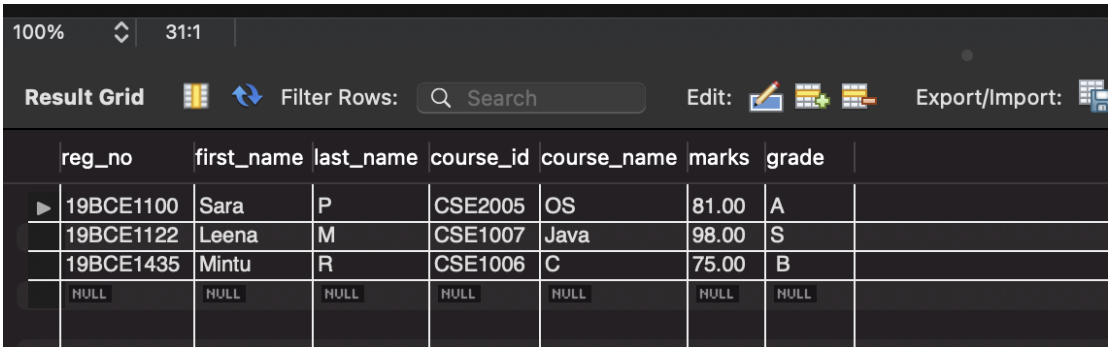
CSE 1007 LAB 13

-AISHWARYA S 19BCE1709

1.

OUTPUT:

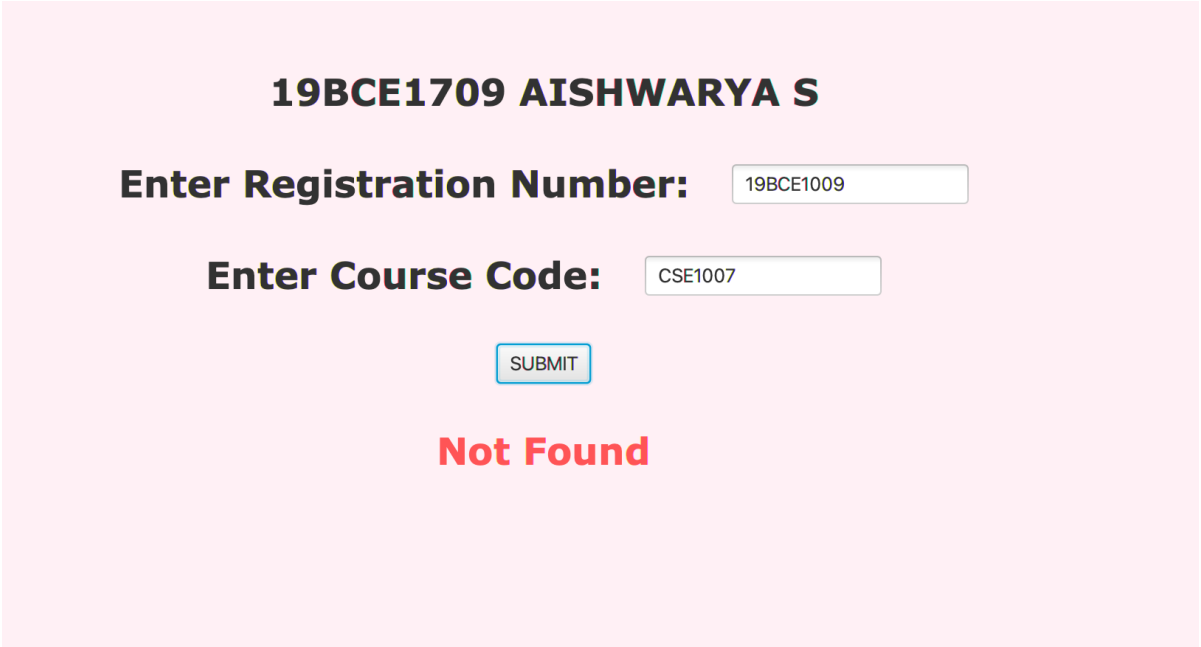
DATABASE:



reg_no	first_name	last_name	course_id	course_name	marks	grade
19BCE1100	Sara	P	CSE2005	OS	81.00	A
19BCE1122	Leena	M	CSE1007	Java	98.00	S
19BCE1435	Mintu	R	CSE1006	C	75.00	B
NULL	NULL	NULL	NULL	NULL	NULL	NULL

OUTPUT 1:

OUTPUT 2:



