INDEX

WEEK1

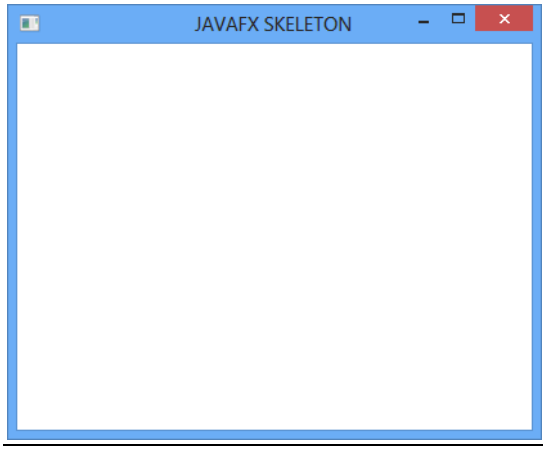
WEEK1a

Create Simple JavaFx appliication skeleton.

Program:

```
import javafx.application.*;
import javafx.scene.*;
import javafx.stage.*;
import javafx.scene.layout.*;
public class WEEK1a extends Application
{
    public void init()
    {
        System.out.println("init() method called");
    }
    public void start(Stage ps)
    {
        System.out.println("start() method called");
        FlowPane fp=new FlowPane();
        Scene s=new Scene(fp, 400, 300);
        ps.setScene(s);
        ps.setTitle("JAVAFX SKELETON");
        ps.show();
    }
    public void stop()
    {
        System.out.println("stop() method called");
    }
    public static void main(String[] args)
    {
        System.out.println("Launching JAVAFX application");
        launch(args);
    }
}
```

OUTPUT:



WEEK1b:

Demonstrate a JavaFX label.

Program:

```
import javafx.application.*;
import static javafx.application.Application.launch;
import javafx.scene.*;
import javafx.stage.*;
import javafx.scene.layout.*;
import javafx.scene.control.*;
public class WEEK1b extends Application
{
    public void start(Stage ps)
    {
        System.out.println("start() method called");
        Label l=new Label("JAVAFX LABEL DEMO");
        StackPane sp=new StackPane();
        sp.getChildren().add(l);
        Scene s=new Scene(sp, 400, 300);
        ps.setScene(s);
        ps.setTitle("JAVAFX LABEL");
        ps.show();
    }
    public static void main(String[] args)
    {
        System.out.println("Launching JAVAFX application");
        launch(args);
    }
}
```

OUTPUT:

WEEK1c:

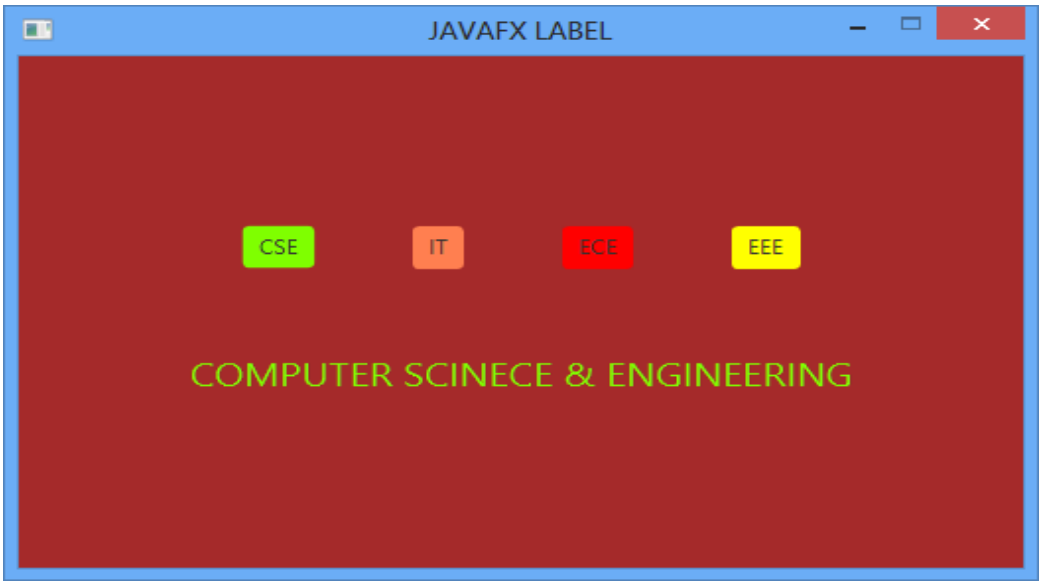
Demonstrate JavaFX events and buttons

Program:

```
import javafx.application.*;
import static javafx.application.Application.launch;
import javafx.geometry.Pos;
import javafx.scene.*;
import javafx.stage.*;
import javafx.scene.layout.*;
import javafx.scene.control.*;
import javafx.event.*;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
public class WEEK1c extends Application
{
   public void start(Stage ps)
   {
      System.out.println("start() method called");
      Label l=new Label("<======JAVAFX BUTTON DEMO=======>");
      l.setTextFill(Color.BISQUE);
      Button btn1=new Button("CSE");
      Button btn2=new Button("IT");
      Button btn3=new Button("ECE");
      Button btn4=new Button("EEE");
      btn1.setStyle("-fx-background-color:CHARTREUSE");
      btn2.setStyle("-fx-background-color:coral");
      btn3.setStyle("-fx-background-color:red");
      btn4.setStyle("-fx-background-color:yellow");
      FlowPane fp=new FlowPane();
      fp.setHgap(50);
      fp.setVgap(50);
      fp.setAlignment(Pos.CENTER);
      fp.setMaxSize(500,300);
      fp.setBackground(Background.EMPTY);
      fp.getChildren().addAll(btn1,btn2,btn3,btn4,l);
      Scene s=new Scene(fp,500,300,Color.BROWN);
      ps.setScene(s);
      ps.setTitle("JAVAFX LABEL");
      ps.setResizable(false);
      ps.show();

      btn1.setOnAction(new EventHandler<ActionEvent>()
      {
         public void handle(ActionEvent ae)
         {
```

```
            l.setText("COMPUTER SCINECE & ENGINEERING");
            l.setFont(Font.font("Bookmanoldstyle", 20));
            l.setWrapText(true);
            l.setTextFill(Color.CHARTREUSE);
            }
        });

        btn2.setOnAction(new EventHandler<ActionEvent>()
        {
            public void handle(ActionEvent ae)
            {
            l.setText("INFORMATION TECHNOLOGY");
             //Sl.setFont(20);
            l.setTextFill(Color.CORAL);
            }
        });

        btn3.setOnAction(new EventHandler<ActionEvent>()
        {
            public void handle(ActionEvent ae)
            {
            l.setText("ELECTRONICS AND COMMUNICATION ENGINEERING");
            l.setTextFill(Color.RED);
            }
        });

        btn4.setOnAction(new EventHandler<ActionEvent>()
        {
            public void handle(ActionEvent ae)
            {
            l.setText("ELECTRICAL AND ELECTRONICS ENGINEERING");
            l.setTextFill(Color.YELLOW);
            }
        });

    }
    public static void main(String[] args)
    {
        System.out.println("Launching JAVAFX application");
        launch(args);
    }

}
```

OUTPUT:



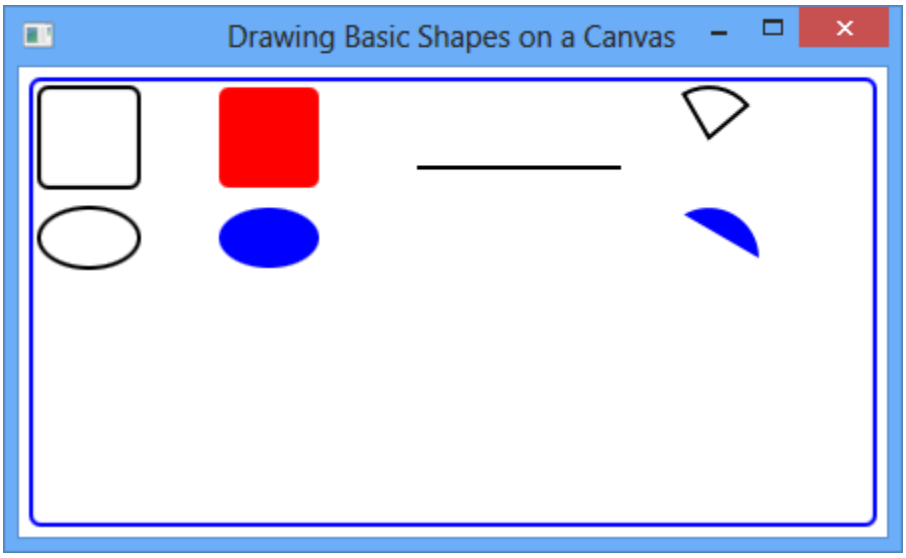
WEEK1d:

Demonstrate drawing on canvas

Program:

```
import javafx.application.*;
import javafx.scene.*;
import javafx.scene.canvas.Canvas;
import javafx.scene.canvas.GraphicsContext;
import javafx.scene.layout.*;
import javafx.scene.paint.Color;
import javafx.scene.shape.ArcType;
import javafx.stage.*;
 public class WEEK1d extends Application
{
    public void start(Stage ps)
    {
        System.out.println("start() method called");
        Canvas canvas = new Canvas(400, 200);
        GraphicsContext gc = canvas.getGraphicsContext2D();
        gc.setLineWidth(2.0);
        gc.setFill(Color.RED);
        gc.strokeRoundRect(10, 10, 50, 50, 10, 10);
        gc.fillRoundRect(100, 10, 50, 50, 10, 10);
        gc.setFill(Color.BLUE);
        gc.strokeOval(10, 70, 50, 30);
        gc.fillOval(100, 70, 50, 30);
        gc.strokeLine(200, 50, 300, 50);
        gc.strokeArc(320, 10, 50, 50, 40, 80, ArcType.ROUND);
        gc.fillArc(320, 70, 50, 50, 00, 120, ArcType.OPEN);
        Pane root = new Pane();
        root.setStyle("-fx-padding: 10;" +  "-fx-border-style: solid inside;" +
                "-fx-border-width: 2;" +    "-fx-border-insets: 5;" +
                "-fx-border-radius: 5;" +     "-fx-border-color: blue;");
        root.getChildren().add(canvas);
        Scene scene = new Scene(root);
        ps.setScene(scene);
        ps.setTitle("Drawing Basic Shapes on a Canvas");
        ps.show();
    }
     public static void main(String[] args)
    {
        System.out.println("Launching JAVAFX application");
        Application.launch(args);
    }
}
```

OUTPUT:



WEEK2

WEEK2A:

Load and display an image. Demonstrate an image in a label. Use an image with a button.

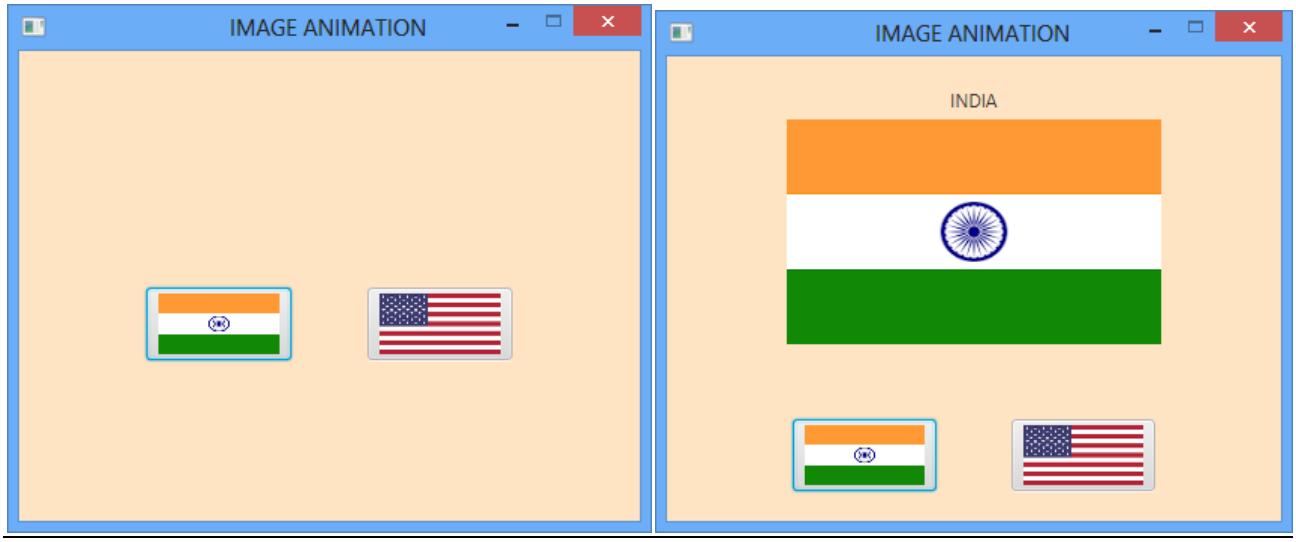
Program:

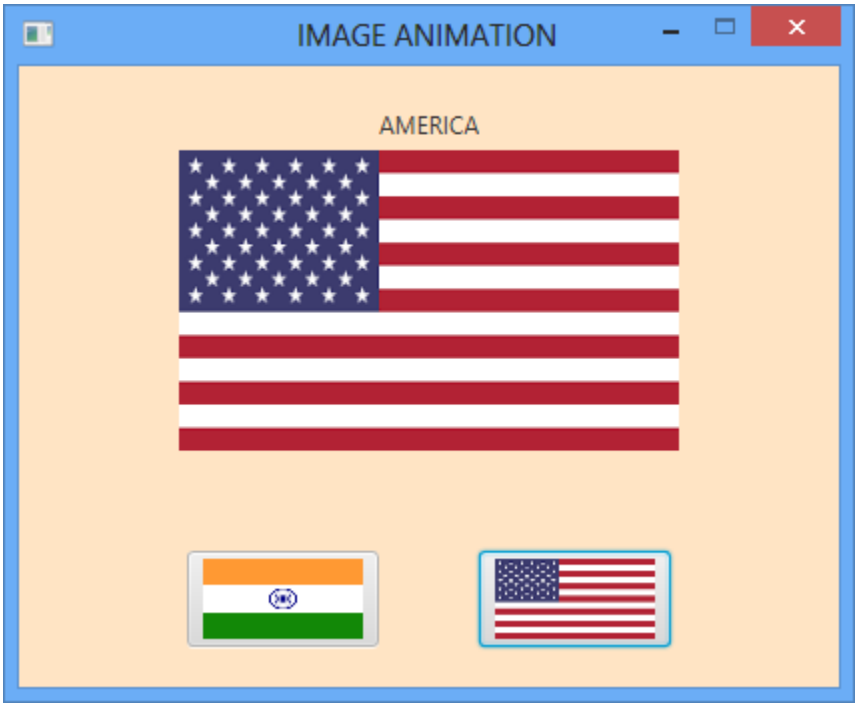
```
package week2;
import java.io.FileInputStream;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.HPos;
import javafx.geometry.Pos;
import javafx.geometry.VPos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ContentDisplay;
import javafx.scene.control.Label;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.*;
import javafx.scene.layout.StackPane;
import javafx.scene.paint.Color;
import javafx.stage.Stage;
import javafx.stage.StageStyle;
public class WEEK2a extends Application {

    @Override
    public void start(Stage primaryStage)throws Exception {
        //FileInputStream input1 = new FileInputStream("F:/JAVAFX/india.png");
       // FileInputStream input2 = new FileInputStream("F:/JAVAFX/America.png");
        Image img1=new Image(getClass().getResourceAsStream("india.png"));
        Image img2=new Image(getClass().getResourceAsStream("America.png"));
        ImageView im1=new ImageView(img1);
        ImageView im2=new ImageView(img2);
        im1.setFitWidth(250);
        im1.setFitHeight(150);
        im2.setFitWidth(250);
        im2.setFitHeight(150);
        Image img3=new Image(getClass().getResourceAsStream("india.png"));
        Image img4=new Image(getClass().getResourceAsStream("America.png"));
        ImageView im3=new ImageView(img1);
        ImageView im4=new ImageView(img2);
        im3.setFitWidth(80);
        im3.setFitHeight(40);
        im4.setFitWidth(80);
```

```
 im4.setFitHeight(40);
 Label l1=new Label("INDIA",im1);
 Label l2=new Label("AMERICA",im2);
 l1.setContentDisplay(ContentDisplay.BOTTOM);
 l2.setContentDisplay(ContentDisplay.BOTTOM);
 Button btn1 = new Button("INDIA",im3);
 Button btn2 = new Button("AMERICA",im4);
 btn1.setContentDisplay(ContentDisplay.GRAPHIC_ONLY);
 btn2.setContentDisplay(ContentDisplay.GRAPHIC_ONLY);
 btn1.setPrefSize(80,40);
 btn2.setPrefSize(80,40);
 FlowPane fp=new FlowPane();
 fp.getChildren().addAll(btn1,btn2);
 fp.setHgap(50);
 fp.setVgap(50);
 fp.setAlignment(Pos.CENTER);
 GridPane gp=new GridPane();
 gp.setBackground(Background.EMPTY);
 gp.setAlignment(Pos.CENTER);
 gp.setVgap(50);
 gp.add(fp,0,1);
 //gp.setGridLinesVisible(true);

btn1.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
        System.out.println(event.getSource());
          gp.getChildren().removeAll(l1,l2);
          gp.add(l1,0,0);
          GridPane.setHalignment(l1, HPos.CENTER);
    }
 });
btn2.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
         System.out.println(event.getSource());
        gp.getChildren().removeAll(l1,l2);
         gp.add(l2,0,0);
         GridPane.setHalignment(l2, HPos.CENTER);
    }
 });

 Scene scene = new Scene(gp,400,300,Color.BISQUE);
 primaryStage.setTitle("IMAGE ANIMATION");
```

```
        primaryStage.setScene(scene);
        primaryStage.setResizable(false);
        primaryStage.initStyle(StageStyle.UNDECORATED);
        primaryStage.show();
    }
    public static void main(String[] args) {
        launch(args);
    }

}
```

OUTPUT:





WEEK2B:

Demonstrate a toggle button.

