OOPL

Week 8

Udeet Mittal

CSE C3

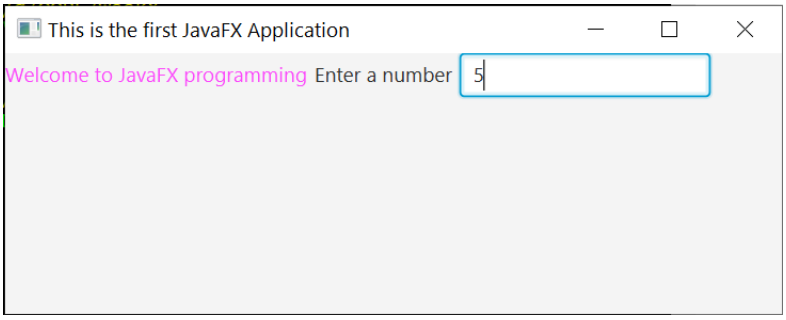
Roll Number 64

1.

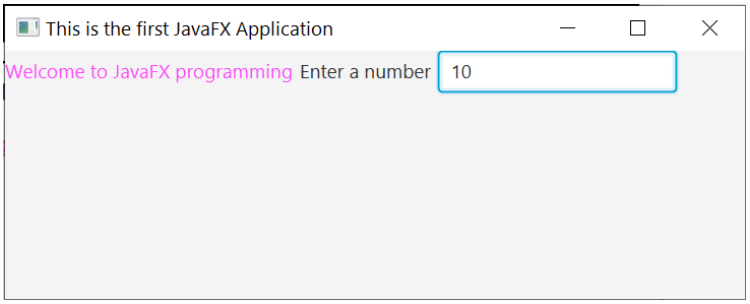
```
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.scene.Scene;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.layout.FlowPane;
import javafx.scene.paint.Color;
import javafx.stage.Stage;

public class q1 extends Application {
    int b1Data;

    public void start(Stage s) throws Exception {
        s.setTitle("This is the first JavaFX Application");
        s.setWidth(500);
        s.setHeight(200);
        Label b = new Label("Welcome to JavaFX programming");
        b.setTextFill(Color.web("#ff00ff", 0.8));
        TextField b1 = new TextField("Enter a number");
```

```
        b1.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                b1Data = Integer.parseInt(b1.getText());
                for (int i = 1; i < 11; i++) {
                    System.out.println(String.format("%d x %d = %d", b1Data, i, b1Data *
i));
                }
            }
        });
        Label b3 = new Label("Enter a number");

        b3.setLabelFor(b1);

        FlowPane r = new FlowPane();
        r.setVgap(8);
        r.setHgap(4);
        r.getChildren().add(b);
        r.getChildren().add(b3);
        r.getChildren().add(b1);
        Scene sc = new Scene(r, 200, 200);
        s.setScene(sc);
        s.show();
    }

    public static void main(String args[]) {
        launch(args);
    }
}
```

```
MINGW64:/d/OOPL/week8

Udeet@udeetHP MINGW64 /d/OOPL/week8
$ javac --module-path "D:\javafx-sdk-17.0.1\lib" --add-modules javafx.control
s,javafx.fxml q1.java

Udeet@udeetHP MINGW64 /d/OOPL/week8
$ java --module-path "D:\javafx-sdk-17.0.1\lib" --add-modules javafx.controls
 q1
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```




```
MINGW64:/d/OOPL/week8
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
10 x 1 = 10
10 x 2 = 20
10 x 3 = 30
10 x 4 = 40
10 x 5 = 50
10 x 6 = 60
10 x 7 = 70
10 x 8 = 80
10 x 9 = 90
10 x 10 = 100