CODE:

```
package jlabs;

import java.util.Timer;
import java.util.TimerTask;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.HashSet;
import java.util.List;
import java.util.Set;
import java.util.Stack;

import javafx.animation.AnimationTimer;
import javafx.animation.Timeline;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.geometry.Bounds;
import javafx.geometry.Pos;
import javafx.scene.Node;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.control.Tooltip;
```

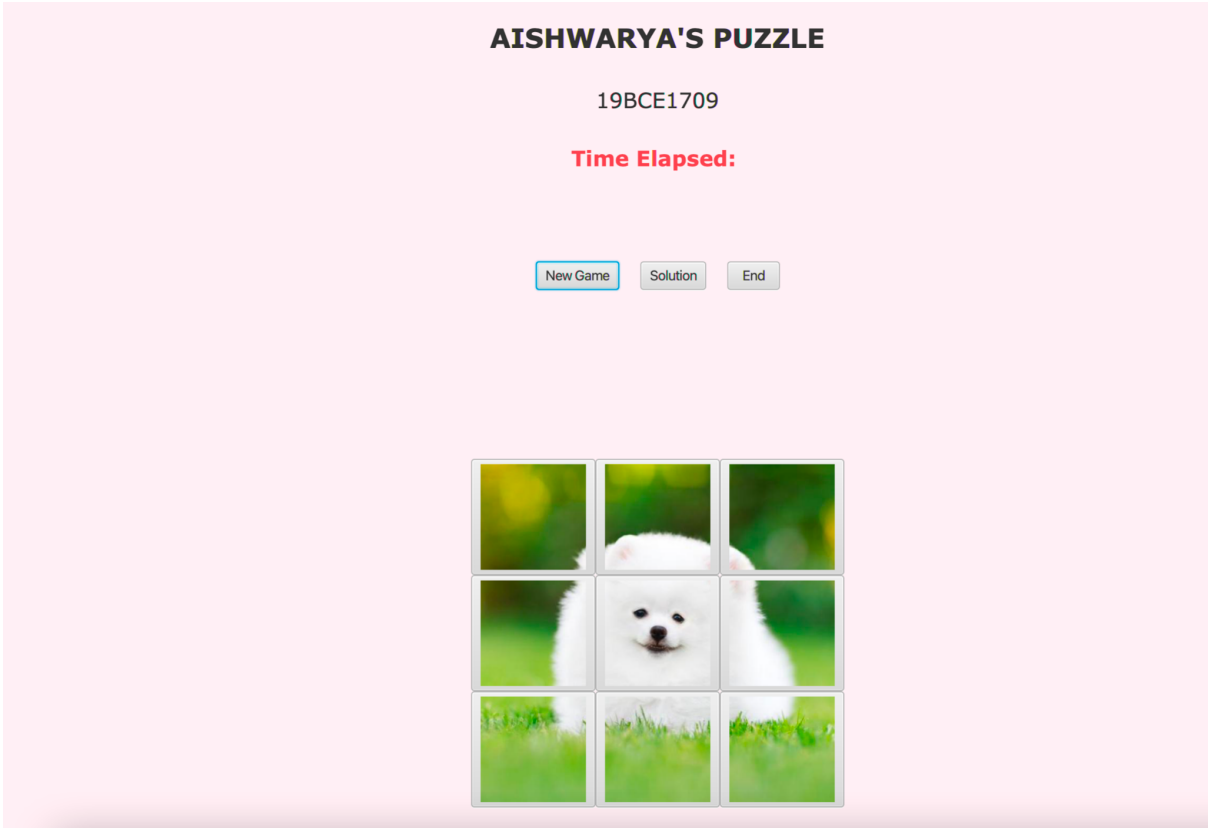
```
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.BorderPane;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.Pane;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
import javafx.scene.paint.Color;
import javafx.scene.shape.Circle;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.scene.text.Text;

public class forms extends Application{
	public static void main(String[] args) {
	   launch(args);
	}
	String query(String reg, String cc) throws SQLException
	{
			Connection con= DriverManager.getConnection("jdbc:mysql://localhost:3306/coe","root",
"Haloarenes");
			String query = "select * from results where reg_no=? and course_id=?";
			System.out.print(reg+" "+cc+"\n");
			PreparedStatement preparedStmt = con.prepareStatement(query);
			preparedStmt.setString(1,reg);
			preparedStmt.setString(2,cc);
			ResultSet rs = preparedStmt.executeQuery();
			preparedStmt.clearParameters();

			String r="Not Found";
			while (rs.next()) {
		r = rs.getString("first_name")+" "+rs.getString("last_name")+"'s marks and grade for the course
"+rs.getString("course_name")+" are "+rs.getString("marks")+" and "+rs.getString("grade");

		System.out.print("\n"+r);

	    }

			return r;

	}

	@Override
	public void start(Stage arg0) throws Exception {

			HBox hb1= new HBox();
			HBox hb2= new HBox();
			VBox vb = new VBox();
			Label myn=new Label("19BCE1709 AISHWARYA S");
			Label reg= new Label("Enter Registration Number: ");
			Label cc= new Label("Enter Course Code: ");
			Label res= new Label("");
			TextField reg1=new TextField();
			TextField cc1= new TextField();
			 hb1.getChildren().add(reg);
			 hb1.getChildren().add(reg1);
			 hb2.getChildren().add(cc);
```

```
                hb2.getChildren().add(cc1);
                vb.getChildren().add(myn);
                vb.getChildren().add(hb1);
                vb.getChildren().add(hb2);
                hb1.setSpacing(20.0);
                hb2.setSpacing(20.0);
                reg.setFont(Font.font("verdana", FontWeight.BOLD,25));
                 cc.setFont(Font.font("verdana", FontWeight.BOLD,25));
                 res.setFont(Font.font("verdana", FontWeight.BOLD,25));
                 myn.setFont(Font.font("verdana", FontWeight.BOLD,25));
                 res.setTextFill(Color.web("red", 0.8));
               vb.setSpacing(30.0);

                Button sub= new Button("SUBMIT");

               sub.setOnAction(event ->
               {
                        try {
                                res.setText(query(reg1.getText().toString(),cc1.getText().toString()));
                        } catch (SQLException e) {
                                // TODO Auto-generated catch block
                                e.printStackTrace();
                        }




        });
                hb1.setAlignment(Pos.CENTER);
                hb2.setAlignment(Pos.CENTER);
                vb.setAlignment(Pos.CENTER);
                 vb.setStyle("-fx-background-color: lavenderblush;");
                 vb.getChildren().add(sub);
                 vb.getChildren().add(res);
                 Scene scene = new Scene(vb,2000,3000,Color.LAVENDERBLUSH);
                  scene.setFill(Color.LAVENDERBLUSH);

                    arg0.setScene(scene);
                    arg0.show();


    }


}
```

