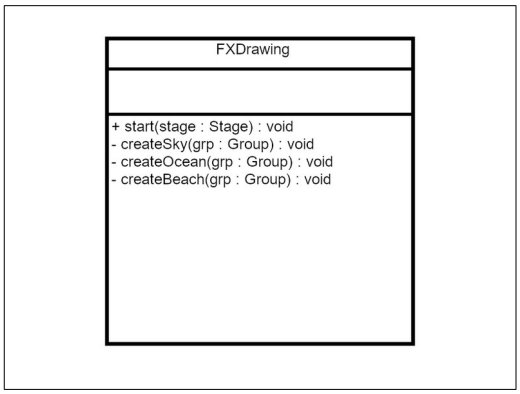
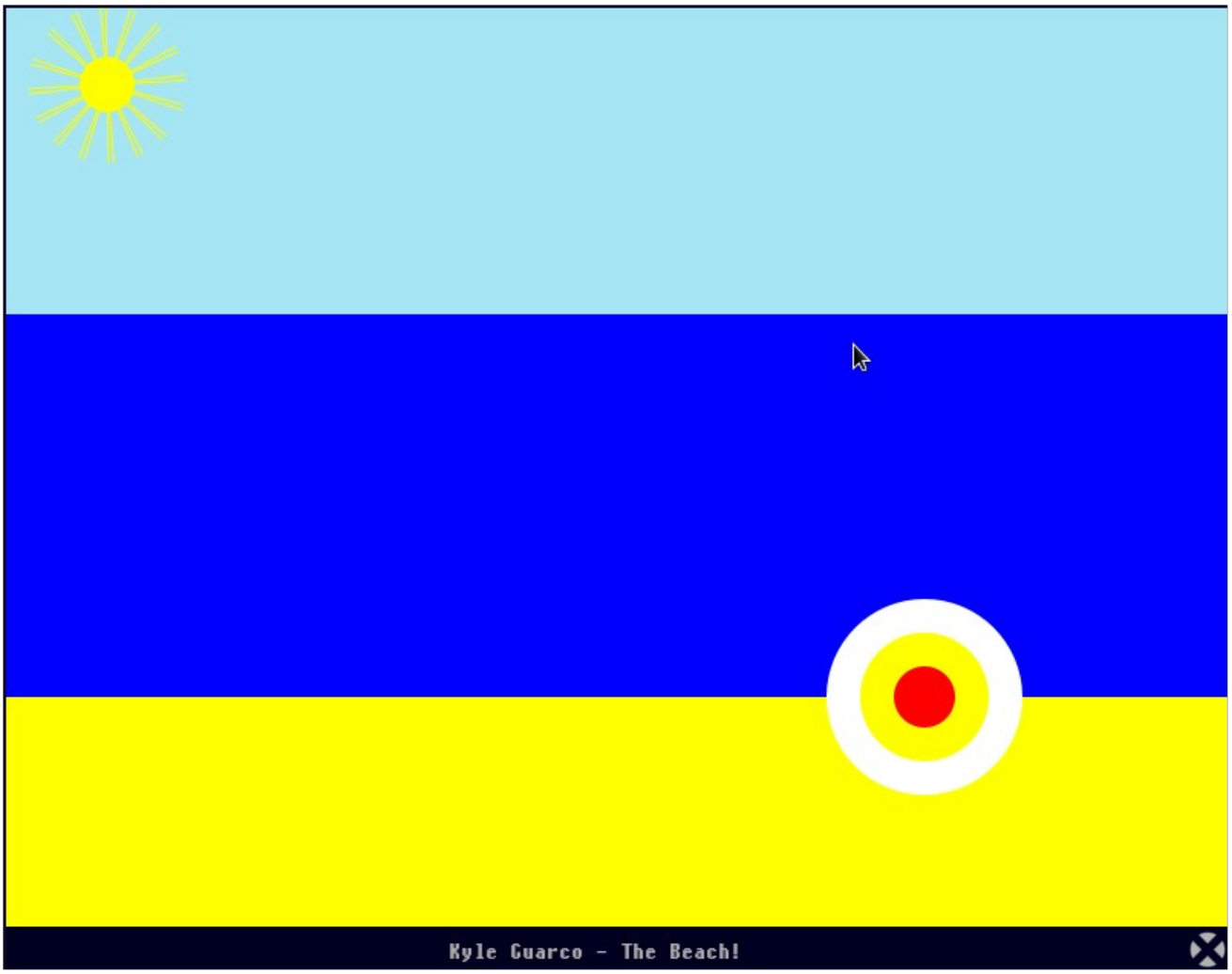
UML