Udeet@udeetHP MINGW64 /d/OOPL/week8
$
```



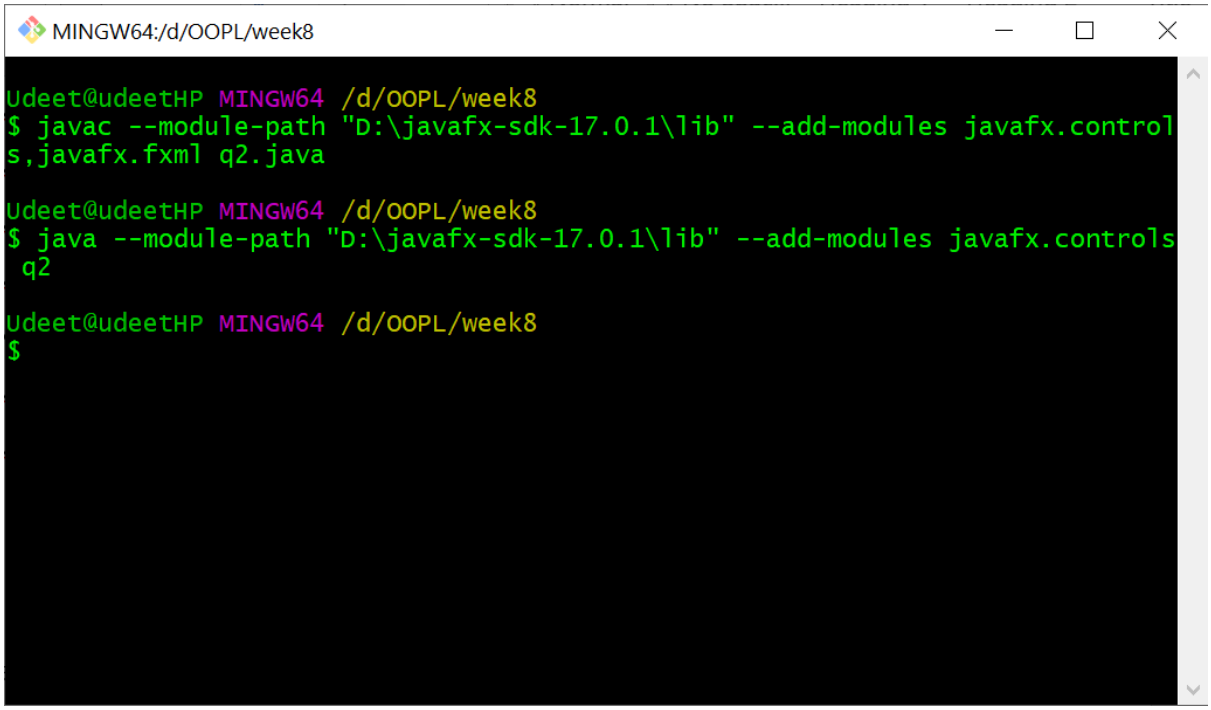
2.

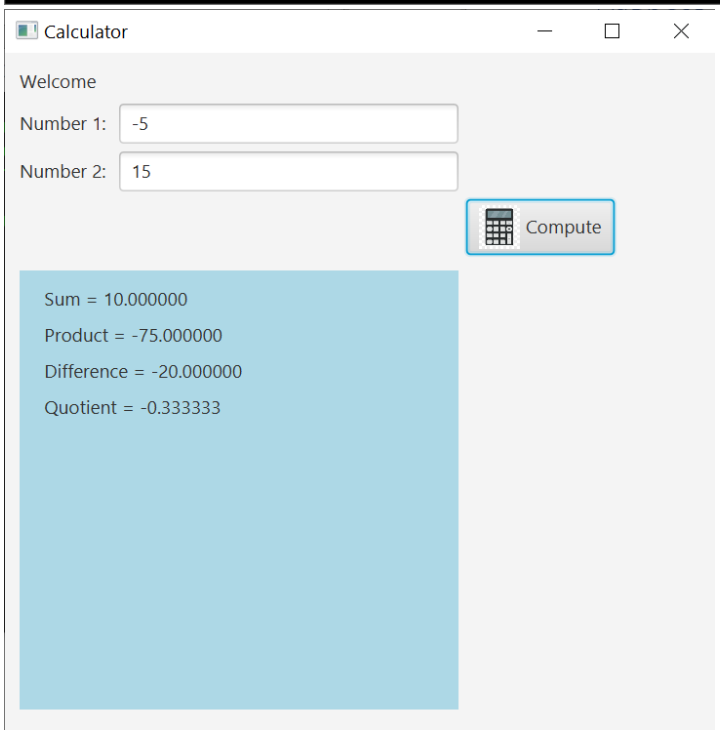
```
import java.io.FileInputStream;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.canvas.Canvas;
import javafx.scene.canvas.GraphicsContext;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.StackPane;
import javafx.scene.paint.Color;
import javafx.stage.Stage;

public class q2 extends Application {
    float num1, num2;
```

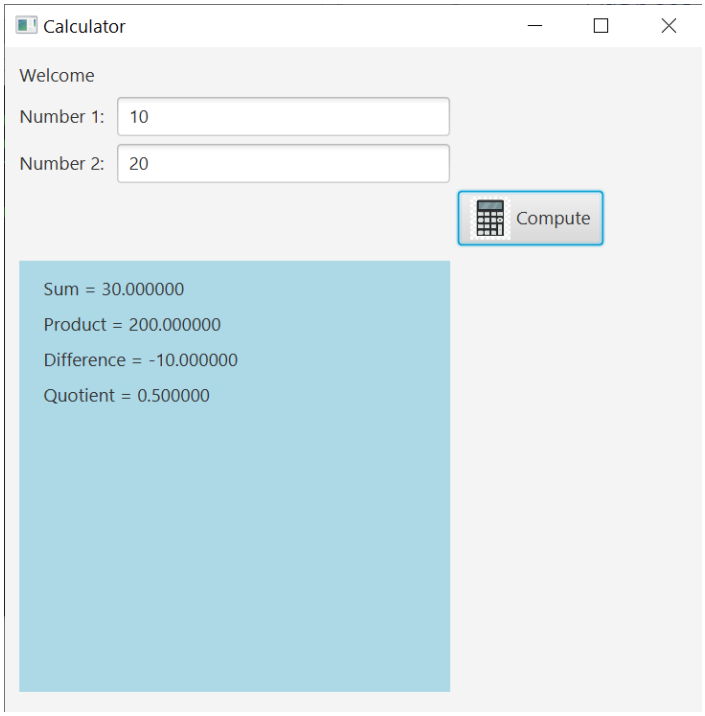
```
public void start(Stage s) throws Exception {
    s.setTitle("Calculator");
    s.setWidth(500);
    s.setHeight(500);
    FileInputStream input = new FileInputStream("./calculator.jpg");
    Image image = new Image(input);
    ImageView img = new ImageView(image);
    img.setPreserveRatio(true);
    img.setFitHeight(30);
    Label b = new Label("Welcome");
    TextField tfnum1 = new TextField("");
    Label lbnum1 = new Label("Number 1: ");
    lbnum1.setLabelFor(tfnum1);
    TextField tfnum2 = new TextField("");
    Label lbnum2 = new Label("Number 2: ");
    lbnum2.setLabelFor(tfnum2);
    Label sum = new Label();
    Label product = new Label();
    Label difference = new Label();
    Label quotient = new Label();
    sum.setVisible(false);
    product.setVisible(false);
    difference.setVisible(false);
    quotient.setVisible(false);
    Button btn = new Button("Compute");
    btn.setGraphic(img);
    btn.setOnAction(new EventHandler<ActionEvent>() {
```

```
    @Override
    public void handle(ActionEvent arg0) {
        try {
            num1 = Float.parseFloat(tfnum1.getText());
            num2 = Float.parseFloat(tfnum2.getText());
            sum.setText(String.format("  Sum = %f", num1 + num2));
            product.setText(String.format("  Product = %f", num1 * num2));
            difference.setText(String.format("  Difference = %f", num1 - num2));
            quotient.setText(String.format("  Quotient = %f", num1 / num2));
            sum.setVisible(true);
            product.setVisible(true);
            difference.setVisible(true);
            quotient.setVisible(true);
        } catch (java.lang.NumberFormatException ex) {
            System.out.println("NumberFormatException");
        }

    }
});
Canvas can = new Canvas(300.0f, 300.0f);
GraphicsContext gc = can.getGraphicsContext2D();
gc.setFill(Color.LIGHTBLUE);
gc.fillRect(0, 0, 300, 300);
GridPane l = new GridPane();
l.setPadding(new Insets(10, 10, 10, 10));
l.setVgap(5);
l.setHgap(5);
l.setAlignment(Pos.BASELINE_LEFT);
l.add(sum, 0, 0);
```

```
        l.add(product, 0, 1);
        l.add(difference, 0, 2);
        l.add(quotient, 0, 3);
        StackPane n = new StackPane();
        n.getChildren().addAll(can, l);
        GridPane r = new GridPane();
        r.setMinSize(500, 200);
        r.setPadding(new Insets(10, 10, 10, 10));
        r.setVgap(5);
        r.setHgap(5);
        r.setAlignment(Pos.BASELINE_LEFT);
        r.add(b, 0, 0);
        r.add(lbnum1, 0, 1);
        r.add(tfnum1, 1, 1);
        r.add(lbnum2, 0, 2);
        r.add(tfnum2, 1, 2);
        r.add(btn, 2, 3);
        r.add(n, 0, 5, 2, 5);
        Scene sc = new Scene(r, 200, 200);
        s.setScene(sc);
        s.show();
    }

    public static void main(String args[]) {
        launch(args);
    }
}
```


MINGW64:/d/OOPL/week8
Udeet@udeetHP MINGW64 /d/OOPL/week8
$ javac --module-path "D:\javafx-sdk-17.0.1\lib" --add-modules javafx.controls,javafx.fxml q2.java
Udeet@udeetHP MINGW64 /d/OOPL/week8
$ java --module-path "D:\javafx-sdk-17.0.1\lib" --add-modules javafx.controls q2
Udeet@udeetHP MINGW64 /d/OOPL/week8
$

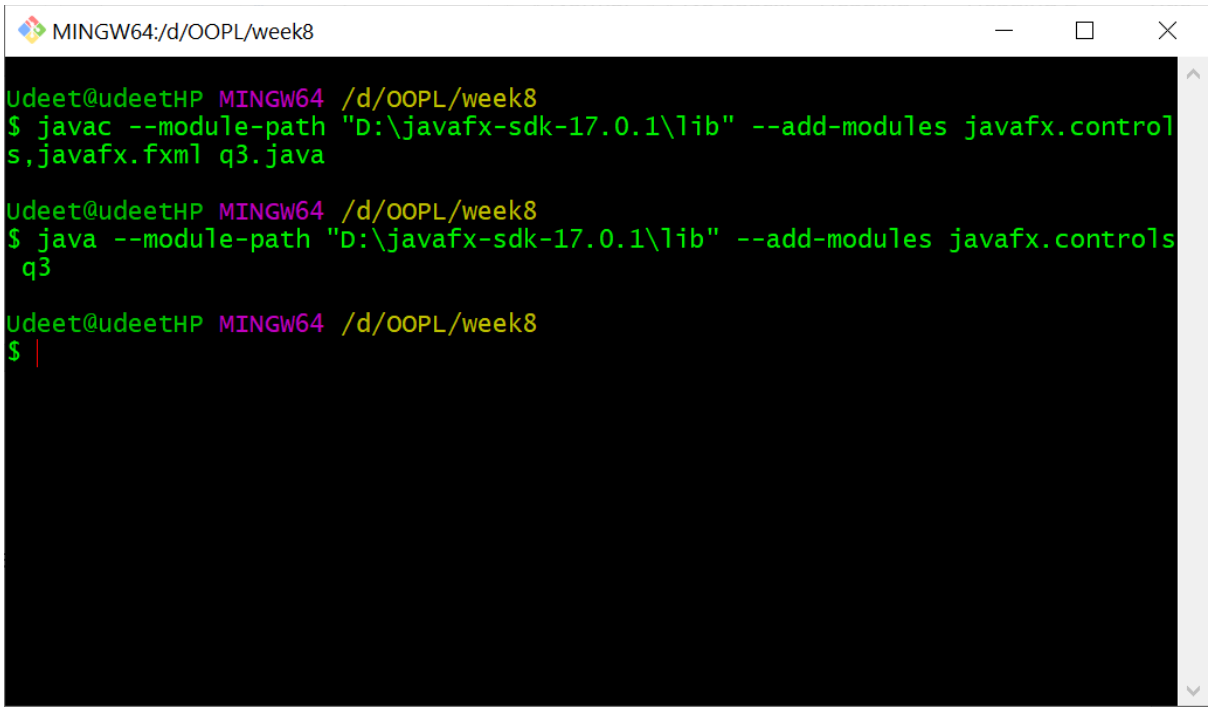
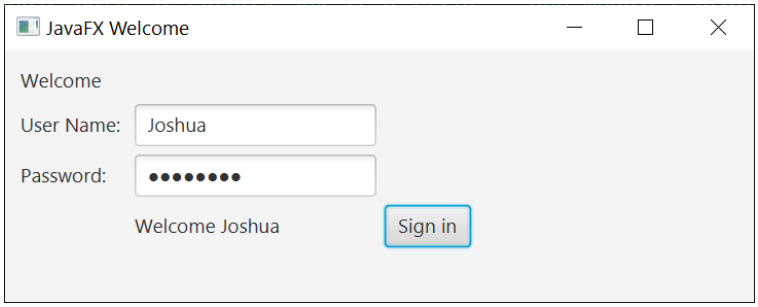

Calculator
Welcome
Number 1: -5
Number 2: 15
Compute
Sum = 10.000000
Product = -75.000000
Difference = -20.000000
Quotient = -0.333333



3.

