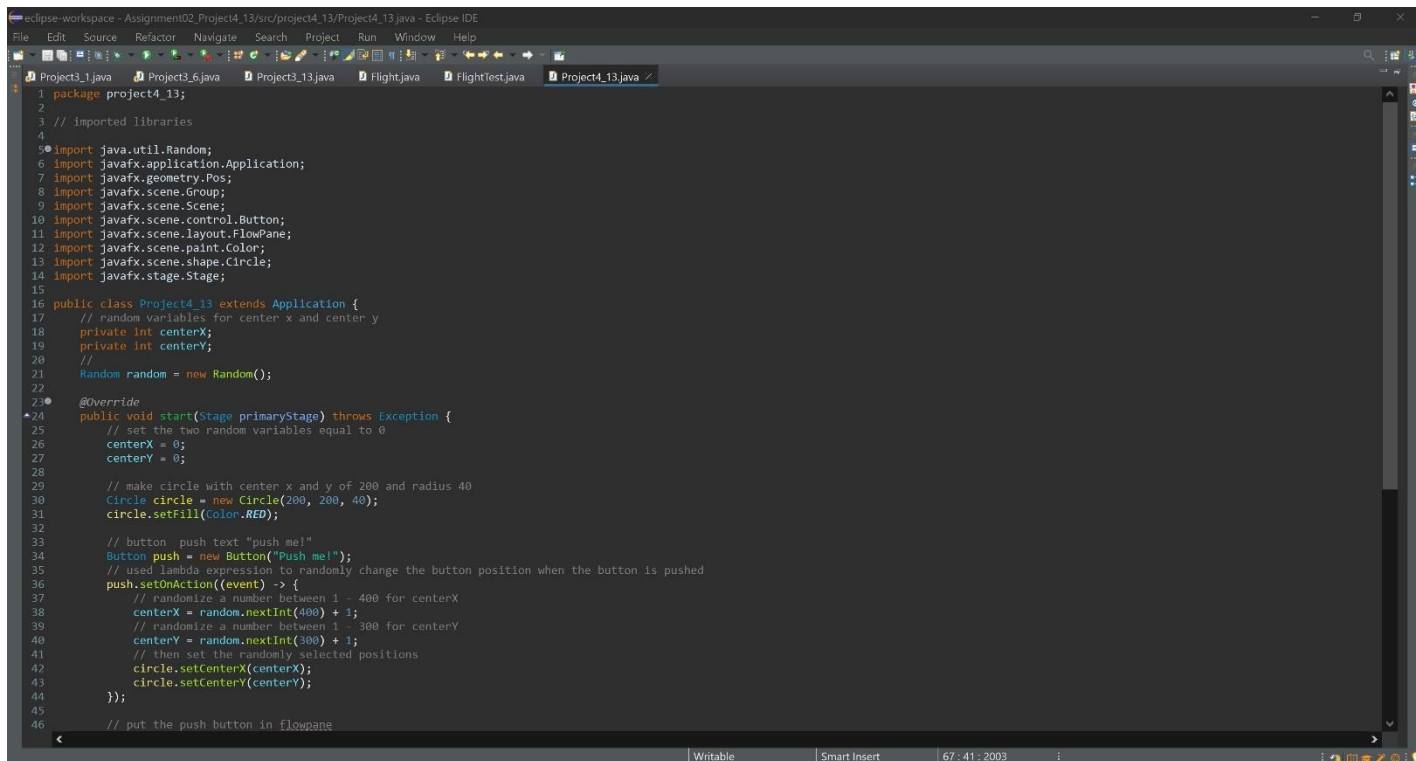


Sydney Babb

Project 4.13: Goals of the assignment was to make javafx application to have a button when the button was pressed to have the circle move to a different location in the window. Import Random library and javafx libraries. Under public class Project4_13 initialize private centerX and centerY as type int. I have Random object named random. Under start I set the centerX and centerY to 0. Then, I made the circle have center x and center y of 200 and radius 40. Then colored the circle red. For the button push object I set the text to be "push me!". I used push.setOnAction used the lambda method so when the button is pressed to to randomly change the centerX and centerY then set the new x and y for the circle. Then the FlowPane object pane to include the push (button). Aligned the pane at the center and set the background to be white. Group object root to include the circle and pane then have Scene object to include the root object and set the scene to be 450 width and 350 height. I have the primaryStage to set the scene and then primaryStage.show() to display. Under main function I launch(args) to launch the javafx application.