Program:

```
package week2;
import javafx.application.Application;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.Toggle;
import javafx.scene.control.ToggleButton;
import javafx.scene.control.ToggleGroup;
import javafx.scene.layout.Background;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Stage;
public class Week2b extends Application {
    @Override
    public void start(Stage primaryStage) {
        Label msg = new Label("Your selection: None");
        msg.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 25));
        Label l=new Label("SELECT THE SUBJECT:");
        l.setFont(Font.font("Britannic Bold", FontWeight.BOLD, 10));
        ToggleButton tb1=new ToggleButton("ADVANCED JAVA");
        ToggleButton tb2=new ToggleButton("COMPILER DESIGN");
        ToggleButton tb3=new ToggleButton("PYTHON PROGRAMMING");
        ToggleButton tb4=new ToggleButton("COMPUTER NETWORKS");

       /** ToggleGroup tg=new ToggleGroup();
        tb1.setToggleGroup(tg);
        tb2.setToggleGroup(tg);
        tb3.setToggleGroup(tg);
        tb4.setToggleGroup(tg);**/
        HBox hb=new HBox();
        hb.getChildren().addAll(tb1,tb2,tb3,tb4);
        hb.setSpacing(10);
```

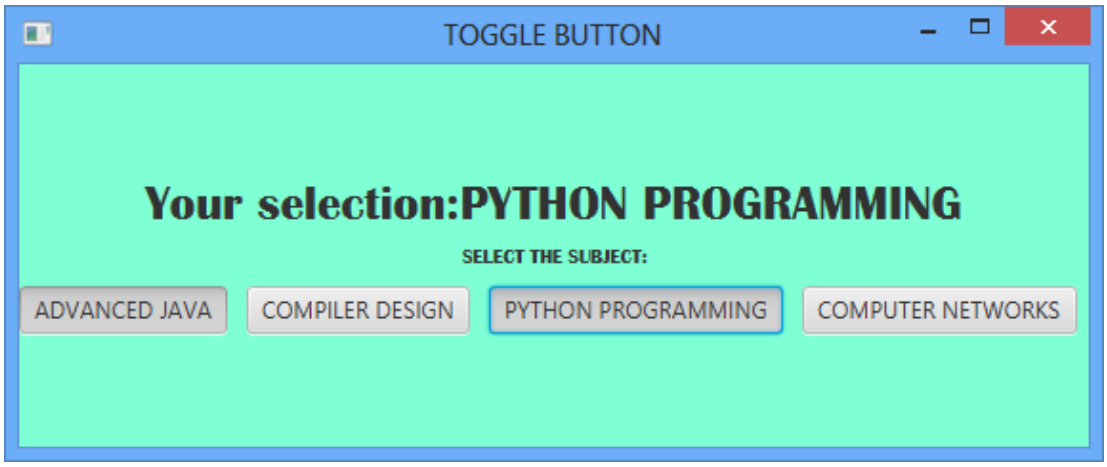
```
        VBox root=new VBox();
        root.getChildren().addAll(msg,l,hb);
        root.setSpacing(10);
        root.setMinSize(600,200);
        root.setAlignment(Pos.CENTER);
        root.setBackground(Background.EMPTY);

       /** ChangeListener<Toggle> listener=new ChangeListener<Toggle>() {
            @Override
            public void changed(ObservableValue<? extends Toggle> observable, Toggle
oldValue, Toggle newValue) {
              ToggleButton tb=(ToggleButton)newValue;
              msg.setText("Your selection:"+tb.getText());

            }
        };
        tg.selectedToggleProperty().addListener(listener);**/

       tb1.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(tb1.isSelected())
                {
                    msg.setText("Your selection:"+tb1.getText());
                }
                else
                {
                    msg.setText("Your selection:None");
                }
            }
        });
       tb4.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(tb4.isSelected())
                {
                    msg.setText("Your selection:"+tb4.getText());
                }
                else
                {
                    msg.setText("Your selection:None");
                }
            }
        });
```

```
        tb2.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(tb2.isSelected())
                {
                    msg.setText("Your selection:"+tb2.getText());
                }
                else
                {
                    msg.setText("Your selection:None");
                }
            }
        });
        tb3.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(tb3.isSelected())
                {
                    msg.setText("Your selection:"+tb3.getText());
                }
                else
                {
                    msg.setText("Your selection:None");
                }
            }
        });
        Scene scene = new Scene(root,560,200,Color.AQUAMARINE);
        primaryStage.setTitle("TOGGLE BUTTON");
        primaryStage.setScene(scene);
        primaryStage.show();
    }
    public static void main(String[] args) {
        launch(args);
    }
}
```

OUTPUT:


TOGGLE BUTTON
Your selection: None
SELECT THE SUBJECT:
ADVANCED JAVA
COMPILER DESIGN
PYTHON PROGRAMMING
COMPUTER NETWORKS


TOGGLE BUTTON
Your selection:ADVANCED JAVA
SELECT THE SUBJECT:
ADVANCED JAVA
COMPILER DESIGN
PYTHON PROGRAMMING
COMPUTER NETWORKS


TOGGLE BUTTON
Your selection:PYTHON PROGRAMMING
SELECT THE SUBJECT:
ADVANCED JAVA
COMPILER DESIGN
PYTHON PROGRAMMING
COMPUTER NETWORKS

WEEK2c:

A simple demonstration of Radio Buttons and event handling.

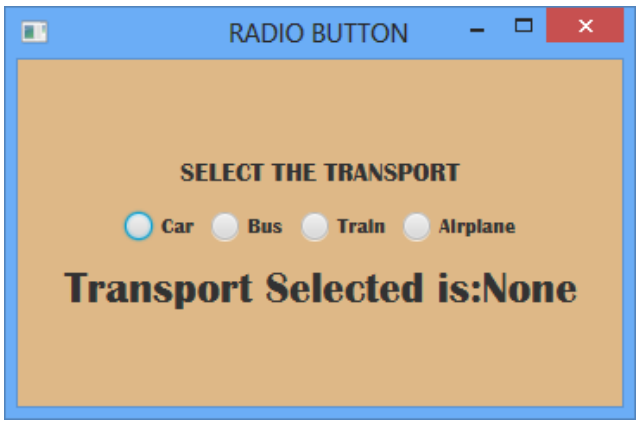
Program:

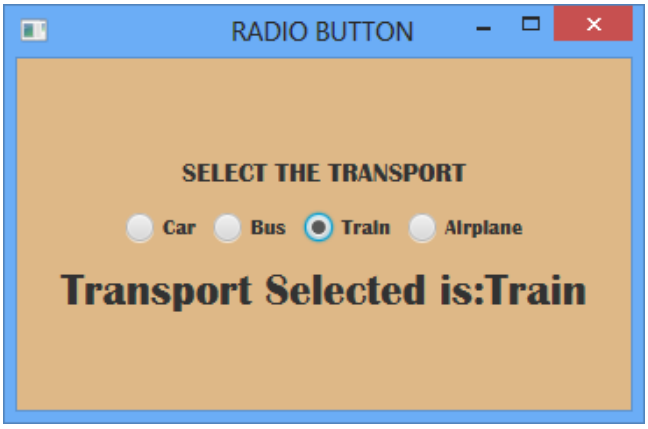
```
package week2;
import javafx.application.Application;
import static javafx.application.Application.launch;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.Toggle;
import javafx.scene.control.RadioButton;
import javafx.scene.control.ToggleGroup;
import javafx.scene.layout.Background;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Stage;
public class Week2c extends Application {
    @Override
    public void start(Stage primaryStage) {
        Label l=new Label("SELECT THE TRANSPORT");
        Label msg = new Label("Transport Selected is:None");
        msg.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 25));

        l.setFont(Font.font("Britannic Bold", FontWeight.BOLD, 15));
        RadioButton rb1=new  RadioButton("Car");
        RadioButton rb2=new  RadioButton("Bus");
        RadioButton rb3=new  RadioButton("Train");
        RadioButton rb4=new  RadioButton("Airplane");

        ToggleGroup tg=new ToggleGroup();
        tg.getToggles().addAll(rb1,rb2,rb3,rb4);
        rb1.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
        rb2.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
        rb3.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
        rb4.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
```

```
        /**rb1.setToggleGroup(tg);
        rb2.setToggleGroup(tg);
        rb3.setToggleGroup(tg);
        rb4.setToggleGroup(tg);**/
        HBox hb=new HBox();
        hb.getChildren().addAll(rb1,rb2,rb3,rb4);
        hb.setAlignment(Pos.CENTER);
        hb.setSpacing(10);
        VBox root=new VBox();
        root.getChildren().addAll(l,hb,msg);
        root.setSpacing(15);
        root.setMinSize(350,200);
        root.setAlignment(Pos.CENTER);
        root.setBackground(Background.EMPTY);

       /** ChangeListener<Toggle> listener=new ChangeListener<Toggle>() {
            @Override
            public void changed(ObservableValue<? extends Toggle> observable, Toggle
oldValue, Toggle newValue) {
              RadioButton rb=(RadioButton)newValue;
              msg.setText("Transport Selected is:"+rb.getText());

            }
        };
        tg.selectedToggleProperty().addListener(listener);**/

       rb1.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(rb1.isSelected())
                {
                    msg.setText("Transport Selected is:"+rb1.getText());
                }
                else
                {
                    msg.setText("Transport Selected is:None");
                }
            }
        });
      rb2.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                if(rb2.isSelected())
                {
```

```
                msg.setText("Transport Selected is:"+rb2.getText());
            }
            else
            {
                msg.setText("Transport Selected is:None");
            }
        }
    });
    rb3.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            if(rb3.isSelected())
            {
              msg.setText("Transport Selected is:"+rb3.getText());
            }
            else
            {
                msg.setText("Transport Selected is:None");
            }
        }
    });
    rb4.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            if(rb4.isSelected())
            {
              msg.setText("Transport Selected is:"+rb4.getText());
            }
            else
            {
                msg.setText("Transport Selected is:None");
            }
        }
    });
    Scene scene = new Scene(root,350,200,Color.BURLYWOOD);
    primaryStage.setTitle("RADIO BUTTON");
    primaryStage.setScene(scene);
    primaryStage.show();
}
public static void main(String[] args) {
    launch(args);
}

}
```

OUTPUT:


RADIO BUTTON
SELECT THE TRANSPORT
Car
Bus
Train
Airplane
Transport Selected is:None


RADIO BUTTON
SELECT THE TRANSPORT
Car
Bus
Train
Airplane
Transport Selected is:Train

WEEK2d:

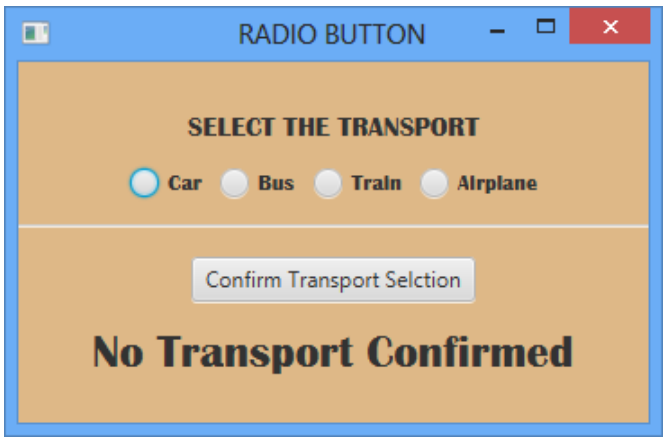
Radio button example demonstrates how the currently selected button in a group can be obtained under program control, when it is needed, rather than responding to action or change events.

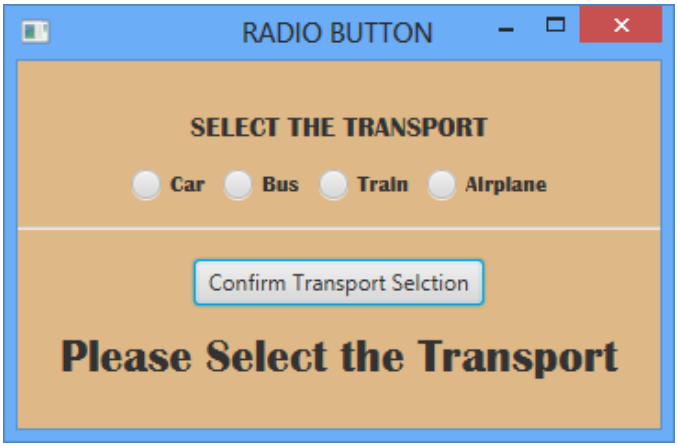
Program:

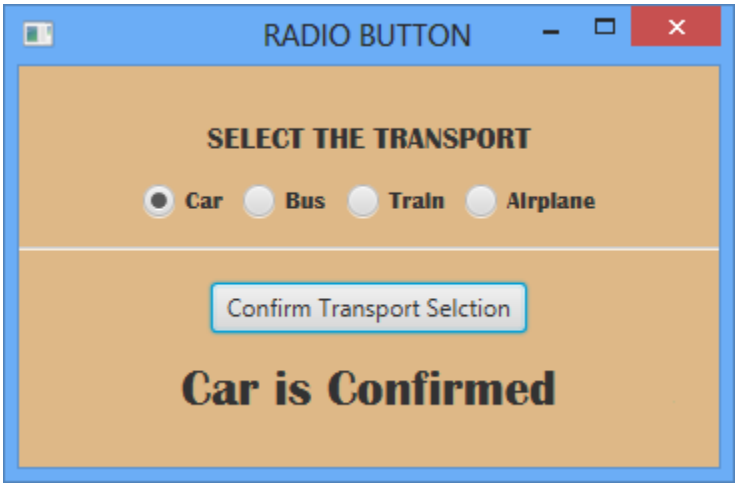
```
package week2;
import javafx.application.Application;
import static javafx.application.Application.launch;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.*;
import javafx.scene.control.Label;
import javafx.scene.control.Toggle;
import javafx.scene.control.RadioButton;
import javafx.scene.control.ToggleGroup;
import javafx.scene.layout.Background;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Stage;
public class Week2d extends Application {
   @Override
   public void start(Stage primaryStage) {
      Label l=new Label("SELECT THE TRANSPORT");
      l.setFont(Font.font("Britannic Bold", FontWeight.BOLD, 15));
      Label msg = new Label("No Transport Confirmed");
      msg.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 25));

      RadioButton rb1=new  RadioButton("Car");
      RadioButton rb2=new  RadioButton("Bus");
      RadioButton rb3=new  RadioButton("Train");
      RadioButton rb4=new  RadioButton("Airplane");

      ToggleGroup tg=new ToggleGroup();
      tg.getToggles().addAll(rb1,rb2,rb3,rb4);
      rb1.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
      rb2.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
```

```
        rb3.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
        rb4.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));

        Button btn=new Button("Confirm Transport Selction");

        Separator sep=new Separator();
        sep.setPrefWidth(350);

        HBox hb=new HBox();
        hb.getChildren().addAll(rb1,rb2,rb3,rb4);
        hb.setAlignment(Pos.CENTER);
        hb.setSpacing(10);

        VBox root=new VBox();
        root.getChildren().addAll(l,hb,sep,btn,msg);
        root.setSpacing(15);
        root.setMinSize(350,200);
        root.setAlignment(Pos.CENTER);
        root.setBackground(Background.EMPTY);
        btn.setOnAction(new EventHandler<ActionEvent>() {
           @Override
           public void handle(ActionEvent event) {

if(tg.getSelectedToggle()==(RadioButton)rb1||tg.getSelectedToggle()==(RadioButton)rb2||
tg.getSelectedToggle()==(RadioButton)rb3||tg.getSelectedToggle()==(RadioButton)rb4)
               {
                   RadioButton rb=(RadioButton)tg.getSelectedToggle();
                   msg.setText(rb.getText()+" is Confirmed");
               }
               else
               {
                  msg.setText("Please Select the Transport");
               }
           }
        });
        Scene scene = new Scene(root,350,200,Color.BURLYWOOD);
        primaryStage.setTitle("RADIO BUTTON");
        primaryStage.setScene(scene);
        primaryStage.show();
    }
    public static void main(String[] args) {
        launch(args);
    }
}
```

OUTPUT:


RADIO BUTTON
SELECT THE TRANSPORT
Car
Bus
Train
Airplane
Confirm Transport Selction
No Transport Confirmed


RADIO BUTTON
SELECT THE TRANSPORT
Car
Bus
Train
Airplane
Confirm Transport Selction
Please Select the Transport


RADIO BUTTON
SELECT THE TRANSPORT
Car
Bus
Train
Airplane
Confirm Transport Selction
Car is Confirmed

WEEK3

WEEK3A:

Demonstrate Check Boxes.

