Lab 06 Report **Completed by: Dominic Choi 30109955**

Exercise A:

BorderDecorator.java

```
package ExABpackage;
import java.awt.*;

public class BorderDecorator extends Decorator{
    public BorderDecorator (Component c, int x, int y, int width, int height) {
        super(c, x, y, width, height);
    }

    @Override
    public void draw(Graphics g) {
        this.getCmp().draw(g);
        Stroke dashed = new BasicStroke(3, BasicStroke.CAP_BUTT,
        BasicStroke.JOIN_BEVEL, 0, new float[]{9}, 0);
        Graphics2D g2d = (Graphics2D) g;
        g2d.setStroke(dashed);
        g.drawRect(this.getX(), this.getY(), this.getWidth(), this.height);
    }
}
```

ColouredFrameDecorator.java

```
package ExABpackage;

import java.awt.*;

public class ColouredFrameDecorator extends Decorator {
    private int thickness;

    public ColouredFrameDecorator(
        Component c, int x, int y, int width, int height, int thickness){

        super(c, x, y, width, height);
        this.thickness = thickness;

    }
```

```
    @Override
    public void draw(Graphics g){
        this.getCmp().draw(g);
        Graphics2D g2d = (Graphics2D)g;
        Stroke oldStroke = g2d.getStroke();
        Color oldColour = g2d.getColor();
        g2d.setStroke(new BasicStroke(this.thickness));
        g2d.setColor(Color.red);
        g2d.drawRect(this.getX(), this.getY(), this.getWidth(), this.height);
        g2d.setStroke(oldStroke);
        g2d.setColor(oldColour);

    }
}
```

Component.java

```
package ExABpackage;

import java.awt.*;

public interface Component {
    void draw(Graphics g);
}
```

Decorator.java

```
package ExABpackage;

public abstract class Decorator implements Component{
    private Component cmp;
    private int x, y, width;
    public int height;

    public Decorator(Component c, int x, int y, int width, int height) {
        this.cmp = c;
        this.x = x;
        this.y = y;
```

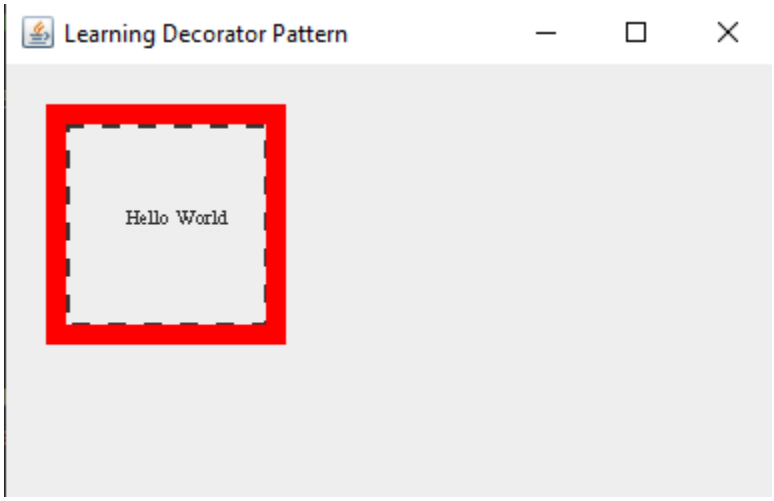
```
        this.width = width;
        this.height = height;
    }

    public Component getCmp() {
        return cmp;
    }

    // Getters
    public int getX() {
        return x;
    }

    public int getY() {
        return y;
    }

    public int getWidth() {
        return width;
    }

}
```

Text.java

```
package ExABpackage;

import java.awt.*;

public class Text implements Component{
    private int x, y;
    private String text;


    public Text(String text, int x, int y) {
        this.text = text;
        this.x = x;
        this.y = y;
```

```
    }

    public void draw(Graphics g){
        g.drawString(text, x, y);
    }
}
```

Output:



Exercise B:

ColouredGlassDecorator.java

```
package ExABpackage;

import java.awt.*;

public class ColouredGlassDecorator extends Decorator {
    public ColouredGlassDecorator(Component c, int x, int y, int width, int
height) {
        super(c, x, y, width, height);
    }

    @Override
    public void draw(Graphics g){
        this.getCmp().draw(g);
        Graphics2D g2d = (Graphics2D) g;
        g2d.setColor(Color.green);
```

```
        g2d.setComposite(AlphaComposite.getInstance(AlphaComposite.SRC_OVER, 1
*
        0.1f));
        g2d.fillRect(25, 25, 110, 110);

    }
}
```

Output: