SESSION 4 LAB 11 , 12 :

1.Write a JavaFX application program to do the following:

a. Display the message "Welcome to JavaFX programming" using Label in the Scene.
b. Set the text color of the Label to Magenta.
c. Set the title of the Stage to "This is the first JavaFX Application".
d. Set the width and height of the Scene to 500 and 200 respectively.
e. Use FlowPane layout and set the hgap and vgap of the FlowPane to desired values.

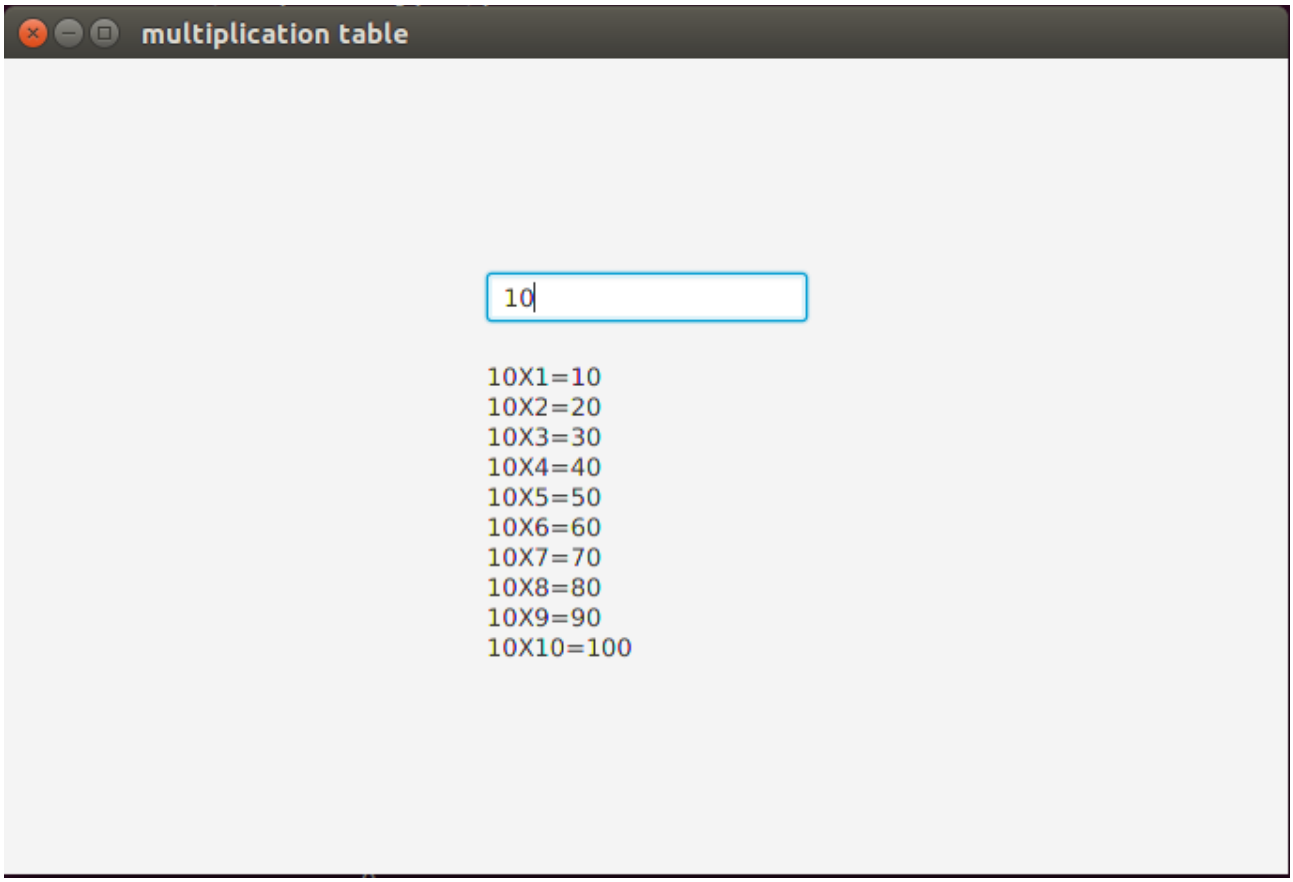
The program will accept an integer from the user in a text field and display the multiplication table (up to number *10) for that number.