Program:

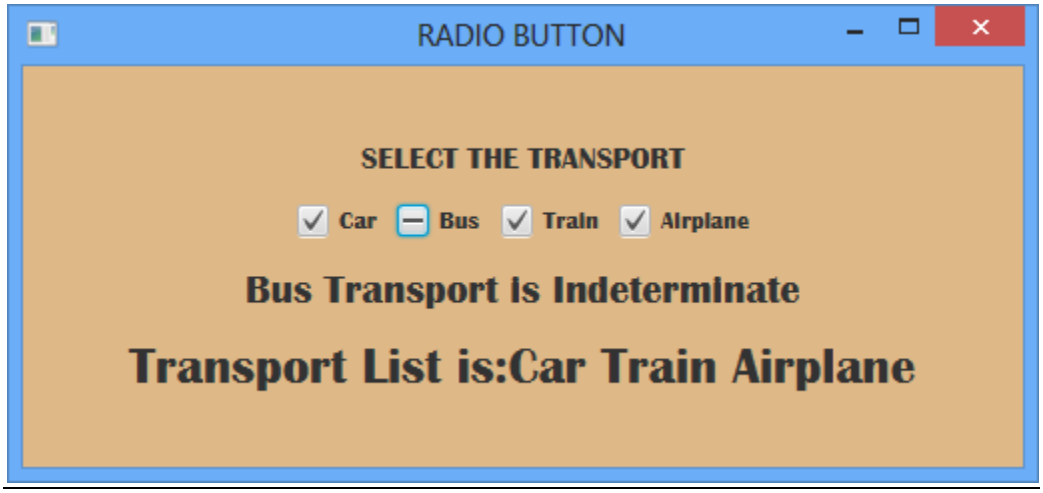
```
package week3;
import javafx.application.*;
import javafx.beans.value.*;
import javafx.event.*;
import javafx.geometry.Pos;
import javafx.scene.*;
import javafx.scene.control.*;
import javafx.scene.layout.*;
import javafx.scene.paint.Color;
import javafx.scene.text.*;
import javafx.stage.*;

public class Week3a extends Application {
    CheckBox cb1,cb2,cb3,cb4;
    Label msg,tlist;
@Override
 public void start(Stage primaryStage) {
 tlist=new Label("Transport List is:<NONE>");
 tlist.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 25));
 Label l=new Label("SELECT THE TRANSPORT");
 msg = new Label("Transport Selected is:None");
 msg.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 20));
 l.setFont(Font.font("Britannic Bold", FontWeight.BOLD, 15));
 cb1=new CheckBox("Car");
 cb2=new CheckBox("Bus");
 cb3=new CheckBox("Train");
 cb4=new CheckBox("Airplane");
 cb1.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
 cb2.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
 cb3.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
 cb4.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 12));
 cb2.setAllowIndeterminate(true);
 //cb2.setIndeterminate(true);
 //cb1.setSelected(true);
 HBox hb=new HBox();
 hb.getChildren().addAll(cb1,cb2,cb3,cb4);
 hb.setAlignment(Pos.CENTER);
 hb.setSpacing(10);
 VBox root=new VBox();
 root.getChildren().addAll(l,hb,msg,tlist);
```

```
root.setSpacing(15);
root.setMinSize(500,200);
root.setAlignment(Pos.CENTER);
root.setBackground(Background.EMPTY);

ChangeListener<Boolean> listener=new ChangeListener<Boolean>() {
@Override
public void changed(ObservableValue<? extends Boolean> observable, Boolean
oldValue,Boolean newValue)
{
   if(cb1.isSelected())
   {
       msg.setText("Transport Selected is:"+cb1.getText());
   }
   else
   {
       msg.setText("Transport Selected is:None");
   }
   showAll();
 }
};
cb1.selectedProperty().addListener(listener);

cb2.setOnAction(new EventHandler<ActionEvent>() {
@Override
public void handle(ActionEvent event) {
    if(cb2.isIndeterminate())
    {
        msg.setText(cb2.getText()+" Transport is Indeterminate");
    }
    else if(cb2.isSelected())
   {
       msg.setText("Transport Selected is:"+cb2.getText());
   }
   else
   {
       msg.setText("Transport Selected is:None");
   }
 showAll();
}
});
cb3.setOnAction(new EventHandler<ActionEvent>() {
@Override
public void handle(ActionEvent event) {
```

```
if(cb3.isSelected())
{
msg.setText("Transport Selected is:"+cb3.getText());
}
else
{
msg.setText("Transport Selected is:None");
}
 showAll();
}
});
cb4.setOnAction(new EventHandler<ActionEvent>() {
@Override
public void handle(ActionEvent event) {
if(cb4.isSelected())
{
msg.setText("Transport Selected is:"+cb4.getText());
}
else
{
msg.setText("Transport Selected is:None");
}
 showAll();
}
});
//cb1.fire();
Scene scene = new Scene(root,500,200,Color.BURLYWOOD);
primaryStage.setTitle("RADIO BUTTON");
primaryStage.setScene(scene);
primaryStage.show();
}
public void showAll()
{
    String list=" ";
    if(cb1.isSelected())
        list="Car";
    if(cb2.isSelected())
        list+=" Bus";
    if(cb3.isSelected())
        list+=" Train";
    if(cb4.isSelected())
        list+=" Airplane";

    if(list.equals(" "))
```

```
        list=" <NONE>";
    tlist.setText("Transport List is:"+list);

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

}
```

OUTPUT:



WEEK3B:

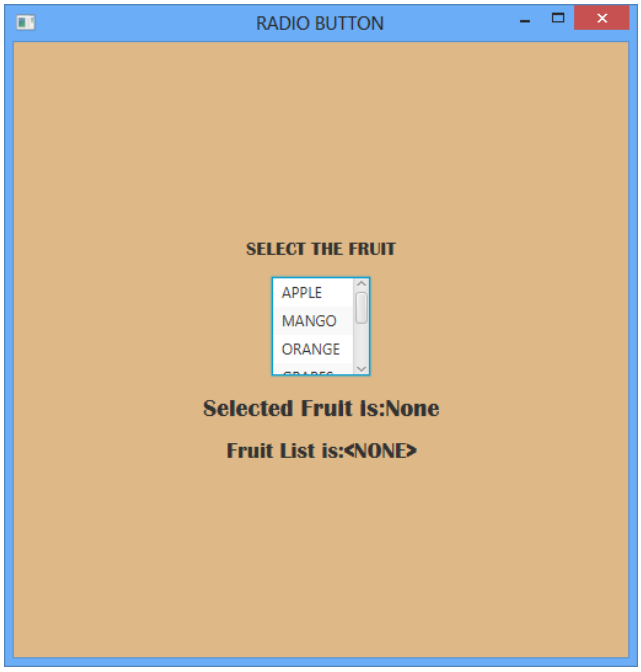
Demonstrate a list view, adding scrollbars, enabling multiple selections in the list.

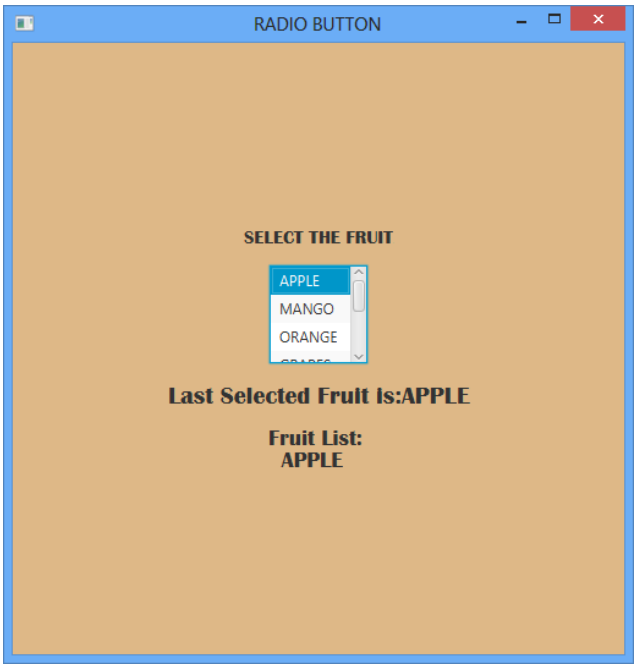
Program:

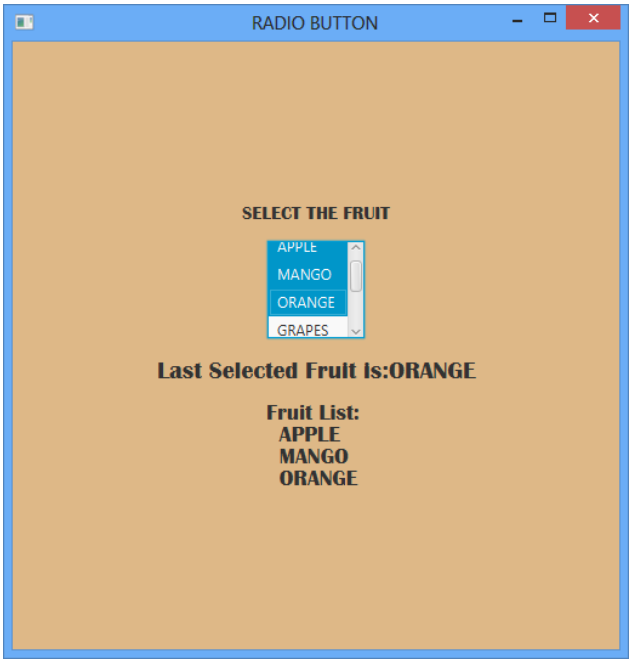
```
package week3;
import javafx.application.Application;
import javafx.beans.value.*;
import javafx.collections.FXCollections;
import javafx.collections.ObservableList;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.ListView;
import javafx.scene.control.MultipleSelectionModel;
import javafx.scene.control.SelectionMode;
import javafx.scene.layout.Background;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Stage;

public class Week3b extends Application {
    Label msg,tlist;
    @Override
    public void start(Stage primaryStage) {
        tlist=new Label("Fruit List is:<NONE>");
        tlist.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 18));
        Label l=new Label("SELECT THE FRUIT");
        msg = new Label("Selected Fruit is:None");
        msg.setFont(Font.font("Britannic Bold", FontWeight.EXTRA_BOLD, 20));
        l.setFont(Font.font("Britannic Bold", FontWeight.BOLD, 15));

        ObservableList<String>
oblist=FXCollections.observableArrayList("APPLE","MANGO","ORANGE","GRAPES","STRW
ABERRY","GOA");
        ListView<String> lv=new ListView<String>(oblist);
        lv.setPrefSize(80, 80);
        MultipleSelectionModel<String> lvmodel=lv.getSelectionModel();
        lv.getSelectionModel().setSelectionMode(SelectionMode.MULTIPLE);
```

```
        ChangeListener<String> listener=new ChangeListener<String>() {
            @Override
            public void changed(ObservableValue<? extends String> observable, String
oldValue, String newValue) {

                msg.setText("Last Selected Fruit is:"+newValue);
                String list=" ";
                ObservableList<String> selected=lv.getSelectionModel().getSelectedItems();
                for(int i=0;i<selected.size();i++)
                    list+="\n  "+selected.get(i);

                tlist.setText("Fruit List:"+list);
            }
        };
        lvmodel.selectedItemProperty().addListener(listener);

        HBox hb=new HBox();
        hb.getChildren().add(lv);
        hb.setAlignment(Pos.CENTER);
        hb.setSpacing(10);
        VBox root=new VBox();
        root.getChildren().addAll(l,hb,msg,tlist);
        root.setSpacing(15);
        root.setMinSize(500,500);
        root.setAlignment(Pos.CENTER);
        root.setBackground(Background.EMPTY);

        Scene scene = new Scene(root,500,500,Color.BURLYWOOD);
        primaryStage.setTitle("RADIO BUTTON");
        primaryStage.setScene(scene);
        primaryStage.show();
    }

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

}
```

OUTPUT:


RADIO BUTTON
SELECT THE FRUIT
APPLE
MANGO
ORANGE
Selected Fruit Is:None
Fruit List is:<NONE>


RADIO BUTTON
SELECT THE FRUIT
APPLE
MANGO
ORANGE
Last Selected Fruit Is:APPLE
Fruit List:
APPLE


RADIO BUTTON
SELECT THE FRUIT
APPLE
MANGO
ORANGE
GRAPES
Last Selected Fruit Is:ORANGE
Fruit List:
APPLE
MANGO
ORANGE

WEEK3c:

Demonstrate a Combo Box.

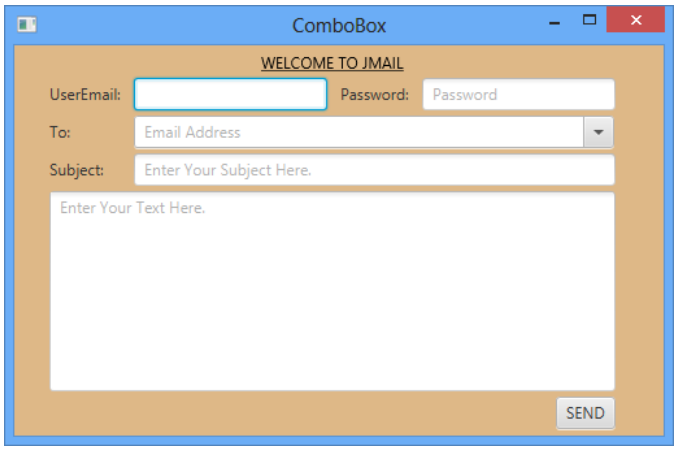
Program:

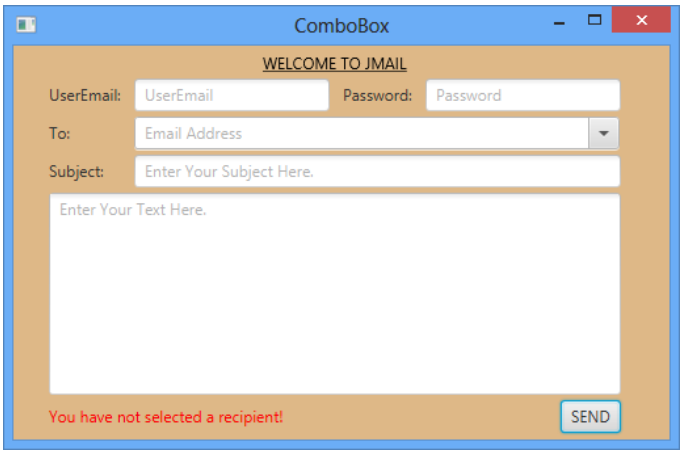
```
package week3;
import javafx.application.Application;
import static javafx.application.Application.launch;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.HPos;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.control.*;
import javafx.scene.image.*;
import javafx.scene.image.ImageView;
import javafx.scene.layout.*;
import javafx.scene.paint.Color;
import javafx.scene.text.Text;
import javafx.scene.text.TextAlignment;
import javafx.stage.Stage;

public class Week3c extends Application {
    String address;
    TextField tf,utf;
    PasswordField ptf;
    TextArea ta;
    @Override
    public void start(Stage ps) {
        Text t=new Text();
        t.setText("WELCOME TO JMAIL");
        t.setTextAlignment(TextAlignment.CENTER);
        t.setUnderline(true);
        Label user=new Label("UserEmail:");
        utf=new TextField();
        utf.setPromptText("UserEmail");
        Label pass=new Label("Password:");
        ptf=new PasswordField();
        ptf.setPromptText("Password");
        Label to=new Label("To: ");
        ComboBox cb=new ComboBox();
        cb.setPrefSize(370, 20);
```

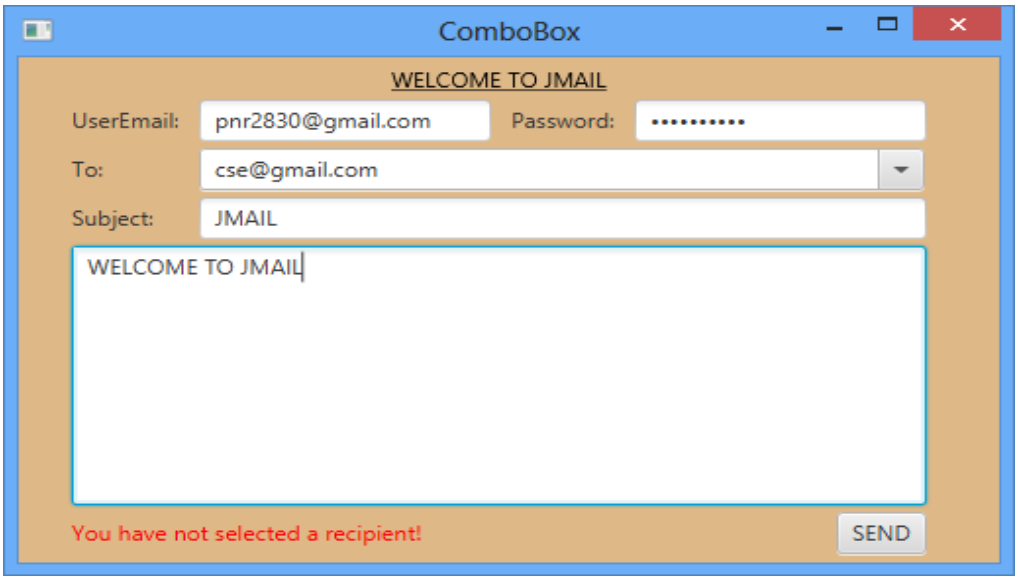
```
cb.getItems().addAll("cse@gmail.com","ece@gmail.com","eee@gmail.com","it@yahoo.co.in");
        cb.setPromptText("Email Address");
        cb.setEditable(true);
        Label subject=new Label("Subject: ");
        tf=new TextField();
        tf.setPromptText("Enter Your Subject Here.");
        ta=new TextArea();
        ta.setPromptText("Enter Your Text Here.");
        Label notification=new Label();
        Button b=new Button("SEND");

        GridPane gp=new GridPane();
        gp.setVgap(4);
        gp.setHgap(10);
        gp.setPadding(new Insets(5, 5, 5, 5));
        gp.add(t,0,0,4,1);
        GridPane.setHalignment(t, HPos.CENTER);
        gp.add(user,0,1);
        gp.add(utf,1,1);
        gp.add(pass,2,1);
        gp.add(ptf,3,1);
        gp.add(to,0,2);
        gp.add(cb,1,2,4,1);
        gp.add(subject,0,3);
        gp.add(tf,1,3,3,1);
        gp.add(ta,0,4,4,1);
        gp.add(notification,0,5,3,1);
        gp.add(b,3,5);
        GridPane.setHalignment(b, HPos.RIGHT);

        //gp.setGridLinesVisible(true);
        gp.setAlignment(Pos.CENTER);
        gp.setBackground(Background.EMPTY);

        cb.valueProperty().addListener(new ChangeListener<String>() {
           @Override
           public void changed(ObservableValue ov, String oldvalue, String newvalue) {
               address = newvalue;
           }
        });

        b.setOnAction(new EventHandler<ActionEvent>() {
           @Override
```

