import java.awt.*;

/**
 * A Lens has a certain color and can either be turned on
 * (the color) or turned off (black).
 *
 * @version 1
 */

public class Lens extends Canvas {
    private Color onColor;    // color on
    private Color offColor = Color.black; // color off
    private Color currentColor;    // color the lens is now

    private final static int SIZE = 100;  // how big is this Lens?
    private final static int OFFSET = 20; // offset of Lens in Canvas

    /**
     * Construct a Lens to display a given color.
     *
     * The lens is black when it's turned off.
     *
     * @param color the color of the lens when it is turned on.
     */

    public Lens( Color color ) {
        this.setBackground( Color.black );
        this.onColor = color;
        this.setSize( SIZE, SIZE );
        this.turnOff();
    }

    /**
     * How this Lens paints itself.
     *
     * @param g a Graphics object to manage brush and color information.
     */

    public void paint( Graphics g ) {
        g.setColor( this.currentColor );
        g.fillOval( OFFSET, OFFSET, 
            SIZE - OFFSET*2, SIZE - OFFSET*2 );
    }

    /**
     * Have this Lens display its color.
     */

    public void turnOn() {
        this.repaint();
    }

    /**
     * Darken this lens.
     */

    public void turnOff() {
        this.repaint();
    }
}