=" +
dateCreated + ", filled=" + filled + "]";
    }


}
```

Main

```java
package Program01;

import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter three side of triangle : ");
        double side1 = input.nextDouble();
        double side2 = input.nextDouble();
        double side3 = input.nextDouble();
        String temp = input.nextLine();
        System.out.print("Enter color : ");
        String color = input.next();
        System.out.print("Is it filled? (true/false): ");
        boolean filled = input.nextBoolean();
        Triangle triangle1 = new Triangle(color,filled,side1,side2,side3);
        System.out.println(triangle1.toString());
        input.close();
    }
}
```

Rectangle

```java
package Program01;

public class Rectangle extends GeometricObject{
    private double width;
    private double height;

    Rectangle(){

    }

    public Rectangle(double width, double height) {
        this.width = width;
        this.height = height;
    }

    public Rectangle(String color, boolean fiiled, double width, double
height) {
        super(color, fiiled);
        this.width = width;
        this.height = height;
    }

    public double getWidth() {
        return width;
    }

    public void setWidth(double width) {
        this.width = width;
    }

    public double getHeight() {
        return height;
    }

    public void setHeight(double height) {
        this.height = height;
    }

    @Override
    public double getArea() {
        return width * height;
    }

    @Override
    public double getPerimeter() {
        return 2*(width+height);
    }
}
```

```java
    @Override
    public String toString() {
        return super.toString() + "Rectangle [height=" + height + ", width=" +
width + "]";
    }


}
```

Triangle

```java
package Program01;

public class Triangle extends GeometricObject{
    private double side1,side2,side3;
    final private double SEMIPERIMETER = (side1+side2+side3)/2;
    Triangle(){
    }
    public Triangle(double side1, double side2, double side3) {
        this.side1 = side1;
        this.side2 = side2;
        this.side3 = side3;
    }
    public Triangle(String color, boolean fiiled, double side1, double side2,
double side3) {
        super(color, fiiled);
        this.side1 = side1;
        this.side2 = side2;
        this.side3 = side3;
    }
    @Override
    public double getArea(){
        return Math.sqrt(SEMIPERIMETER*(SEMIPERIMETER-side1)*(SEMIPERIMETER-
side2)*(SEMIPERIMETER-side3));
    }
    @Override
    public double getPerimeter(){
        return side1+side2+side3;
    }
    @Override
    public String toString() {
        return super.toString()+"Triangle [side1=" + side1 + ", side2=" +
side2 + ", side3=" + side3 + "]";
    }

}
```