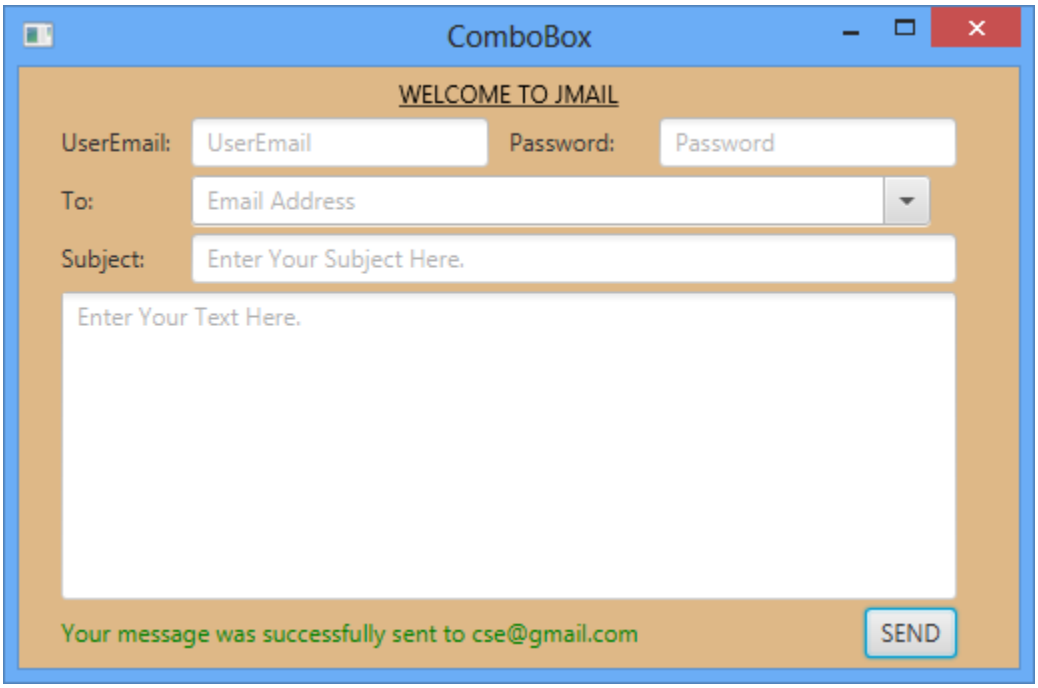
```
            public void handle(ActionEvent event) {
                if(cb.getValue()!=null)
                {
                    notification.setText("Your message was successfully sent to " + address);
                    notification.setTextFill(Color.GREEN);
                    cb.setValue(null);
                    tf.clear();
                    utf.clear();
                    ptf.clear();
                    ta.clear();
                }
                else
                {
                    notification.setText("You have not selected a recipient!");
                    notification.setTextFill(Color.RED);
                }

            }
        });

        Scene s = new Scene(gp,500,300,Color.BURLYWOOD);
        ps.setScene(s);
        ps.setTitle("ComboBox");
        ps.show();

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

}
```

OUTPUT:


ComboBox
WELCOME TO JMAIL
UserEmail:
Password:
Password
To:
Email Address
Subject:
Enter Your Subject Here.
Enter Your Text Here.
SEND


ComboBox
WELCOME TO JMAIL
UserEmail:
UserEmail
Password:
Password
To:
Email Address
Subject:
Enter Your Subject Here.
Enter Your Text Here.
You have not selected a recipient!
SEND


ComboBox
WELCOME TO JMAIL
UserEmail:
pnr2830@gmail.com
Password:
To:
cse@gmail.com
Subject:
JMAIL
WELCOME TO JMAIL
You have not selected a recipient!
SEND


ComboBox
WELCOME TO JMAIL
UserEmail:
UserEmail
Password:
Password
To:
Email Address
Subject:
Enter Your Subject Here.
Enter Your Text Here.
Your message was successfully sent to cse@gmail.com
SEND

WEEK3d:

Demonstrate a Text Field.

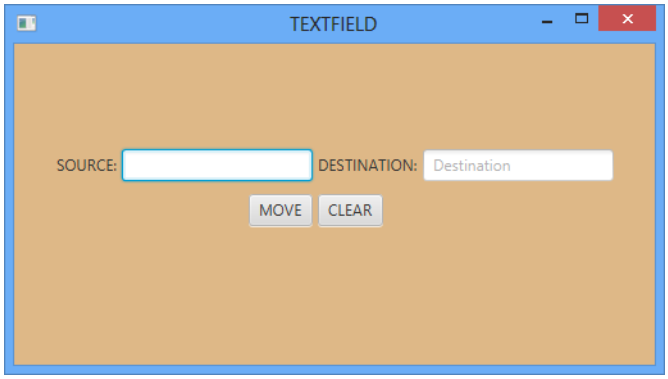
Program:

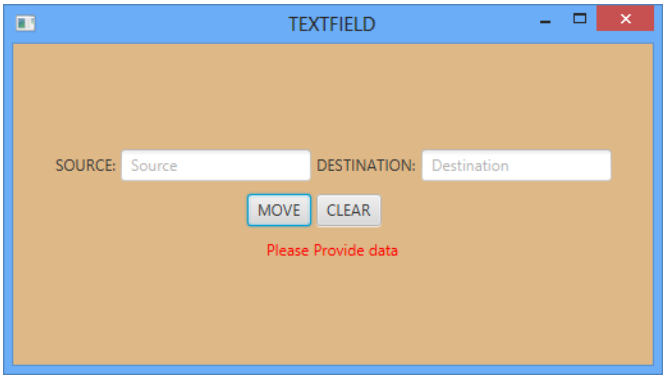
```
package week3;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.HPos;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.layout.Background;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.StackPane;
import javafx.scene.paint.Color;
import javafx.stage.Stage;

public class Week3d extends Application {

    @Override
    public void start(Stage primaryStage) {
        Label s=new Label("SOURCE:");
        TextField tf1=new TextField();
        tf1.setPrefColumnCount(12);
        tf1.setPromptText("Source");
        Label d=new Label("DESTINATION:");
        TextField tf2=new TextField();
        tf2.setPrefColumnCount(12);
        tf2.setPromptText("Destination");
        Button mv = new Button();
        mv.setText("MOVE");
        Button cl = new Button();
        cl.setText("CLEAR");
        Label msg=new Label();
        GridPane root = new GridPane();
        root.setHgap(4);
        root.setVgap(10);
        root.setPadding(new Insets(5,5,5,5));
        root.add(s,0,0);
        root.add(tf1,1,0);
        root.add(d,2,0);
```

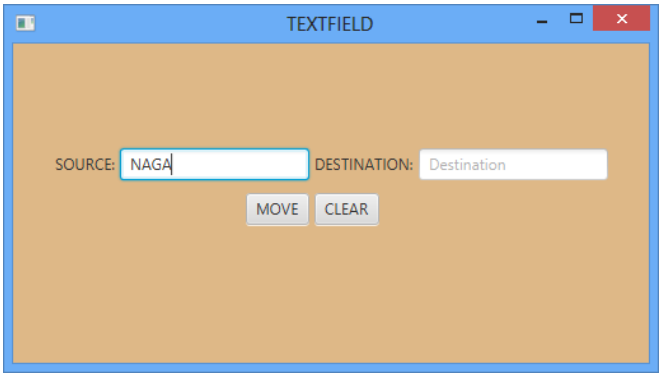
```
root.add(tf2,3,0);
root.add(mv,0,1,2,1);
GridPane.setHalignment(mv, HPos.RIGHT);
root.add(cl,2,1,2,1);
GridPane.setHalignment(cl, HPos.LEFT);
root.add(msg, 0,2,4,1);
GridPane.setHalignment(msg, HPos.CENTER);
root.setAlignment(Pos.CENTER);
//root.setGridLinesVisible(true);
root.setBackground(Background.EMPTY);
 mv.setOnAction(new EventHandler<ActionEvent>() {

    @Override
    public void handle(ActionEvent event) {
        if(!tf1.getText().isEmpty())
        {
            tf2.setText(tf1.getText());
            tf1.clear();
        }
        else if(!tf2.getText().isEmpty())
        {
            tf1.setText(tf2.getText());
            tf2.clear();
        }
        else
        {
            msg.setText("Please Provide data");
            msg.setTextFill(Color.RED);
        }

    }
});

cl.setOnAction(new EventHandler<ActionEvent>() {

    @Override
    public void handle(ActionEvent event) {
        tf1.clear();
        tf2.clear();
        msg.setText("");
        tf1.requestFocus();
    }
});
Scene scene = new Scene(root, 500, 250,Color.BURLYWOOD);
```

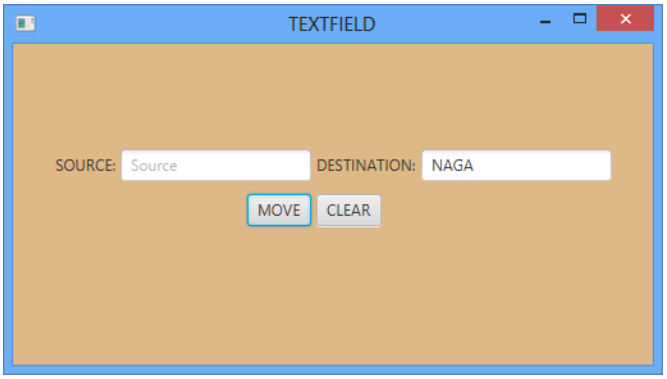
```
        primaryStage.setTitle("TEXTFIELD");
        primaryStage.setScene(scene);
        primaryStage.show();
    }
    public static void main(String[] args) {
        launch(args);
    }

}
```

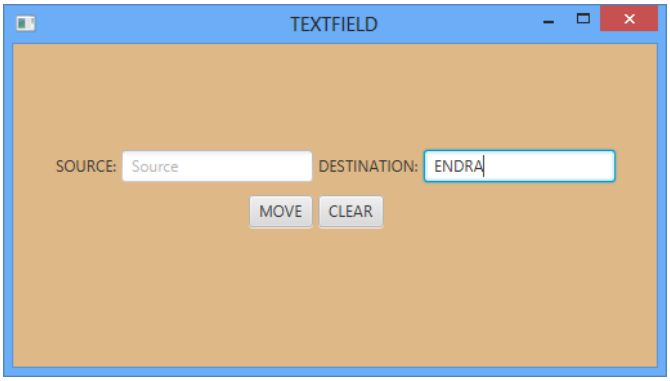
OUTPUT:

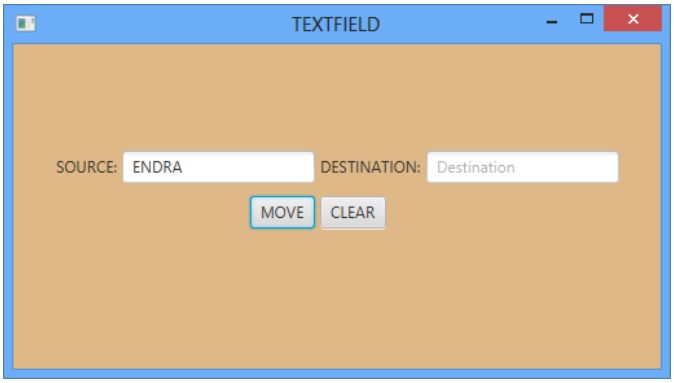












WEEK4

WEEK4a:

Demonstrate a scroll pane

Program:

```
package week4;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ScrollPane;
import javafx.scene.image.*;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
public class Week4a extends Application {

    @Override
    public void start(Stage primaryStage) {

        Button btn = new Button();
        btn.setText("RESET SCROLLBAR");
        Image im=new Image(getClass().getResourceAsStream("aits.jpg"));
        ImageView imv=new ImageView(im);
        imv.setFitHeight(300);
        imv.setFitWidth(400);
        ScrollPane sp=new ScrollPane();
        sp.setContent(imv);
        sp.setPannable(true);
        //sp.setPrefSize(300, 250);
        sp.setPrefViewportHeight(350);
        sp.setPrefViewportWidth(300);
        sp.setHmax(20);
        sp.setHbarPolicy(ScrollPane.ScrollBarPolicy.AS_NEEDED);
        sp.setVbarPolicy(ScrollPane.ScrollBarPolicy.ALWAYS);
        VBox root=new VBox();
        root.getChildren().addAll(sp,btn);
        root.setAlignment(Pos.CENTER);
        btn.setOnAction(new EventHandler<ActionEvent>() {

            @Override
            public void handle(ActionEvent event) {
                sp.setHvalue(0);
```

```
                sp.setVvalue(0);


            }
        });

        Scene scene = new Scene(root, 300, 250);
        primaryStage.setTitle("ScrollPane");
        primaryStage.setScene(scene);
        primaryStage.show();
    }
     public static void main(String[] args) {
        launch(args);
    }
}
```

OUTPUT:

WEEK4b:

Demonstrate a TreeView.

Program:

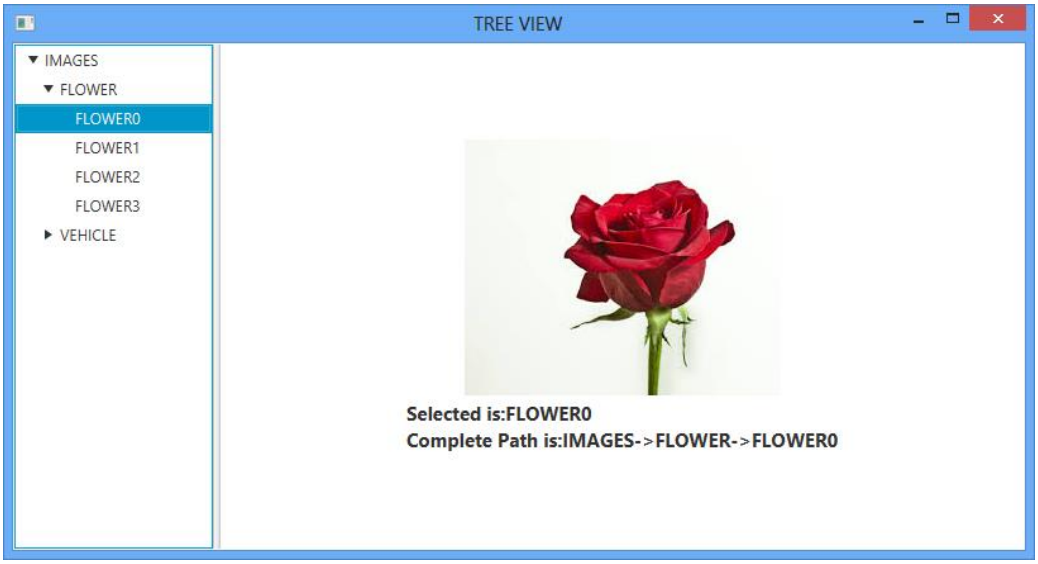
```
package week4;
import javafx.application.*;
import javafx.beans.value.*;
import javafx.collections.*;
import javafx.event.*;
import javafx.geometry.Pos;
import javafx.scene.*;
import javafx.scene.control.*;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.*;
import javafx.scene.paint.Color;
import javafx.scene.text.*;
import javafx.stage.Stage;

public class Week4b extends Application {
    String[] list;
    int i;
    Image[] im=new Image[10];
    ImageView imv=new ImageView();
    @Override
    public void start(Stage primaryStage) {
        for(i=0;i<7;i++)
        {
            im[i]=new Image(getClass().getResourceAsStream(i+".jpg"));
        }

        Label msg=new Label("NO PREVIEW",imv);
        msg.setContentDisplay(ContentDisplay.TOP);
        msg.setFont(Font.font("Brittanic Bold",FontWeight.EXTRA_BOLD,15));

        TreeItem rootItem = new TreeItem("IMAGES");

        TreeItem f = new TreeItem("FLOWER");
        f.getChildren().add(new TreeItem("FLOWER0"));
        f.getChildren().add(new TreeItem("FLOWER1"));
        f.getChildren().add(new TreeItem("FLOWER2"));
        f.getChildren().add(new TreeItem("FLOWER3"));

        TreeItem v = new TreeItem("VEHICLE");
        v.getChildren().add(new TreeItem("VEHICLE0"));
```

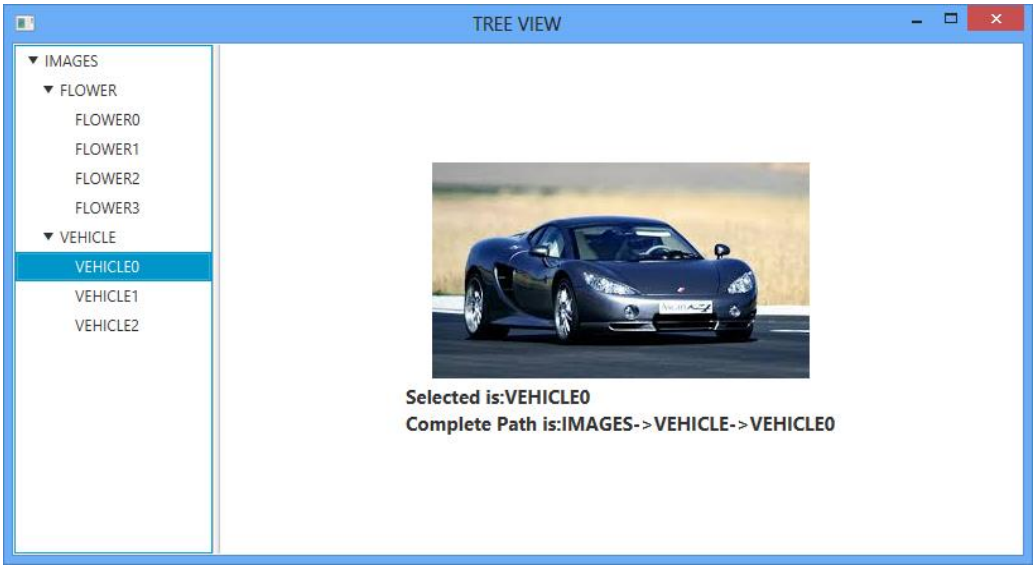
```
        v.getChildren().add(new TreeItem("VEHICLE1"));
        v.getChildren().add(new TreeItem("VEHICLE2"));

        rootItem.getChildren().addAll(f,v);

        TreeView treeView = new TreeView();
        treeView.setRoot(rootItem);

        MultipleSelectionModel<TreeItem<String>> lvmodel=treeView.getSelectionModel();
        StackPane left=new StackPane(treeView);
        StackPane right=new StackPane(msg);
        SplitPane sp=new SplitPane();
        sp.getItems().addAll(left,right);
        sp.setDividerPositions(0.2f,0.8f);
        sp.setBackground(Background.EMPTY);

        Scene scene = new Scene(sp,800,400,Color.WHITE);
        primaryStage.setTitle("TREE VIEW");
        primaryStage.setScene(scene);
        primaryStage.show();

       ChangeListener<TreeItem<String>> listener=new
ChangeListener<TreeItem<String>>() {
            @Override
            public void changed(ObservableValue<? extends TreeItem<String>> observable,
TreeItem<String> oldValue, TreeItem<String> newValue) {
                String path=newValue.getValue();
                TreeItem<String> tmp=newValue.getParent();
                while(tmp!=null)
                {
                    path=tmp.getValue()+"->"+path;
                    tmp=tmp.getParent();
                }


                if( newValue.getValue()!=null)
                {
                switch (newValue.getValue()) {
                  case "IMAGES":imv.setImage(null);
                                msg.setGraphic(imv);
                                msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                      break;
                  case "FLOWER":imv.setImage(null);
```

```
                        msg.setGraphic(imv);
                        msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                    break;
                case "FLOWER0":imv.setImage(im[0]);
                        msg.setGraphic(imv);
                        msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                    break;
                case "FLOWER1":imv.setImage(im[1]);
                        msg.setGraphic(imv);
                        msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                    break;
                case "FLOWER2":imv.setImage(im[2]);
                        msg.setGraphic(imv);
                        msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                    break;
                case "FLOWER3":imv.setImage(im[3]);
                        msg.setGraphic(imv);
                        msg.setText("Selected is:"+newValue.getValue()+"\nComplete Path
is:"+path);
                    break;

                case "VEHICLE":imv.setImage(null);
                         msg.setGraphic(imv);
                         msg.setText("Selected is:"+newValue.getValue()+"\nComplete
Path is:"+path);
                    break;

                 case "VEHICLE0":imv.setImage(im[4]);
                          msg.setGraphic(imv);
                          msg.setText("Selected is:"+newValue.getValue()+"\nComplete
Path is:"+path);
                    break;
                 case "VEHICLE1":imv.setImage(im[5]);
                           msg.setGraphic(imv);
                           msg.setText("Selected is:"+newValue.getValue()+"\nComplete
Path is:"+path);
                    break;
                 case "VEHICLE2":imv.setImage(im[6]);
                           msg.setGraphic(imv);
```

```
                                msg.setText("Selected is:"+newValue.getValue()+"\nComplete
Path is:"+path);
                            break;
                        default:
                            break;
                    }
                }

            }

        };
 lvmodel.selectedItemProperty().addListener(listener);
    }
    public static void main(String[] args) {
        launch(args);
    }
}
```

OUTPUT:


TREE VIEW
IMAGES
FLOWER
FLOWER0
FLOWER1
FLOWER2
FLOWER3
VEHICLE
Selected is:FLOWER0
Complete Path is:IMAGES->FLOWER->FLOWER0


TREE VIEW
IMAGES
FLOWER
FLOWER0
FLOWER1
FLOWER2
FLOWER3
VEHICLE
VEHICLE0
VEHICLE1
VEHICLE2
Selected is:VEHICLE0
Complete Path is:IMAGES->VEHICLE->VEHICLE0

WEEK4c:

Demonstrate rotation, scaling, glowing, and inner shadow on JavaFx controls.

