```java
import javafx.geometry.BoundingBox;
import java.awt.*;

public class Rectangle extends Shape {

    public Rectangle()
    {
        this(0,0,1,1);
    }

    public Rectangle(int x, int y, Color color)
    {
        this(x,y,1,1,color);
    }

    public Rectangle(int x, int y, int width, int height)
    {
        this(x,y,width,height,Color.black);
    }

    public Rectangle(int x, int y, int width, int height, Color color)
    {
        super(x,y,color);
        this.width = width;
        this.height = height;
    }

    @Override
    public BoundingBox getBoundingBox() {
        double minX = this.getX() - width/2;
        double minY = this.getY() - height/2;

        return new BoundingBox(minX, minY, width, height);
    }

    @Override
    public boolean doOverlap(Shape s2) {
        return (this.getX() == s2.getX() && this.getY() == s2.getY());
    }

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

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

    public void draw(Graphics g)
    {
        g.setColor(this.getColor());
        int[] x = new int[4];
        int[] y = new int[4];

        x[0] = this.getX() - width/2;
```

```
58          y[0] = this.getY() + height/2;
59
60          x[1] = this.getX() + width/2;
61          y[1] = this.getY() + height/2;
62
63          x[2] = this.getX() + width/2;
64          y[2] = this.getY() - height/2;
65
66          x[3] = this.getX() - width/2;
67          y[3] = this.getY() - height/2;
68
69          g.fillPolygon(x,y,4);
70      }
71
72      private int width;
73      private int height;
74
75  }
76
```