pgm1.java

```
import java.util.*;
import javafx.application.*;
import javafx.scene.control.*;
import javafx.scene.paint.Color;
import javafx.geometry.*;
import javafx.stage.Stage;
import javafx.scene.Scene;
import javafx.scene.layout.*;
import javafx.event.*;



public class pgm2 extends Application{
public void start(Stage VarStage){
VarStage.setTitle("\n\t\t\t\tmultiplication table");
      FlowPane rNode= new FlowPane(Orientation.VERTICAL,5,5);
      rNode.setAlignment( Pos.CENTER );
      Label response=new Label();
      response.setText("\n\t\t\t\tEnter a Number:");
      Scene myScene = new Scene( rNode, 300, 200 );
      TextField t= new TextField();
      t.setPromptText("\n\t\t\t\tEnter multipli");
      t.setOnAction(new EventHandler<ActionEvent>(){
        public void handle(ActionEvent ae){
          final String resp=Multiply.calc(Integer.parseInt(t.getText()));
          response.setText(resp);
        }
      });
      rNode.getChildren().addAll(t,response);
VarStage.setScene( myScene);
      VarStage.show();
}
public static void main(String args[]){
   launch(args);
   }
}



class Multiply
{
   int a;
   static String calc(int a)
```

```
    {
    String s=new String();
    for(int i=1;i<11;i++)
    {
    s=s+"\n";
    s=s+ a +"X" +i + "="+ a*i;
    }
    return s;
    }
}
```

OUTPUT :



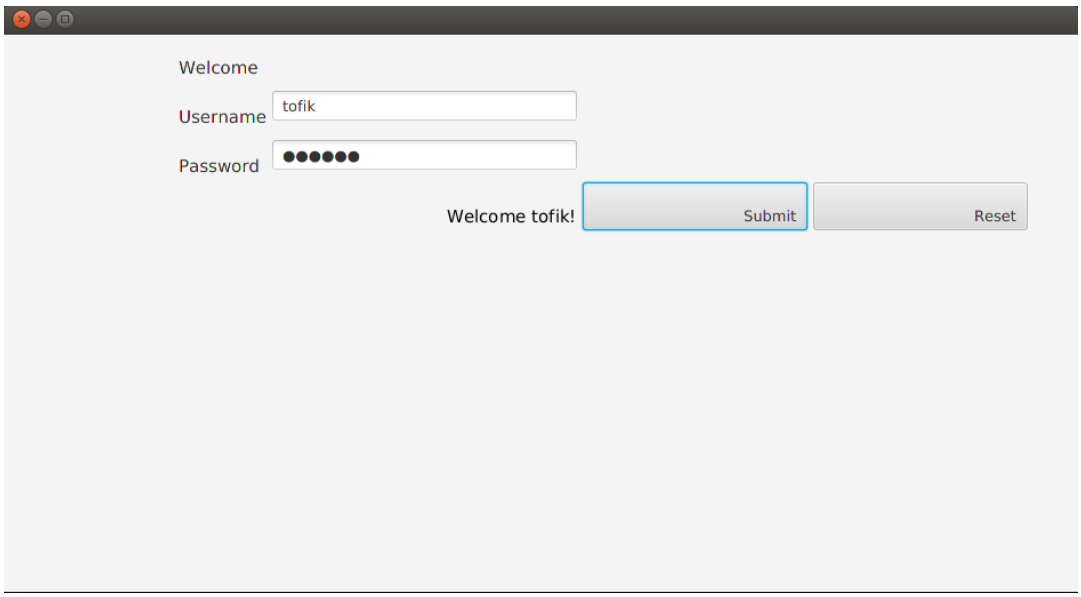
2.Write a JavaFX program to display a window as shown below. Use TextField for UserName and PasswordField for Password input. On click of “Sign in” Button the message “Welcome UserName” should be displayed in a Text Control. Use GridPane layout for the application.