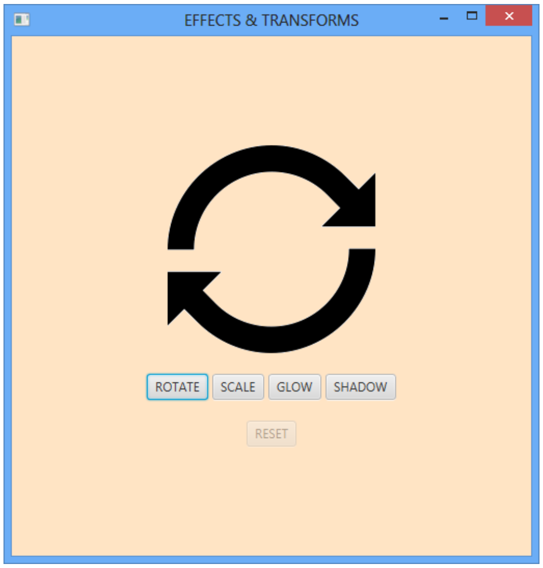
Program:

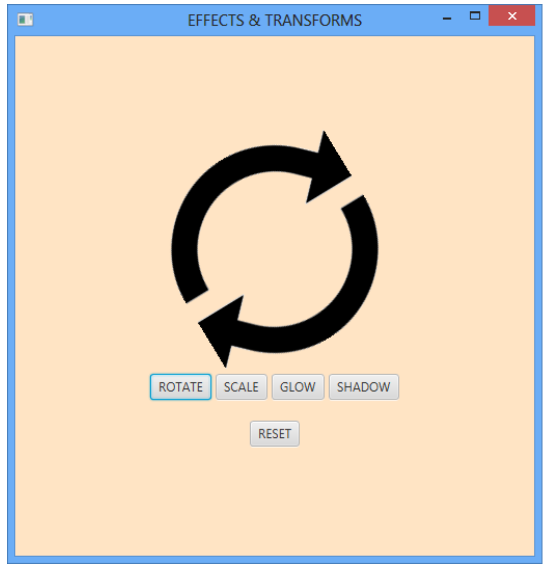
```
package week4;
import javafx.application.*;
import javafx.scene.*;
import javafx.stage.*;
import javafx.scene.layout.*;
import javafx.scene.image.*;
import javafx.scene.control.*;
import javafx.scene.paint.*;
import javafx.geometry.Pos;
import javafx.event.*;
import javafx.animation.*;
import javafx.scene.transform.*;
import javafx.util.Duration;
import javafx.geometry.HPos;
import javafx.scene.effect.*;

public class Week4c extends Application
{
@Override
public void start(Stage ps)throws Exception
{

RotateTransition rt=new RotateTransition();
Scale scale = new Scale();
Glow glow = new Glow();
InnerShadow shadow = new InnerShadow();

Image im=new Image(getClass().getResourceAsStream("search.png"));
ImageView imv=new ImageView(im);
Button b1=new Button("ROTATE");
b1.setTooltip(new Tooltip("ROTATE THE IMAGE"));
Button b2=new Button("SCALE");
b2.setTooltip(new Tooltip("SCALE THE IMAGE"));
Button b3=new Button("GLOW");
b3.setTooltip(new Tooltip("GLOW THE IMAGE"));
Button b4=new Button("SHADOW");
b4.setTooltip(new Tooltip("SHODOW THE IMAGE"));
Button b5=new Button("RESET");
b5.setDisable(true);
b5.setTooltip(new Tooltip("RESET THE IMAGE"));
GridPane gp=new GridPane();
```

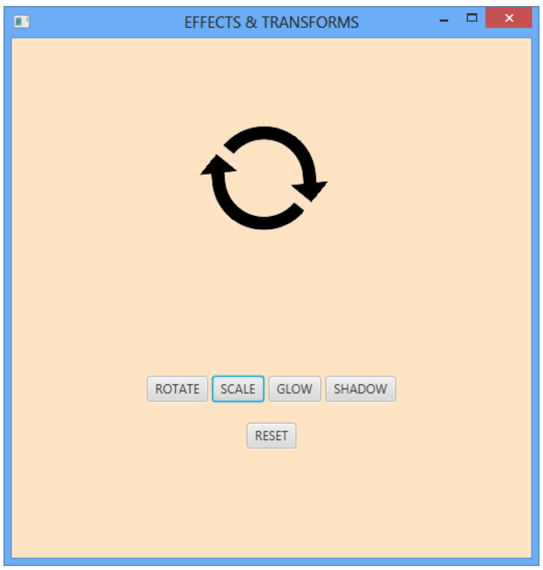
```
gp.add(imv,0,0,4,1);
gp.setHalignment(imv, HPos.CENTER);
gp.add(b1,0,1);
gp.add(b2,1,1);
gp.add(b3,2,1);
gp.add(b4,3,1);
gp.add(b5,0,2,4,1);
gp.setHalignment(b5, HPos.CENTER);
gp.setHgap(4);
gp.setVgap(20);
gp.setAlignment(Pos.CENTER);
gp.setBackground(Background.EMPTY);
//gp.setGridLinesVisible(true);
imv.getTransforms().add(scale);
Scene s=new Scene(gp,500,500,Color.BISQUE);
ps.setScene(s);
ps.setTitle("EFFECTS & TRANSFORMS");
ps.show();
b1.setOnAction(new EventHandler<ActionEvent>() {
   @Override
   public void handle(ActionEvent event) {
            b5.setDisable(false);
            rt.setAxis(Rotate.Z_AXIS);
              rt.setByAngle(360);
              rt.setCycleCount(Animation.INDEFINITE);
              rt.setInterpolator(Interpolator.LINEAR);
              rt.setAutoReverse(false);
              rt.setDuration(Duration.millis(1000));
              rt.setNode(imv);
              rt.play();
   }
});
b2.setOnAction(new EventHandler<ActionEvent>() {
   @Override
   public void handle(ActionEvent event) {
               b5.setDisable(false);
               scale.setX(0.5);
               scale.setY(0.5);
    }
});
b3.setOnAction(new EventHandler<ActionEvent>() {
   @Override
   public void handle(ActionEvent event) {
               b5.setDisable(false);
```

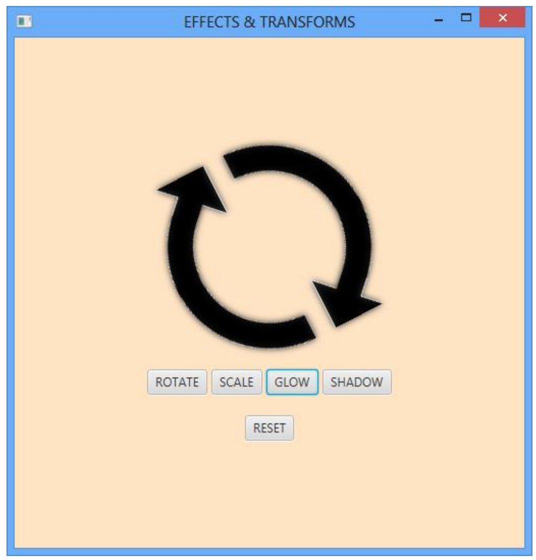
```
                glow.setLevel(0.9);
                imv.setEffect(glow);
    }
});
b4.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
                b5.setDisable(false);
                shadow.setBlurType(BlurType.GAUSSIAN);
                shadow.setColor(Color.RED);
                shadow.setHeight(25);
                shadow.setRadius(12);
                shadow.setWidth(20);
                shadow.setChoke(0.9);
                imv.setEffect(shadow);
    }
});
b5.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {

                scale.setX(1.0);
                scale.setY(1.0);
                glow.setLevel(0.0);
                imv.setEffect(null);
                rt.stop();
    }
});


}
public static void main(String[] args)
{
System.out.println("Launching JavaFX Application");
launch(args);
}
}
```

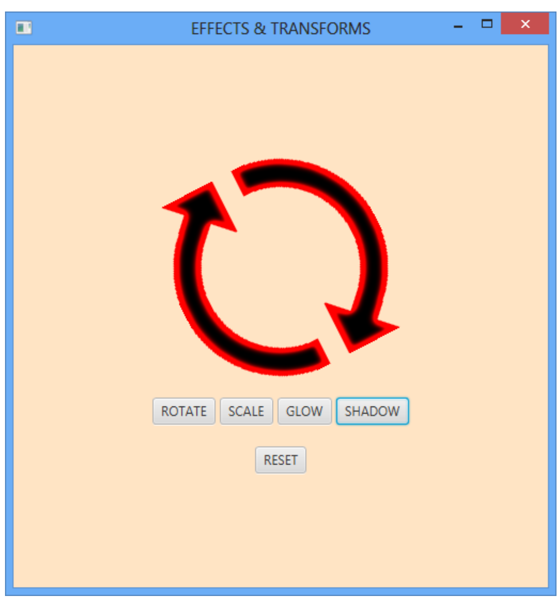
OUTPUT:


EFFECTS & TRANSFORMS
ROTATE
SCALE
GLOW
SHADOW
RESET


EFFECTS & TRANSFORMS
ROTATE
SCALE
GLOW
SHADOW
RESET


EFFECTS & TRANSFORMS
ROTATE
SCALE
GLOW
SHADOW
RESET


EFFECTS & TRANSFORMS
ROTATE
SCALE
GLOW
SHADOW
RESET


EFFECTS & TRANSFORMS
ROTATE
SCALE
GLOW
SHADOW
RESET

WEEK4d:

Demonstrate different types of Menus

Program:

```
package week4;
import javafx.application.Application;
import javafx.application.Platform;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.event.*;
import javafx.event.EventHandler;
import javafx.geometry.HPos;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.*;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.input.ContextMenuEvent;
import javafx.scene.input.KeyCombination;
import javafx.scene.layout.Background;
import javafx.scene.layout.BorderPane;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.shape.Circle;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Stage;

public class Week4d extends Application {

    @Override
    public void start(Stage primaryStage) {
        Image im1=new Image(getClass().getResourceAsStream("print.png"));
        Image im2=new Image(getClass().getResourceAsStream("refresh.png"));
        Image im3=new Image(getClass().getResourceAsStream("ser.png"));
        ImageView imv1=new ImageView(im1);
        ImageView imv2=new ImageView(im2);
        ImageView imv3=new ImageView(im3);
        imv1.setFitWidth(25);
        imv1.setFitHeight(25);
        imv2.setFitWidth(30);
```

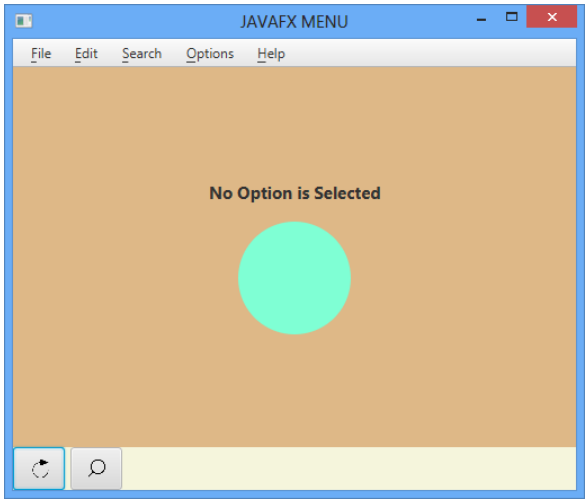
```
imv2.setFitHeight(30);
imv3.setFitWidth(30);
imv3.setFitHeight(30);

MenuBar mb=new MenuBar();
Menu m1=new Menu("_File");
m1.setMnemonicParsing(true);
MenuItem New=new MenuItem("New");
MenuItem open=new MenuItem("Open");
MenuItem save=new MenuItem("Save");
MenuItem print=new MenuItem("Print",imv1);
MenuItem exit=new MenuItem("Exit");
m1.getItems().addAll(New,open,save,print,exit);

New.setAccelerator(KeyCombination.keyCombination("Ctrl+N"));
open.setAccelerator(KeyCombination.keyCombination("Ctrl+O"));
save.setAccelerator(KeyCombination.keyCombination("Ctrl+S"));
print.setAccelerator(KeyCombination.keyCombination("Ctrl+p"));
exit.setAccelerator(KeyCombination.keyCombination("Ctrl+E"));

Menu m2=new Menu("_Edit");
m2.setMnemonicParsing(true);
MenuItem copy=new MenuItem("Copy");
MenuItem cut=new MenuItem("Cut");
MenuItem paste=new MenuItem("Paste");
MenuItem delete=new MenuItem("Delete");
MenuItem selectall=new MenuItem("Select All");
SeparatorMenuItem separator=new SeparatorMenuItem();

m2.getItems().addAll(copy,cut,paste,delete,separator,selectall);

copy.setAccelerator(KeyCombination.keyCombination("Ctrl+C"));
cut.setAccelerator(KeyCombination.keyCombination("Ctrl+X"));
paste.setAccelerator(KeyCombination.keyCombination("Ctrl+V"));
delete.setAccelerator(KeyCombination.keyCombination("Delete"));
selectall.setAccelerator(KeyCombination.keyCombination("Ctrl+A"));

Menu m3=new Menu("_Search");
m3.setMnemonicParsing(true);
MenuItem find=new MenuItem("Find...");
MenuItem replace=new MenuItem("Replace...");
MenuItem Goto=new MenuItem("Goto...");

m3.getItems().addAll(find,replace,Goto);
```

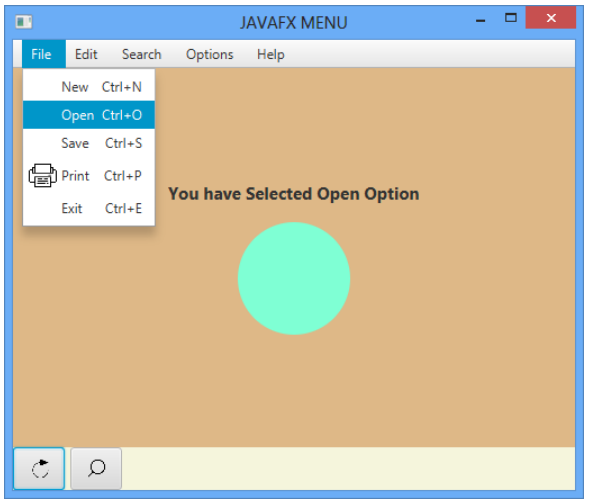
```
Menu m4=new Menu("_Options");
m4.setMnemonicParsing(true);
Menu m41=new Menu("Colors");
Menu m42=new Menu("Proirity");
m4.getItems().addAll(m41,m42);
RadioMenuItem red=new RadioMenuItem("RED");
RadioMenuItem green=new RadioMenuItem("GREEN");
RadioMenuItem blue=new RadioMenuItem("BLUE");
m41.getItems().addAll(red,green,blue);
red.setSelected(true);
ToggleGroup tg=new ToggleGroup();
tg.getToggles().addAll(red,green,blue);


CheckMenuItem high=new CheckMenuItem("HIGH");
CheckMenuItem medium=new CheckMenuItem("MEDIUM");
CheckMenuItem low=new CheckMenuItem("LOW");
m42.getItems().addAll(high,medium,low);
low.setSelected(true);


Menu m5=new Menu("_Help");
m5.setMnemonicParsing(true);
MenuItem help=new MenuItem("Help Content");
MenuItem about=new MenuItem("About");
m5.getItems().addAll(help,about);

mb.getMenus().addAll(m1,m2,m3,m4,m5);

Label msg=new Label("No Option is Selected");
msg.setFont(Font.font("Brittanic Bold",FontWeight.EXTRA_BOLD,15));


ContextMenu cm=new ContextMenu(red,blue,green);
Circle c=new Circle(50,Color.AQUAMARINE);
GridPane gp=new GridPane();
gp.add(msg, 0, 0);
gp.setHalignment(msg, HPos.CENTER);
gp.add(c,0,1);
gp.setHalignment(c, HPos.CENTER);
gp.setAlignment(Pos.CENTER);
gp.setVgap(15);
```