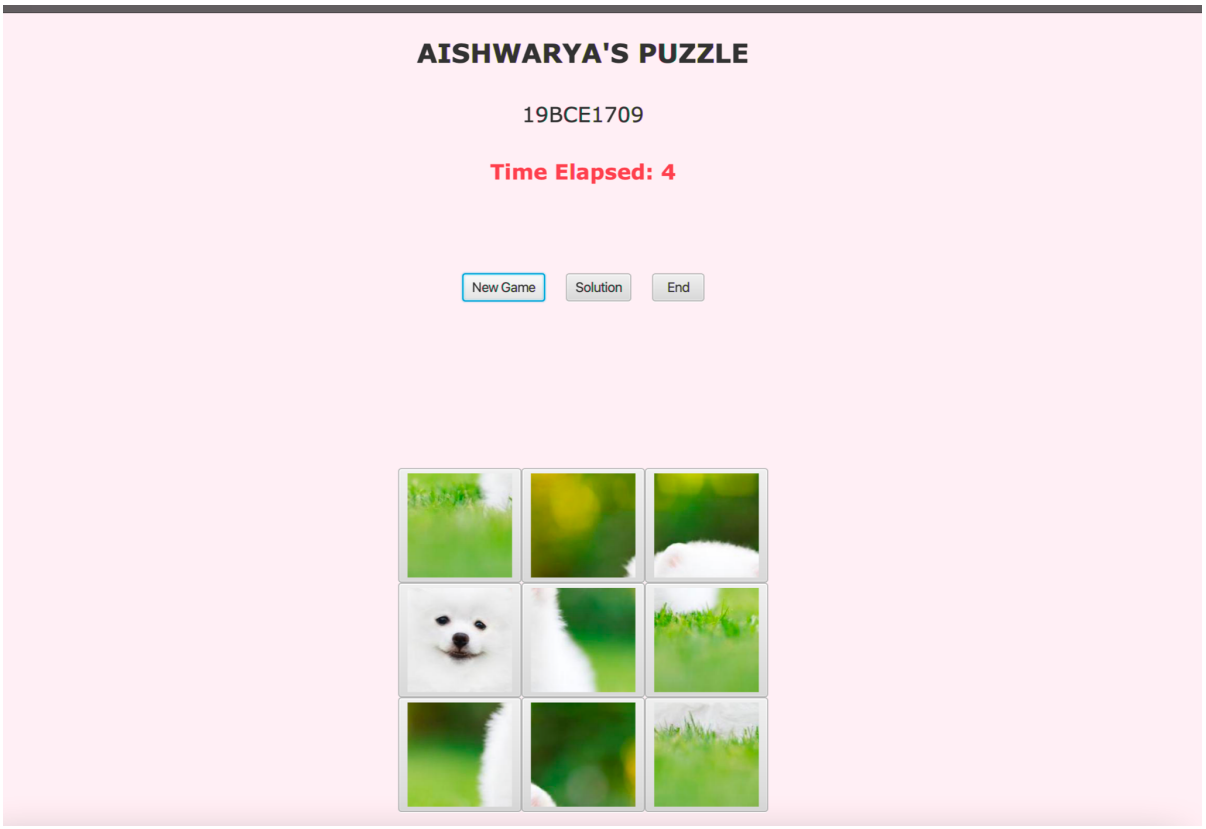
2.