FXDrawing
+ start(stage : Stage) : void
- createSky(grp : Group) : void
- createOcean(grp : Group) : void
- createBeach(grp : Group) : void

Output


Kyle Guarco - The Beach!

FXDrawing.java

```
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.scene.Group;
import javafx.scene.paint.Color;
import javafx.scene.layout.Pane;
import javafx.scene.shape.Rectangle;
import javafx.scene.shape.Circle;
import javafx.scene.shape.Line;
import javafx.stage.Stage;

/**
 * @author (Kyle Guarco)
 * @version (July 27, 2020)
 */
public class FXDrawing extends Application
{
    public static final int WIDTH = 800;
    public static final int HEIGHT = 600;

    @Override
    public void start(Stage stage)
    {
        Pane root = new Pane();
        root.setStyle("-fx-background-color: #A6E6F4;");

        Group grpOcean = new Group(),
              grpBeach = new Group(),
              grpSky = new Group();

        createSky(grpSky);
        createOcean(grpOcean);
        createBeach(grpBeach);

        root.getChildren().addAll(grpSky, grpOcean, grpBeach);

        // JavaFX must have a Scene (window content) inside a Stage (window)
        Scene scene = new Scene(root, WIDTH, HEIGHT);
        stage.setTitle("Kyle Guarco - The Beach!");
        stage.setScene(scene);

        // Show the Stage (window)
        stage.show();
    }

    private void createSky(Group grp)
```

```
{
    final int X = WIDTH / 12;
    final int Y = HEIGHT / 12;
    final int SSIZE = 36;
    final int RAY_COUNT = 16;

    Circle sun = new Circle(X, Y, SSIZE/2);
    sun.setFill(Color.YELLOW);

    grp.getChildren().add(sun);

    // Create the sun's rays (I want 12)
    Line ray;
    // Add them one by one. Store the current angle (in degrees) in 'deg'
    int deg = 0;
    for (int i = 0; i < RAY_COUNT && deg < 360; i++)
    {
        ray = new Line(X - SSIZE, Y - SSIZE, X + SSIZE, Y + SSIZE);
        ray.setStroke(Color.YELLOW);
        ray.setRotate(deg);

        grp.getChildren().add(ray);

        deg += 360 / RAY_COUNT;
    }
}

private void createOcean(Group grp)
{
    final int X = WIDTH;
    final int Y = HEIGHT / 2;

    Rectangle ocean = new Rectangle(0, Y - (Y / 3), X, Y);
    ocean.setFill(Color.BLUE);

    grp.getChildren().add(ocean);
}

private void createBeach(Group grp)
{
    final int X = WIDTH;
    final int Y = HEIGHT / 2;

    final int BALL_SIZE = 64;
    final Color[] BALL_COLORS = {Color.WHITE, Color.YELLOW, Color.RED};
```

```
        Rectangle sand = new Rectangle(0, Y + (Y / 2), X, Y / 2);
        sand.setFill(Color.YELLOW);

        grp.getChildren().add(sand);

        // Let's make a colorful ball!
        Circle ball;

        int color_idx = 0;
        for (int i = BALL_SIZE; i > 0; i-=(BALL_SIZE/BALL_COLORS.length)+1)
        {
            ball = new Circle(X - (X / 4), Y + (Y / 2), i);
            ball.setFill(BALL_COLORS[color_idx % BALL_COLORS.length]);

            grp.getChildren().add(ball);

            color_idx++;
        }
    }
}
```