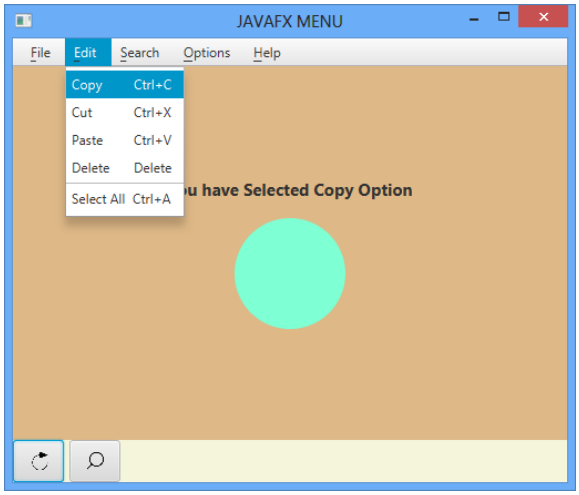
```
Button b1=new Button("Refresh",imv2);
Button b2=new Button("Search",imv3);
HBox hb=new HBox(b1,b2);
hb.setStyle("-fx-background-color:  BEIGE");
hb.setSpacing(5);

b1.setContentDisplay(ContentDisplay.GRAPHIC_ONLY);
b2.setContentDisplay(ContentDisplay.GRAPHIC_ONLY);
b1.setTooltip(new Tooltip("Refresh"));
b2.setTooltip(new Tooltip("Search"));
ToolBar tb=new ToolBar(b1,b2);


BorderPane root=new BorderPane();
root.setTop(mb);
root.setCenter(gp);
root.setBottom(hb);
root.setBackground(Background.EMPTY);
Scene scene = new Scene(root,500, 400,Color.BURLYWOOD);
primaryStage.setTitle("JAVAFX MENU");
primaryStage.setScene(scene);
primaryStage.show();

EventHandler<ActionEvent> event=new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent ae) {
        String name=((MenuItem)ae.getTarget()).getText();
        if(name.equals("Exit"))
            Platform.exit();
        msg.setText("You have Selected "+name+" Option") ;
    }
};

New.setOnAction(event);
open.setOnAction(event);
save.setOnAction(event);
print.setOnAction(event);
exit.setOnAction(event);
copy.setOnAction(event);
cut.setOnAction(event);
paste.setOnAction(event);
delete.setOnAction(event);
selectall.setOnAction(event);
```

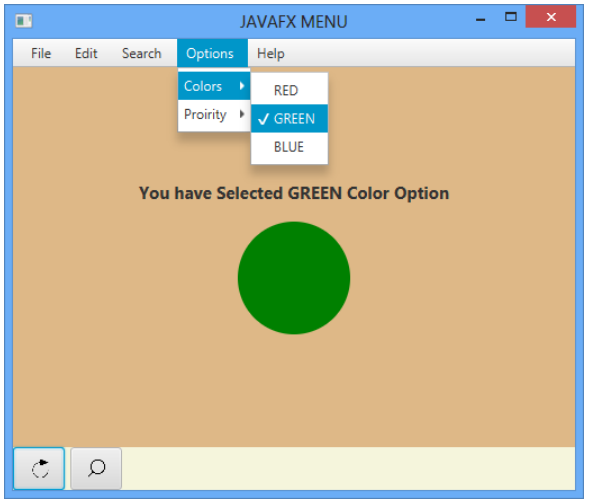
```
        find.setOnAction(event);
        replace.setOnAction(event);
        Goto.setOnAction(event);
        help.setOnAction(event);
        about.setOnAction(event);
        high.setOnAction(event);
        medium.setOnAction(event);
        low.setOnAction(event);

         EventHandler<ContextMenuEvent>cmevent=new
EventHandler<ContextMenuEvent>() {
            @Override
            public void handle(ContextMenuEvent ae) {
               cm.show(c,ae.getScreenX(), ae.getScreenY());

            }
        };
        root.setOnContextMenuRequested(cmevent);

        tg.selectedTogglePropery().addListener(new ChangeListener<Toggle>() {
            @Override
            public void changed(ObservableValue<? extends Toggle> observable, Toggle
oldValue, Toggle newValue) {
                if(newValue!=null){
                RadioMenuItem r=(RadioMenuItem)newValue;
                String str=r.getText();
                msg.setText("You have Selected "+str+" Color Option");
                c.setFill(Color.web(str));
                }
            }
        });
    }
     public static void main(String[] args) {
        launch(args);
     }
}
```

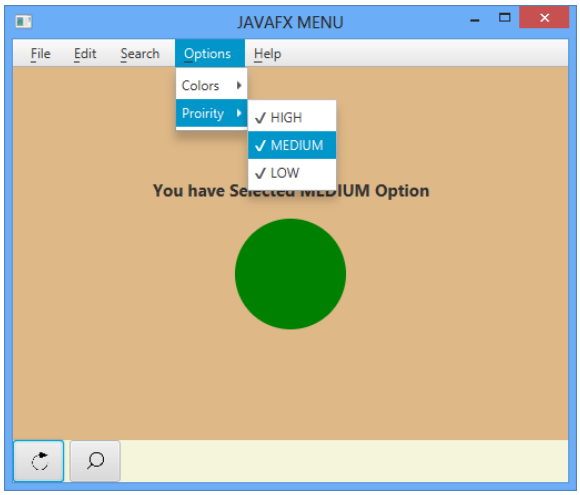
OUTPUT:

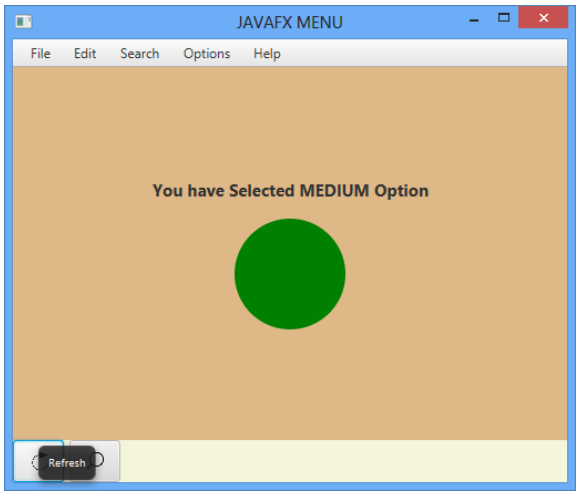

JAVAFX MENU
File Edit Search Options Help
No Option is Selected


JAVAFX MENU
File Edit Search Options Help
New Ctrl+N
Open Ctrl+O
Save Ctrl+S
Print Ctrl+P
Exit Ctrl+E
You have Selected Open Option


JAVAFX MENU
File Edit Search Options Help
Copy Ctrl+C
Cut Ctrl+X
Paste Ctrl+V
Delete Delete
Select All Ctrl+A
u have Selected Copy Option


JAVAFX MENU
File Edit Search Options Help
Colors
Proirity
RED
GREEN
BLUE
You have Selected GREEN Color Option


JAVAFX MENU
File Edit Search Options Help
Colors
Proirity
HIGH
MEDIUM
LOW
You have Selected MEDIUM Option


JAVAFX MENU
File Edit Search Options Help
You have Selected MEDIUM Option
Refresh


JAVAFX MENU
File Edit Search Options Help
You have Selected RED Color Option
RED
BLUE
GREEN

WEEK5

WEEK5:

Java Program to get connection with Oracle Database executes SQL Statements and handling the Result set.

Program:

JDB.java:

```
package week5;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.HPos;
import javafx.geometry.Orientation;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.Separator;
import javafx.scene.control.TableColumn;
import javafx.scene.control.TableView;
import javafx.scene.control.TextArea;
import javafx.scene.control.TextField;
import javafx.scene.layout.AnchorPane;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
import java.sql.*;
import javafx.collections.FXCollections;
import javafx.collections.ObservableList;
import javafx.scene.control.cell.PropertyValueFactory;
import javafx.scene.layout.Background;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;

public class JDB extends Application {
    Connection con;
    PreparedStatement stmt;
    Statement s;
    int rid;
    String rname,remail,rphone;

    @Override
    public void start(Stage primaryStage) {
```

```
Label sid=new Label("Id");
Label name=new Label("Name");
Label email=new Label("Email");
Label phone=new Label("Phone");
Label id=new Label("Enter ID");
id.setLayoutX(210.0);
id.setLayoutY(21.0);
Label nemail=new Label("New Email");
nemail.setLayoutX(388.0);
nemail.setLayoutY(21.0);
Label result=new Label("Result Console");

TextField tsid=new TextField();
tsid.setPromptText("id");
TextField tname=new TextField();
tname.setPromptText("Name");
TextField temail=new TextField();
temail.setPromptText("Email");
TextField tphone=new TextField();
tphone.setPromptText("Phone");
TextField tnemail=new TextField();
tnemail.setPromptText("New Email");
tnemail.setLayoutX(388.0);
tnemail.setLayoutY(41.0);
TextField tid=new TextField();
tid.setPromptText("id");
tid.setLayoutX(210.0);
tid.setLayoutY(41.0);

Button add=new Button("ADD RECORD");
add.setLayoutX(100.0);
add.setLayoutY(150.0);
Button search=new Button("SEARCH");
search.setLayoutX(210.0);
search.setLayoutY(70.0);
Button delete=new Button("DELETE");
delete.setLayoutX(352.0);
delete.setLayoutY(70.0);
Button update=new Button("UPDATE");
update.setLayoutX(283.0);
update.setLayoutY(70.0);
Button view=new Button("VIEW ALL");
view.setLayoutX(423.0);
```

```
view.setLayoutY(70.0);
TextArea tresult=new TextArea();
tresult.setPrefWidth(180.0);
tresult.setPrefHeight(85.0);

VBox vb1=new VBox();
vb1.getChildren().addAll(sid,name,email,phone);
vb1.setLayoutX(9.0);
vb1.setLayoutY(28.0);
vb1.setSpacing(12.0);
VBox vb2=new VBox();
vb2.getChildren().addAll(tsid,tname,temail,tphone);
vb2.setLayoutX(50.0);
vb2.setLayoutY(24.0);
vb2.setSpacing(4.0);
VBox vb3=new VBox();
vb3.getChildren().addAll(result,tresult);
vb3.setLayoutX(7.0);
vb3.setLayoutY(250.0);

Separator s1=new Separator(Orientation.HORIZONTAL);
s1.setLayoutY(14.0);
s1.setPrefWidth(600.0);
s1.setPrefHeight(4.0);
Separator s2=new Separator(Orientation.VERTICAL);
s2.setLayoutX(200.0);
s2.setLayoutY(14.0);
s2.setPrefWidth(7.0);
s2.setPrefHeight(400.0);

TableView tb=new TableView();
tb.setEditable(true);
tb.setLayoutX(210.0);
tb.setLayoutY(102.0);
tb.setPrefSize(350.0, 250.0);
TableColumn<Integer,Person>  tc1=new TableColumn ("ID");
tc1.setPrefWidth(45.0);
tc1.setCellValueFactory(new PropertyValueFactory<>("id"));
TableColumn<String,Person>  tc2=new TableColumn("NAME");
tc2.setPrefWidth(100.0);
tc2.setCellValueFactory(new PropertyValueFactory<>("name"));
TableColumn<String,Person>  tc3=new TableColumn("EMAIL");
tc3.setPrefWidth(110.0);
tc3.setCellValueFactory(new PropertyValueFactory<>("email"));
```

```
        TableColumn<String,Person>  tc4=new TableColumn("PHONE");
        tc4.setPrefWidth(108.0);
        tc4.setCellValueFactory(new PropertyValueFactory<>("phone"));
        tb.getColumns().addAll(tc1,tc2,tc3,tc4);

        result.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        sid.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        name.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        email.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        phone.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        id.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        nemail.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        add.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        search.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        update.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        delete.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));
        view.setFont(Font.font("Britanic Bold",FontWeight.BOLD,12));


        AnchorPane root=new
AnchorPane(s1,s2,vb1,vb2,vb3,add,id,nemail,tid,tnemail,search,update,view,delete,tb);
       root.setBackground(Background.EMPTY);
      add.setOnAction(new EventHandler<ActionEvent>() {
          @Override
          public void handle(ActionEvent event) {
              try{
              Class.forName("oracle.jdbc.OracleDriver");
              con =
DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
              stmt=con.prepareStatement("insert into student values(?,?,?,?)");
              stmt.setInt(1,Integer.parseInt(tsid.getText()));
              stmt.setString(2,tname.getText());
              stmt.setString(3,temail.getText());
              stmt.setString(4,tphone.getText());
              int i=stmt.executeUpdate();
              tsid.clear();tname.clear();temail.clear();tphone.clear();
              tresult.setText("Record inserted");
              tresult.setStyle("-fx-text-fill:green");
              con.close();
          }
          catch(Exception e){ System.out.println(e);}
          }
        });
```

```
        view.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {

                 try{
                Class.forName("oracle.jdbc.OracleDriver");
                con =
DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
                s=con.createStatement();
                String sql="select * from student";
                ResultSet rs = s.executeQuery(sql);
                ObservableList<Person> oblist=FXCollections.observableArrayList();
                while(rs.next())
                {
                    rid=rs.getInt(1);
                    rname=rs.getString(2);
                    remail=rs.getString(3);
                    rphone=rs.getString(4);

                    oblist.add(new Person(rid,rname,remail,rphone));
                }
                tb.setItems(oblist);
                tresult.setText("Records Retrived successfully");
                tresult.setStyle("-fx-text-fill:green");
                con.close();
            }
            catch(Exception e){ System.out.println(e);}
            }
        });

         search.setOnAction(new EventHandler<ActionEvent>() {
            @Override
            public void handle(ActionEvent event) {
                int count=0;
                try{
                Class.forName("oracle.jdbc.OracleDriver");
                con =
DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
                s=con.createStatement();
                String sql1="select * from student where id="+tid.getText()+"";
                ResultSet rs1 = s.executeQuery(sql1);
                while(rs1.next())
                count++;
                ResultSet rs = s.executeQuery(sql1);
```

```
            ObservableList<Person> oblist=FXCollections.observableArrayList();
            if(count>0)
            {
            while(rs.next())
            {
                rid=rs.getInt(1);
                rname=rs.getString(2);
                remail=rs.getString(3);
                rphone=rs.getString(4);
                oblist.add(new Person(rid,rname,remail,rphone));
            }
            tb.setItems(oblist);
            tresult.setText("Record Id: "+rid+"\nName: \t"+rname+"");
            tresult.setStyle("-fx-text-fill:green");
            }
            else
            {
              tresult.setText("This Record does not exist!");
              tresult.setStyle("-fx-text-fill:red");
            }
            con.close();
        }
        catch(Exception e){ System.out.println(e);}

        }

    });

    delete.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            int count=0;
            try{
            Class.forName("oracle.jdbc.OracleDriver");
            con =
DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
            s=con.createStatement();
            String sql1="select count(*) from student where id="+tid.getText()+"";
            ResultSet rs1 = s.executeQuery(sql1);
            rs1.next();
            count=rs1.getInt(1);
            if(count>0)
            {
            String sql2="delete from student where id="+tid.getText()+"";
```

```
            s.executeUpdate(sql2);
            String sql3="select * from student";
            ResultSet rs = s.executeQuery(sql3);
            ObservableList<Person> oblist=FXCollections.observableArrayList();
            while(rs.next())
            {
                rid=rs.getInt(1);
                rname=rs.getString(2);
                remail=rs.getString(3);
                rphone=rs.getString(4);
                oblist.add(new Person(rid,rname,remail,rphone));
            }
            tb.setItems(oblist);
            tresult.setText("ID: "+tid.getText()+" Reocord Deleted");
            tresult.setStyle("-fx-text-fill:green");
            }
            else
            {
              tresult.setText("This Record does not exist!");
              tresult.setStyle("-fx-text-fill:red");
            }
            con.close();
        }
        catch(Exception e){ System.out.println(e);}
        }
    });

    update.setOnAction(new EventHandler<ActionEvent>() {
        @Override
        public void handle(ActionEvent event) {
            int count=0;
            try{
            Class.forName("oracle.jdbc.OracleDriver");
            con =
DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
            s=con.createStatement();
            String sql1="select * from student where id="+tid.getText()+"";
            ResultSet rs1 = s.executeQuery(sql1);
            while(rs1.next())
            count++;
            String sql2="update student set email='"+tnemail.getText()+"'where
id="+tid.getText()+"";
            s.executeUpdate(sql2);
            String sql3="select * from student where id="+tid.getText()+"";
```

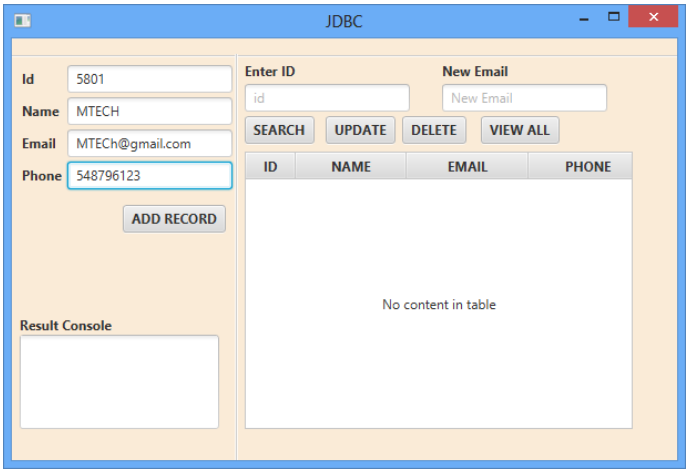
```
            ResultSet rs = s.executeQuery(sql3);
            ObservableList<Person> oblist=FXCollections.observableArrayList();
            if(count>0)
            {
            while(rs.next())
            {
                rid=rs.getInt(1);
                rname=rs.getString(2);
                remail=rs.getString(3);
                rphone=rs.getString(4);
                oblist.add(new Person(rid,rname,remail,rphone));
            }
            tb.setItems(oblist);
            tresult.setText("Record updated successfully");
            tresult.setStyle("-fx-text-fill:green");
            }
            else
            {
              tresult.setText("This Record does not exist!");
              tresult.setStyle("-fx-text-fill:red");
            }
            con.close();
        }
        catch(Exception e){ System.out.println(e);}
        }
    });

     Scene scene = new Scene(root, 600, 380,Color.ANTIQUEWHITE);
     primaryStage.setTitle("JDBC");
     primaryStage.setScene(scene);
     primaryStage.show();
  }
  public static void main(String[] args) {
     launch(args);
  }

}
```