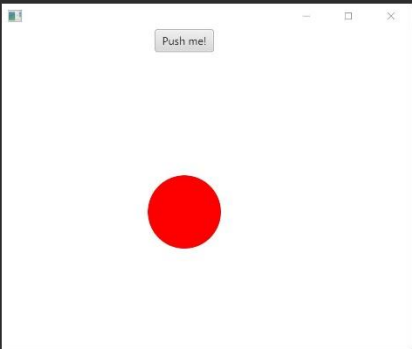


```
1 package project4_13;
2
3 // imported libraries
4
5 import java.util.Random;
6 import javafx.application.Application;
7 import javafx.geometry.Pos;
8 import javafx.scene.Group;
9 import javafx.scene.Scene;
10 import javafx.scene.control.Button;
11 import javafx.scene.layout.FlowPane;
12 import javafx.scene.paint.Color;
13 import javafx.scene.shape.Circle;
14 import javafx.stage.Stage;
15
16 public class Project4_13 extends Application {
17     // random variables for center x and center y
18     private int centerX;
19     private int centerY;
20     //
21     Random random = new Random();
22
23     @Override
24     public void start(Stage primaryStage) throws Exception {
25         // set the two random variables equal to 0
26         centerX = 0;
27         centerY = 0;
28
29         // make circle with center x and y of 200 and radius 40
30         Circle circle = new Circle(200, 200, 40);
31         circle.setFill(Color.RED);
32
33         // button push text "push me!"
34         Button push = new Button("Push me!");
35         // used lambda expression to randomly change the button position when the button is pushed
36         push.setOnAction((event) -> {
37             // Randomize a number between 1 - 400 for centerX
38             centerX = random.nextInt(400) + 1;
39             // Randomize a number between 1 - 300 for centerY
40             centerY = random.nextInt(300) + 1;
41             // then set the randomly selected positions
42             circle.setCenterX(centerX);
43             circle.setCenterY(centerY);
44         });
45
46         // put the push button in Flowpane
```

```
eclipse-workspace - Assignment02_Project4.13/src/project4.13/Project4.13.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project3.1.java Project3.6.java Project3.13.java Flight.java FlightTest.java Project4.13.java
28
29 // make circle with center x and y of 200 and radius 40
30 Circle circle = new Circle(200, 200, 40);
31 circle.setFill(Color.RED);
32
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34 Button push = new Button("Push me!");
35 // used lambda expression to randomly change the button position when the button is pushed
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40     centerY = random.nextInt(300) + 1;
41     // then set the randomly selected positions
42     circle.setCenterX(centerX);
43     circle.setCenterY(centerY);
44 });
45
46 // put the push button in Flowpane
47 FlowPane pane = new FlowPane(push);
48 // center the position
49 pane.setAlignment(Pos.CENTER);
50 // make the background white
51 pane.setStyle("-fx-background-color: white");
52
53 // put the circle in the group root first then the pane
54 Group root = new Group(circle, pane);
55
56 // add the root to the scene set the width 400 and height 300
57 Scene scene = new Scene(root, 400, 300);
58
59 // set the scene in primaryStage
60 primaryStage.setScene(scene);
61 // then show the stage
62 primaryStage.show();
63
64 }
65
66 public static void main(String[] args) {
67     // launch the javafx application
68     launch(args);
69 }
70
71 }
72
73
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```

```
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File Edit Source Refactor Navigate Search Project Run Window Help
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2
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4
5 import java.util.Random;
6 import javafx.application.Application;
7 import javafx.geometry.Pos;
8 import javafx.scene.Group;
9 import javafx.scene.Scene;
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42             circle.setCenterX(centerX);
43             circle.setCenterY(centerY);
44         });
45
46         // put the push button in Flowpane

```



```

47     }
48 }
49
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```