```
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.PasswordField;
import javafx.scene.control.TextField;
import javafx.scene.layout.GridPane;
import javafx.stage.Stage;

public class q3 extends Application {
```

```
String username;
String password;

public void start(Stage s) throws Exception {
    s.setTitle("JavaFX Welcome");
    s.setWidth(500);
    s.setHeight(200);
    Label b = new Label("Welcome");
    TextField tfUsername = new TextField("");
    Label lbUsername = new Label("User Name: ");
    lbUsername.setLabelFor(tfUsername);
    tfUsername.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            username = tfUsername.getText();
        }
    });
    PasswordField tfPassword = new PasswordField();
    Label lbPassword = new Label("Password: ");
    lbPassword.setLabelFor(tfPassword);
    tfPassword.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            password = tfPassword.getText();
        }
    });
    Label welcome = new Label("Welcome");
    welcome.setVisible(false);
    Button btn = new Button("Sign in");
```

```
    btn.setOnAction(new EventHandler<ActionEvent>() {

        @Override
        public void handle(ActionEvent arg0) {
            username = tfUsername.getText();
            password = tfPassword.getText();
            welcome.setText("Welcome " + username);
            welcome.setVisible(true);
        }
    });
    GridPane r = new GridPane();
    r.setMinSize(500, 200);
    r.setPadding(new Insets(10, 10, 10, 10));
    r.setVgap(5);
    r.setHgap(5);
    r.setAlignment(Pos.BASELINE_LEFT);
    r.add(b, 0, 0);
    r.add(lbUsername, 0, 1);
    r.add(tfUsername, 1, 1);
    r.add(lbPassword, 0, 2);
    r.add(tfPassword, 1, 2);
    r.add(welcome, 1, 3);
    r.add(btn, 2, 3);
    Scene sc = new Scene(r, 200, 200);
    s.setScene(sc);

    s.show();
}
```

```
    public static void main(String args[]) {
        launch(args);
    }
}
```