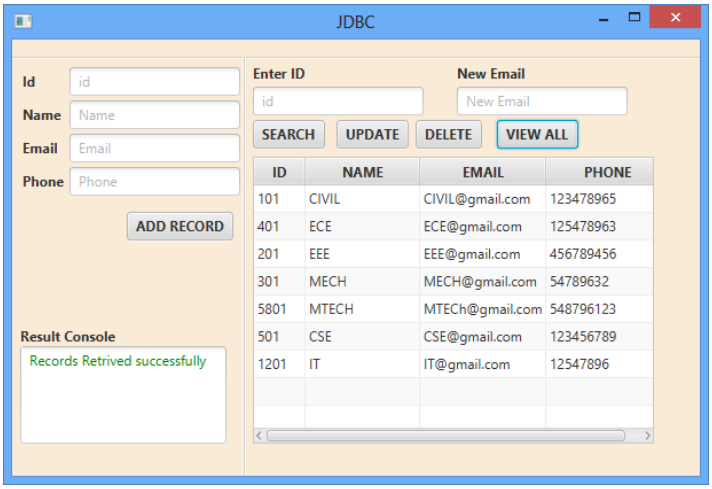
Person.java:

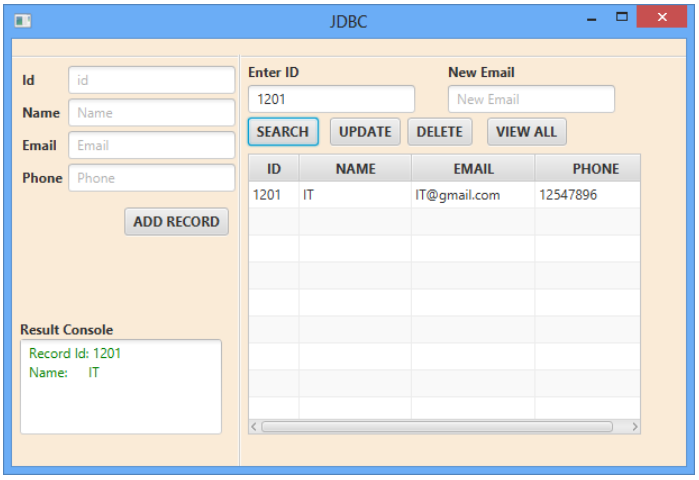
```
package week5;
public class Person {
    private  int id;
    private String name = null;
    private String email = null;
    private String phone = null;

    public Person() {
    }

    public Person(int id,String name, String email,String phone) {
        this.id=id;
        this.name=name;
        this.email=email;
        this.phone=phone;
    }
     public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email= email;
    }
    public String getPhone() {
        return phone;
```

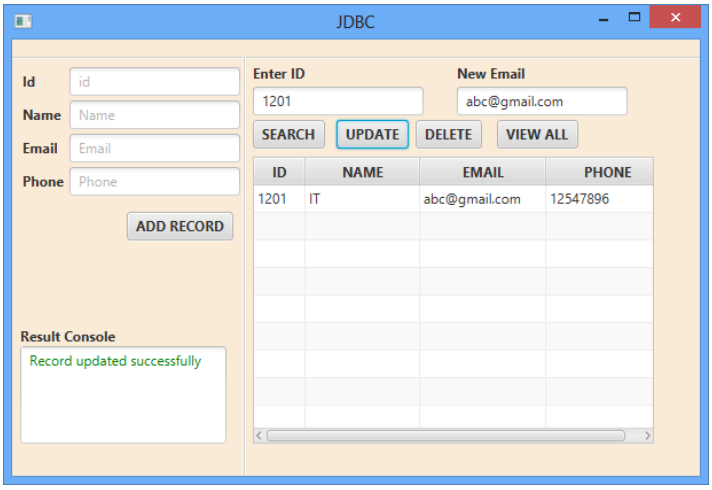
```
    }

    public void setPhone(String phone) {
        this.phone= phone;
    }
}
```

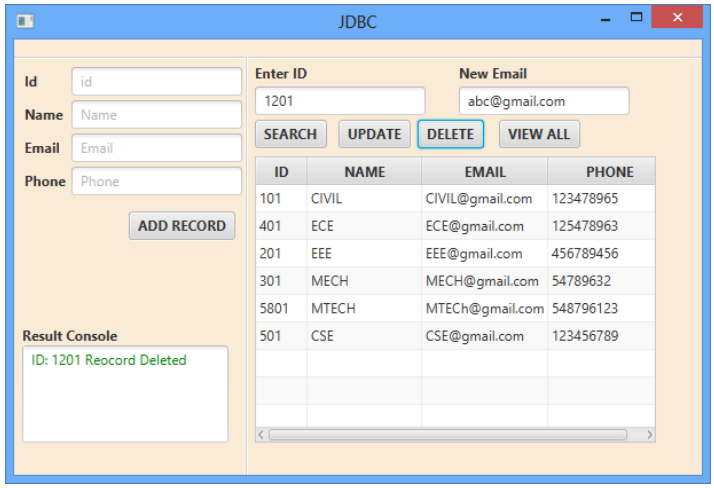
OUTPUT:

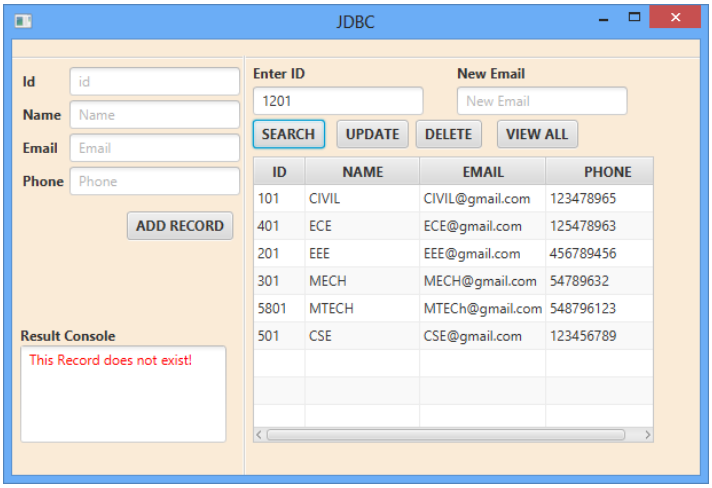









JDBC
Id
id
Name
Name
Email
Email
Phone
Phone
ADD RECORD
Result Console
ID: 1201 Reocord Deleted
Enter ID
1201
New Email
abc@gmail.com
SEARCH
UPDATE
DELETE
VIEW ALL
ID NAME EMAIL PHONE
101 CIVIL CIVIL@gmail.com 123478965
401 ECE ECE@gmail.com 125478963
201 EEE EEE@gmail.com 456789456
301 MECH MECH@gmail.com 54789632
5801 MTECH MTECh@gmail.com 548796123
501 CSE CSE@gmail.com 123456789


JDBC
Id
id
Name
Name
Email
Email
Phone
Phone
ADD RECORD
Result Console
This Record does not exist!
Enter ID
1201
New Email
New Email
SEARCH
UPDATE
DELETE
VIEW ALL
ID NAME EMAIL PHONE
101 CIVIL CIVIL@gmail.com 123478965
401 ECE ECE@gmail.com 125478963
201 EEE EEE@gmail.com 456789456
301 MECH MECH@gmail.com 54789632
5801 MTECH MTECh@gmail.com 548796123
501 CSE CSE@gmail.com 123456789

WEEK6

Week6a:

Simple servlet program.

Program:

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class Week6a extends HttpServlet {
   public void service(HttpServletRequest request, HttpServletResponse
response)
   throws IOException, ServletException
   {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      out.println("<html>");
      out.println("<head>");
      out.println("<title>Hello World!</title>");
      out.println("</head>");
      out.println("<body>");
      out.println("<h1>Hello World!</h1>");
      out.println("<h2>servlet example!</h2>");
      out.println("</body>");
      out.println("</html>");
   }
}
```

OUTPUT:

Week6b:

Program to read servlet Perameters.

Program:

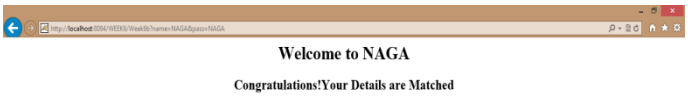
```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class Week6b extends HttpServlet {

   public void doGet(HttpServletRequest request, HttpServletResponse
response)
   throws IOException, ServletException
   {
      response.setContentType("text/html");
      String username=request.getParameter("name");
       String password=request.getParameter("pass");
      PrintWriter out = response.getWriter();
       out.println("<html>");
      out.println("<head>");
      out.println("<title>Reading Parameters </title>");
      out.println("</head>");
      out.println("<body>");
               out.println("<h1 align='center'>Welcome to "+username+"</h1>");
               if(username.equalsIgnoreCase(password))
          out.println("<h2 align='center'>Congratulations!Your Details are
Matched</h2>");
               else
               out.println("<h2 align='center'>Sorry!Your Details are not
Matched</h2>");
      out.println("</body>");
      out.println("</html>");
   }
}
```

Week6b.html:

```
<html>
<head>
<title>Input Form</title>
</head>
<body>
<center>
<h3>Login Page</h3>
<form name="login" method="get" action="Week6b">
<table>
<tr>
```

```
<td>Username:</td>
<td><input type="text" name="name"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="password" name="pass"></td>
</tr>
</table>
<br>
<input type="submit" value="SUBMIT">  <input type="reset"
value="CLEAR">
</form>
</center>
</body>
</html>
```

OUTPUT:



Week6c:

Program to handle HTTP Get and POST Request using servlets.

Program:

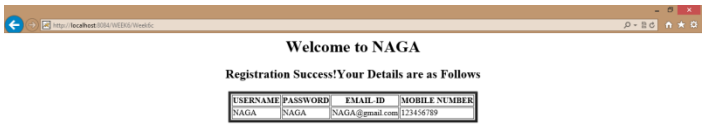
```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class Week6c extends HttpServlet {

   public void doPost(HttpServletRequest request, HttpServletResponse
response)
   throws IOException, ServletException
   {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
            String username=request.getParameter("name");
            String password=request.getParameter("pass");
            String email=request.getParameter("email");
            String phone=request.getParameter("phone");
            out.println("<html>");
      out.println("<head>");
      out.println("<title>Reading Parameters </title>");
      out.println("</head>");
      out.println("<body>");
            out.println("<h1 align='center'>Welcome to "+username+"</h1>");
            out.println("<h2 align='center'>Registration Success!Your Details
are as Follows</h2>");
            out.println("<table align='center' border='5'>");

         out.println("<th>USERNAME</th><th>PASSWORD</th><th>EMAIL-
ID</th><th>MOBILE NUMBER</th>");
            out.println("<tr><td>"+username+"</td>");
            out.println("<td>"+password+"</td>");
            out.println("<td>"+email+"</td>");
            out.println("<td>"+phone+"</td></tr></table>");
            out.println("</body>");
      out.println("</html>");
   }
}
```

Week6c.html:

```
<html>
<head>
<title>Input Form</title>
</head>
```

```
<body>
<center>
<h3>Registration Page</h3>
<form name="register" method="post" action="Week6c">
<table>
<tr>
<td>Username:</td>
<td><input type="text" name="name"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="text" name="pass"></td>
</tr>
<tr>
<td>Email-ID:</td>
<td><input type="text" name="email"></td>
</tr>
<tr>
<td>Mobile Number:</td>
<td><input type="text" name="phone"></td>
</tr>
</table>
<br>
<input type="submit" value="SUBMIT">  <input type="reset"
value="CLEAR">
</form>
</center>
</body>
</html>
```

OUTPUT:



WEB.XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd">
   <servlet>
      <servlet-name>Week6a</servlet-name>
      <servlet-class>Week6a</servlet-class>
   </servlet>
   <servlet>
      <servlet-name>Week6b</servlet-name>
      <servlet-class>Week6b</servlet-class>
   </servlet>
   <servlet>
      <servlet-name>Week6c</servlet-name>
      <servlet-class>Week6c</servlet-class>
   </servlet>
   <servlet-mapping>
      <servlet-name>Week6a</servlet-name>
      <url-pattern>/Week6a</url-pattern>
   </servlet-mapping>
   <servlet-mapping>
      <servlet-name>Week6b</servlet-name>
      <url-pattern>/Week6b</url-pattern>
   </servlet-mapping>
   <servlet-mapping>
      <servlet-name>Week6c</servlet-name>
      <url-pattern>/Week6c</url-pattern>
   </servlet-mapping>
   <session-config>
      <session-timeout>
         30
      </session-timeout>
   </session-config>
</web-app>
```

WEEK7

Week7a:

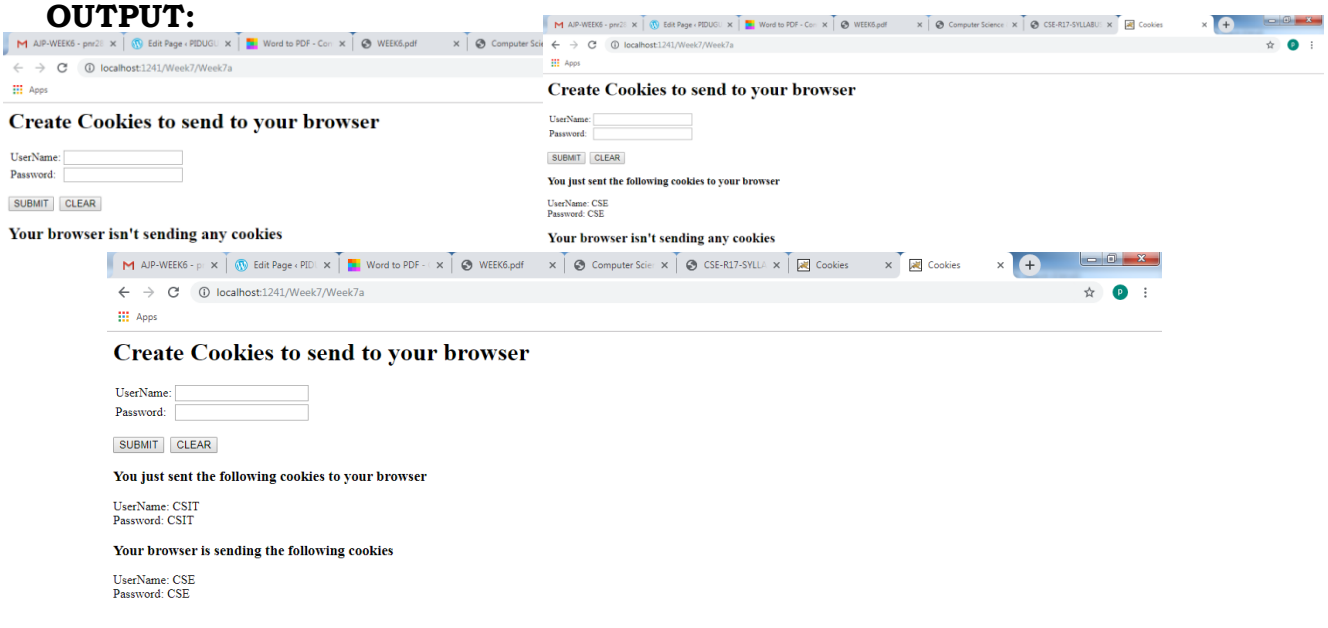
Program for using Cookies in servlets.

Program:

```
import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class Week7a extends HttpServlet {
   public void doGet(HttpServletRequest request, HttpServletResponse response)
   throws IOException, ServletException
   {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      out.println("<html>");
      out.println("<head>");
      out.println("<title>Cookies</title>");
      out.println("</head>");
      out.println("<body>");
      out.println("<h1>Create Cookies to send to your browser</h1>");
      out.print("<form  method='post' action='Week7a'>");
      out.println("<table >");
      out.println("<tr>");
      out.println("<td>UserName:</td>");
      out.println("<td><input type='text' name='name'></td>");
      out.println("</tr>");
      out.println("<tr>");
      out.println("<td>Password:</td>");
      out.println("<td><input type='password' name='pass'></td></tr>");
      out.println("</table>");
      out.println("<br>");
      out.println("<input type='submit' value='SUBMIT'>  
     <input type='reset' value='CLEAR'>");
      out.println("</form>");
      out.println("</body>");
      out.println("</html>");
      String name=request.getParameter("name");
      String pass=request.getParameter("pass");
      if(name!=null && pass!=null)
      {
      Cookie ck=new Cookie(name,pass);
      ck.setMaxAge(10);
      response.addCookie(ck);
```

```
        out.println("<h3>You just sent the following cookies to your browser</h3>");
        out.println("UserName: "+name);
        out.println("<br>");
        out.println("Password: "+pass);
        }
        Cookie[] cookies = request.getCookies();
        if(cookies!=null && cookies.length>0)
        {
            out.println("<h3>Your browser is sending the following cookies</h3>");
            for(int j = 0; j < cookies.length; j++)
            {
                Cookie c=cookies[j];
                String uname = c.getName();
                String upass = c.getValue();
                out.println("<p>");
                out.println("UserName: "+uname);
                out.println("<br>");
                out.println("Password: "+upass);
            }
        }
        else
        {
            out.println("<h2>Your browser isn't sending any cookies</h2>");
        }
    }
    public void doPost(HttpServletRequest request,HttpServletResponse response)
        throws IOException, ServletException
    {
        doGet(request, response);
    }
}
```

OUTPUT:



Week7b:

Program for session tracking in servlets.