pgm2.java

```
import javafx.application.Application;
import javafx.stage.Stage;
import javafx.scene.*;
import javafx.scene.layout.*;
import javafx.scene.control.*;
import javafx.scene.text.*;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;

public class pgm1 extends Application {
   public static void main(String[] args) {
      launch(args);
   }
```

```
    public void init() {
        System.out.println("\n\t\t\t\tStarting application...");
    }

    @Override
    public void start(Stage mainStage) {
        mainStage.setTitle("\n\t\t\t\tJavaFx Login Page");
        GridPane grid = new GridPane();
        Label l1 = new Label("\n\t\t\t\tWelcome");
        Label l2 = new Label("\n\t\t\t\tUsername");
        Label l3 = new Label("\n\t\t\t\tPassword");
        Text t1 = new Text();
        l1.setFont(new Font(15));
        l2.setFont(new Font(15));
        l3.setFont(new Font(15));
        t1.setFont(new Font(15));
        TextField tf = new TextField();
        tf.setText("");
        PasswordField pf = new PasswordField();
        Button b1 = new Button("\n\t\t\t\tSubmit");
        Button b2 = new Button("\n\t\t\t\tReset");
        grid.addRow(0, l1);
        grid.addRow(1, l2, tf);
        grid.addRow(2, l3, pf);
        grid.add(b1, 2, 3);
        grid.add(b2, 3, 3);
        grid.add(t1, 1, 3);
        grid.setVgap(5);
        grid.setHgap(5);
        b1.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent arg0) {
                String s = tf.getText();
                if (s.length() != 0)
                    t1.setText("\n\t\t\t\tWelcome " + s + "!");
            }
        });
        b2.setOnAction(act ->
        {
            tf.setText("");
            pf.setText("");
            t1.setText("");

        });
        Scene s1 = new Scene(grid, 500, 400);
        mainStage.setScene(s1);
        mainStage.show();
    }

    public void stop() {
        System.out.println("\n\t\t\t\tStopping application...");
    }

}
```

OUTPUT :




```
Student@dblab-hp-25: ~/190905514/lab8
Student@dblab-hp-25:~/190905514/lab8$ javac pgm1.java
Student@dblab-hp-25:~/190905514/lab8$ java pgm1

                              Starting application...

                              Stopping application...
Student@dblab-hp-25:~/190905514/lab8$
```

3.Write a JavaFX application program that obtains two floating point numbers in two text fields from the user and displays the sum, product, difference and quotient of these numbers using Canvas on clicking compute button with a calculator image placed on it.

pgm3.java

```
import javafx.scene.*;
import javafx.stage.*;
import javafx.scene.layout.*;
import javafx.scene.control.*;
import javafx.event.*;
import javafx.geometry.*;
import javafx.scene.paint.*;
import javafx.scene.canvas.*;
import javafx.application.Application;
import javafx.scene.image.*;
public class pgm3 extends Application {
TextField tf1, tf2;
Button btn;
GraphicsContext gc;
public static void main(String[] args) {
launch(args);
}
public void start(Stage myStage) {
myStage.setTitle("JavaFX Application");
GridPane rootnode = new GridPane();
rootnode.setMinSize(300,300);
rootnode.setVgap(5);
rootnode.setHgap(5);
rootnode.setAlignment(Pos.CENTER);
```

```
Scene myScene = new Scene(rootnode);
myStage.setScene(myScene);
final Canvas canvas = new Canvas(500,200);
gc = canvas.getGraphicsContext2D();
tf1=new TextField();
tf2=new TextField();
tf1.setPromptText("Enter First number");
tf2.setPromptText("Enter Second number");
Button btn = new Button("Compute",new ImageView("index.jpeg"));
btn.setContentDisplay(ContentDisplay.TOP);
rootnode.add(tf1,0,0);
rootnode.add(tf2,0,1);
rootnode.add(btn,0,2);
rootnode.add(canvas,0,3);
btn.setOnAction(new EventHandler<ActionEvent>() {
public void handle(ActionEvent ae) {
double a,b;
a=Double.parseDouble(tf1.getText());
b=Double.parseDouble(tf2.getText());
gc.setFill(Color.WHITE);
gc.fillRect(0,0,300,500);
gc.strokeText("SUM :"+ (a+b),25,60);
gc.strokeText("DIFFERENCE :"+ (a-b),25,80);
gc.strokeText("PRODUCT :"+ (a*b),25,100);
gc.strokeText("QUOTIENT :"+ (a/b),25,120);
}
});
myStage.show();
}
}
```

OUTPUT :