Program:

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;
public class Week7b extends HttpServlet {
  public void doPost(HttpServletRequest request, HttpServletResponse
response)throws ServletException, IOException
  {
      response.setContentType("text/html");
      PrintWriter out=response.getWriter();
      String user=request.getParameter("user");
      HttpSession session = request.getSession();
      Integer count=new Integer(1);
      out.println("<center>");
      if(session.isNew())
      {
         session.setAttribute("username", user);
         out.println("<h1>WELCOME TO SESSION</h1>");
      }
      else
      {
         out.println("<h1>WELCOME BACK TO SESSION</h1>");
         count = (Integer)session.getAttribute("vcount");
         count = count + 1;
      }
      session.setAttribute("vcount", count);
      user=(String)session.getAttribute("username");
      out.println("<a href='Week7bb'>LOGOUT</a>");
      out.println("<h2>SESSION INFORMATION</h2>");
      out.println("<table border='5'>");
      out.println("<th>Session info</th><th>Value</th>");
      out.println("<tr><td>UserName</td><td>"+user+"</td></tr>");
      out.println("<tr><td>Session ID</td><td>"+session.getId()+"</td></tr>");
      out.println("<tr><td>Creation Time</td><td>"+new
      Date(session.getCreationTime())+"</td></tr>");
      out.println("<tr><td>LastAccessTime</td><td>"+new
      Date(session.getLastAccessedTime())+"</td></tr>");
      out.println("<tr><td>Number of Visits</td><td>"+count+"</td></tr>");
      out.println("</center>");
      out.println("</table><br><br>");
      }}
```

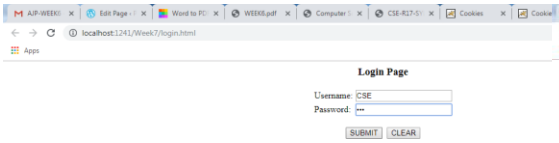
Week7bb.java:

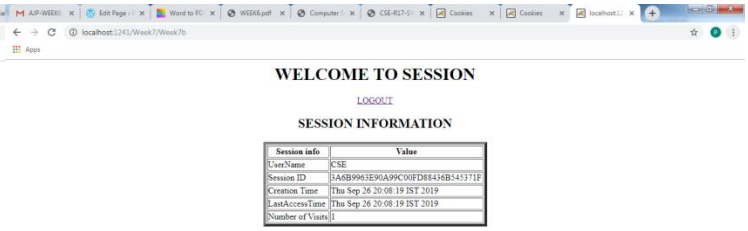
```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class Week7bb extends HttpServlet {
	protected void service(HttpServletRequest request, HttpServletResponse
response)
		throws ServletException, IOException
	{
		response.setContentType("text/html");
		PrintWriter out=response.getWriter();

		HttpSession session=request.getSession(false);
		session.invalidate();
		out.println("<center>");
		out.print("<h1>You are successfully logged out!</h1><br>");
		out.println("<a href='Week7b.html'>LOGIN</a> ");
		out.println("</center>");
		out.close();
	}
}
```

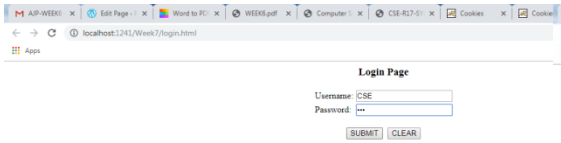
Week7b.html:

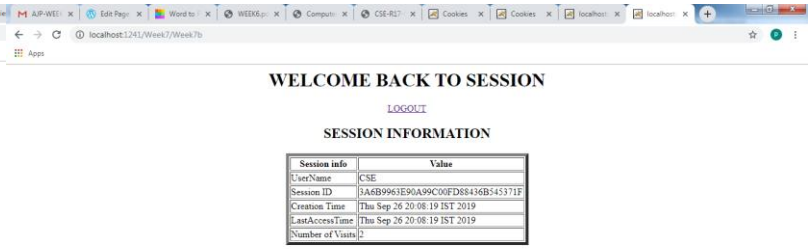
```
<html><head>
<title>Input Form</title>
</head>
<body>
<center>
<h3>Login Page</h3>
<form name="login" method="post" action="Week7b">
<table>
<tr>
<td>Username:</td>
<td><input type="text" name="user"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="password" name="pass"></td>
</tr></table>
<br>
<input type="submit" value="SUBMIT">  <input type="reset"
value="CLEAR">
</form>
</center></body>
</html>
```

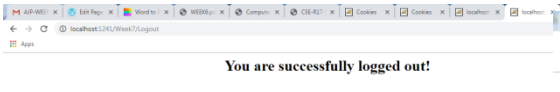
OUTPUT:

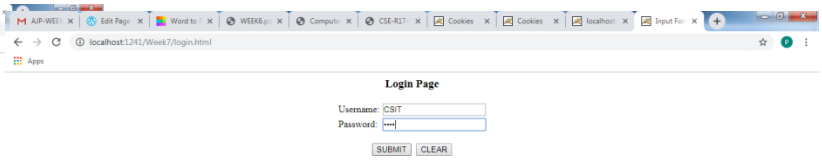


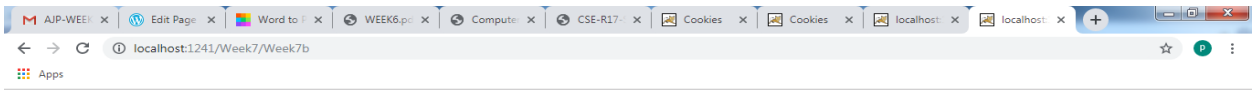










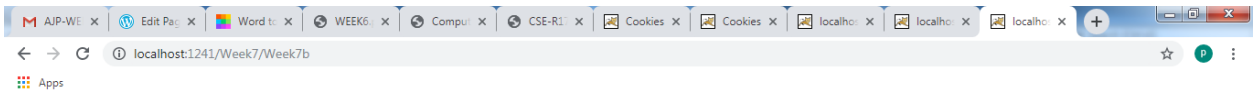


WELCOME TO SESSION

LOGOUT

SESSION INFORMATION

Session info	Value
UserName	CSIT
Session ID	F488E6997553C94AD387FA2EBB56D562
Creation Time	Thu Sep 26 20:11:42 IST 2019
LastAccessTime	Thu Sep 26 20:11:42 IST 2019
Number of Visits	1



WELCOME BACK TO SESSION

LOGOUT

SESSION INFORMATION

Session info	Value
UserName	CSIT
Session ID	F488E6997553C94AD387FA2EBB56D562
Creation Time	Thu Sep 26 20:11:42 IST 2019
LastAccessTime	Thu Sep 26 20:11:42 IST 2019
Number of Visits	2

Week7c:

Program to access and perform operations on Database using servlets.

Program:

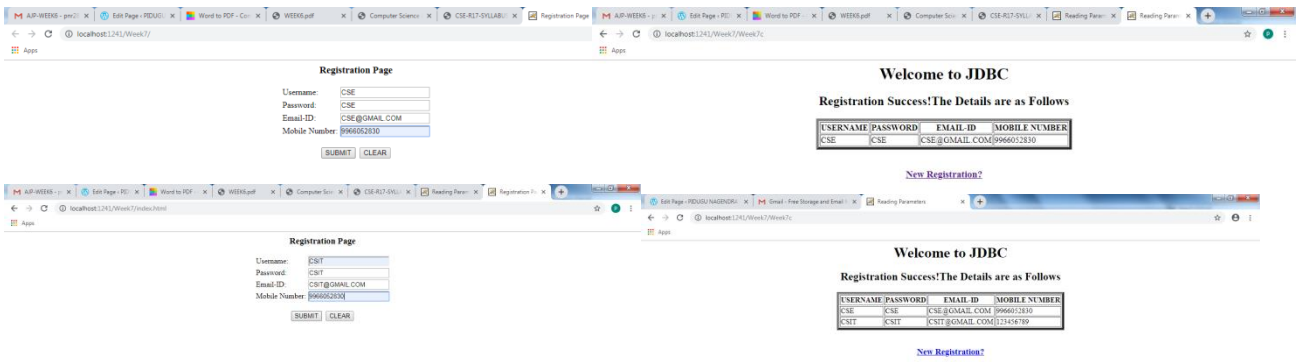
```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
public class Week7c extends HttpServlet {
   PreparedStatement stmt;
   Connection con;
   ResultSet rs;
   public void init()throws ServletException
   {
      try
      {
      Class.forName("oracle.jdbc.OracleDriver");
      con
=DriverManager.getConnection("jdbc:oracle:thin:NAGA/naga@localhost:1521/xe");
      }
      catch(Exception e)
      {
         System.out.println(e);
      }
   }
   public void doPost(HttpServletRequest request, HttpServletResponse response)
   throws IOException, ServletException
   {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      out.println("<html>");
      out.println("<head>");
      out.println("<title>Registration </title>");
      out.println("</head>");
      out.println("<body>");
      out.println("<h1 align='center'>Welcome to JDBC</h1>");
         out.println("<h2 align='center'>Registration Success!The Details are as
Follows</h2>");
      out.println("<table align='center' border='5'>");
      out.println("<th>USERNAME</th><th>PASSWORD</th><th>EMAIL-
ID</th><th>MOBILE NUMBER</th>");
      try
      {
      stmt=con.prepareStatement("insert into Reg values(?,?,?,?)");
      stmt.setString(1,request.getParameter("name"));
```

```
        stmt.setString(2,request.getParameter("pass"));
        stmt.setString(3,request.getParameter("email"));
        stmt.setString(4,request.getParameter("phone"));
        stmt.executeUpdate();
        stmt=con.prepareStatement("select * from Reg");
        rs=stmt.executeQuery();
        while(rs.next())
        {
            out.println("<tr><td>"+rs.getString(1)+"</td>");
            out.println("<td>"+rs.getString(2)+"</td>");
            out.println("<td>"+rs.getString(3)+"</td>");
            out.println("<td>"+rs.getString(4)+"</td></tr>");
               }
        }
        catch(Exception e)
        {
          System.out.println(e);
        }
        out.println("</table><br>");
        out.println("<center><h3><a href='index.html'>New Registration? </a>
           </h3></center>");
        out.println("</body>");
        out.println("</html>");
    }
    public void destroy()
    {
        try
        {
            rs.close();
            con.close();
             stmt.close();
        }
        catch (SQLException ex)
        {
            System.out.println(ex);
        }
    }
}
```

Week7c.html:

```
<html>
<head>
<title>Input Form</title>
</head>
<body>
<center>
<h3>Registration Page</h3>
<form name="register" method="post" action="Week7c">
<table>
<tr>
<td>Username:</td>
<td><input type="text" name="name"></td>
</tr>
<tr>
<td>Password:</td>
<td><input type="text" name="pass"></td>
</tr>
<tr>
<td>Email-ID:</td>
<td><input type="text" name="email"></td>
</tr>
<tr>
<td>Mobile Number:</td>
<td><input type="text" name="phone"></td>
</tr>
</table>
<br>
<input type="submit" value="SUBMIT">  <input type="reset"
value="CLEAR">
</form>
</center>
</body>
</html>
```

OUTPUT:



WEB.XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd">
   <servlet>
      <servlet-name>Week7a</servlet-name>
      <servlet-class>Week7a</servlet-class>
   </servlet>
   <servlet>
      <servlet-name>Week7b</servlet-name>
      <servlet-class>Week7b</servlet-class>
   </servlet>
   <servlet>
      <servlet-name>Week7bb</servlet-name>
      <servlet-class>Week7bb</servlet-class>
   </servlet>
   <servlet>
      <servlet-name>Week7c</servlet-name>
      <servlet-class>Week7c</servlet-class>
   </servlet>
   <servlet-mapping>
      <servlet-name>Week7a</servlet-name>
      <url-pattern>/Week7a</url-pattern>
   </servlet-mapping>
   <servlet-mapping>
      <servlet-name>Week7b</servlet-name>
      <url-pattern>/Week7b</url-pattern>
   </servlet-mapping>
   <servlet-mapping>
      <servlet-name>Week7bb</servlet-name>
      <url-pattern>/Week7bb</url-pattern>
   </servlet-mapping>
   <servlet-mapping>
      <servlet-name>Week7c</servlet-name>
      <url-pattern>/Week7c</url-pattern>
   </servlet-mapping>
   <session-config>
      <session-timeout>
         2
      </session-timeout>
   </session-config>
</web-app>
```

WEEK8

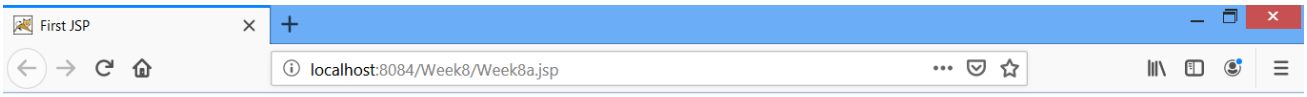
Week8a:

Simple JSP Program

Program:

```
<%@ page language="java" import="java.util.Date"  contentType="text/html" %>
<html>
<head>
<title>First JSP</title>
</head>
<body>
<center>
<h3>WELCOME TO JSP</h3><br>
<strong>Current Time is</strong>: <%=new Date() %>
</center>
</body>
</html>
```

OUTPUT:



WELCOME TO JSP

Current Time is: Fri Oct 04 16:35:01 IST 2019

Week8b:

Program to call a Java Bean in JSP

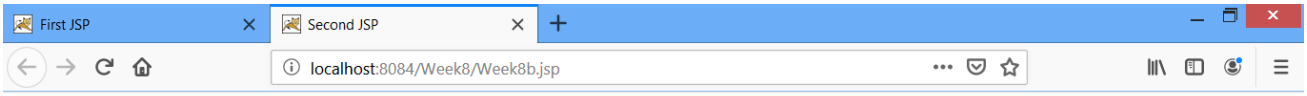
Program:

```
<%@page contentType="text/html"%>
<jsp:useBean id="cse" class="Bean.MyBean"></jsp:useBean>
<!DOCTYPE html>
<html>
    <head>
        <title>Second JSP</title>
    </head>
    <body>
    <%! int i=4;%>
        <%
           int j=cse.doubleIt(i);
        out.println("<h1>2*4="+j+"</h1>");
              %>
    </body>
</html>
```

MyBean.java:

```
package Bean;
import javax.ejb.Stateless;
@Stateless
public class MyBean {
    public int doubleIt(int number) {
 return 2 * number;
 }
}
```

OUTPUT:



2*4=8

Week8c:

Program to access properties Using jsp:getProperty and jsp:setProperty.

Program:

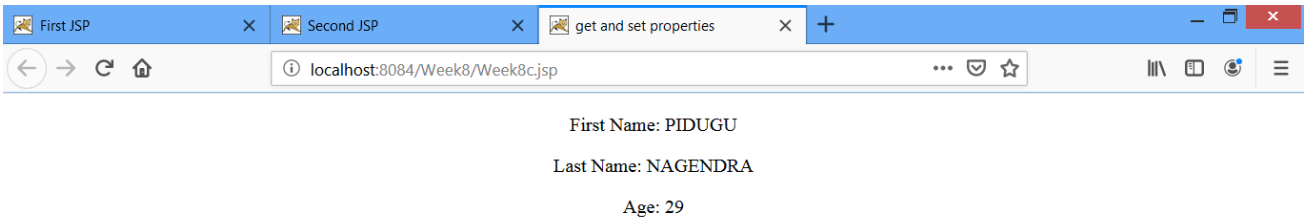
```
<html>
  <head>
    <title>get and set properties </title>
  </head>
    <body>
  <center>
    <jsp:useBean id = "person" class = "Bean.PersonBean">
      <jsp:setProperty name = "person" property = "firstName" value = "PIDUGU"/>
      <jsp:setProperty name = "person" property = "lastName" value = "NAGENDRA"/>
      <jsp:setProperty name = "person" property = "age" value = "29"/>
    </jsp:useBean>
    <p>First Name:
      <jsp:getProperty name = "person" property = "firstName"/>
    </p>
        <p>Last Name:
      <jsp:getProperty name = "person" property = "lastName"/>
    </p>
        <p>Age:
      <jsp:getProperty name = "person" property = "age"/>
    </p>
  </center>
  </body>
</html>
```

PersonBean.java:

```
package Bean;
import javax.ejb.Stateless;
public class PersonBean {
  private String firstName = null;
  private String lastName = null;
  private int age = 0;
  public void setFirstName(String firstName){
    this.firstName = firstName;
  }
   public String getFirstName(){
    return firstName;
  }
  public void setLastName(String lastName){
    this.lastName = lastName;
  }

public String getLastName(){
```

```
    return lastName;
  }
  public void setAge(int age){
    this.age = age;
  }
  public int getAge(){
    return age;
  }
}
```

OUTPUT:



Week8d:

Simple JSP page with custom tags.

Program:

```
<%@page  contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib prefix="myprefix" uri="WEB-INF/tlds/mytld.tld"%>
<html> <head>  <title>Custom Tags in JSP Example</title>
 </head>
 <body>
     <myprefix:MyTag/>
 </body></html>
```

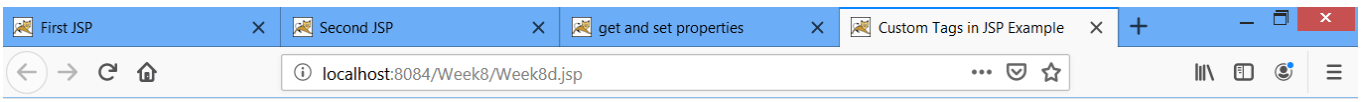
Mytld.tld:

```
<?xml version="1.0" encoding="UTF-8"?>
<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd">
  <tlib-version>1.0</tlib-version>
  <short-name>mytld</short-name>
  <uri>/WEB-INF/tlds/mytld</uri>
  <tag>
    <name>MyTag</name>
    <tag-class>Bean.MyHandler</tag-class>
    <body-content>empty</body-content>
  </tag>
</taglib>
```

MyHandler.java:

```
package Bean;
import java.io.IOException;
import javax.servlet.jsp.JspWriter;
import javax.servlet.jsp.JspException;
import javax.servlet.jsp.tagext.JspFragment;
import javax.servlet.jsp.tagext.SimpleTagSupport;
public class MyHandler extends SimpleTagSupport {
    @Override
    public void doTag() throws JspException, IOException {
        JspWriter out = getJspContext().getOut();
       out.println("<CENTER><h1>WELCOME TO CUSTOM TAG</h1></CENTER>");
    }
 }
```

OUTPUT:



WELCOME TO CUSTOM TAG