OUTPUT:

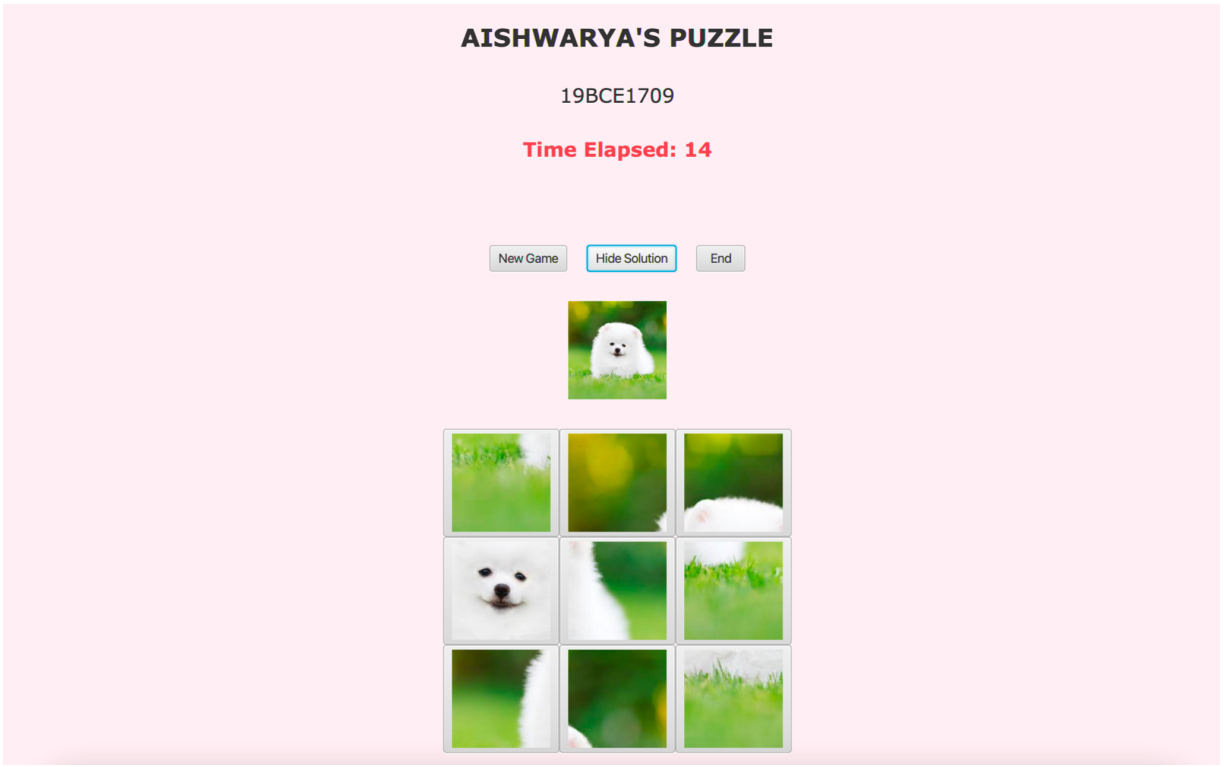
Initially



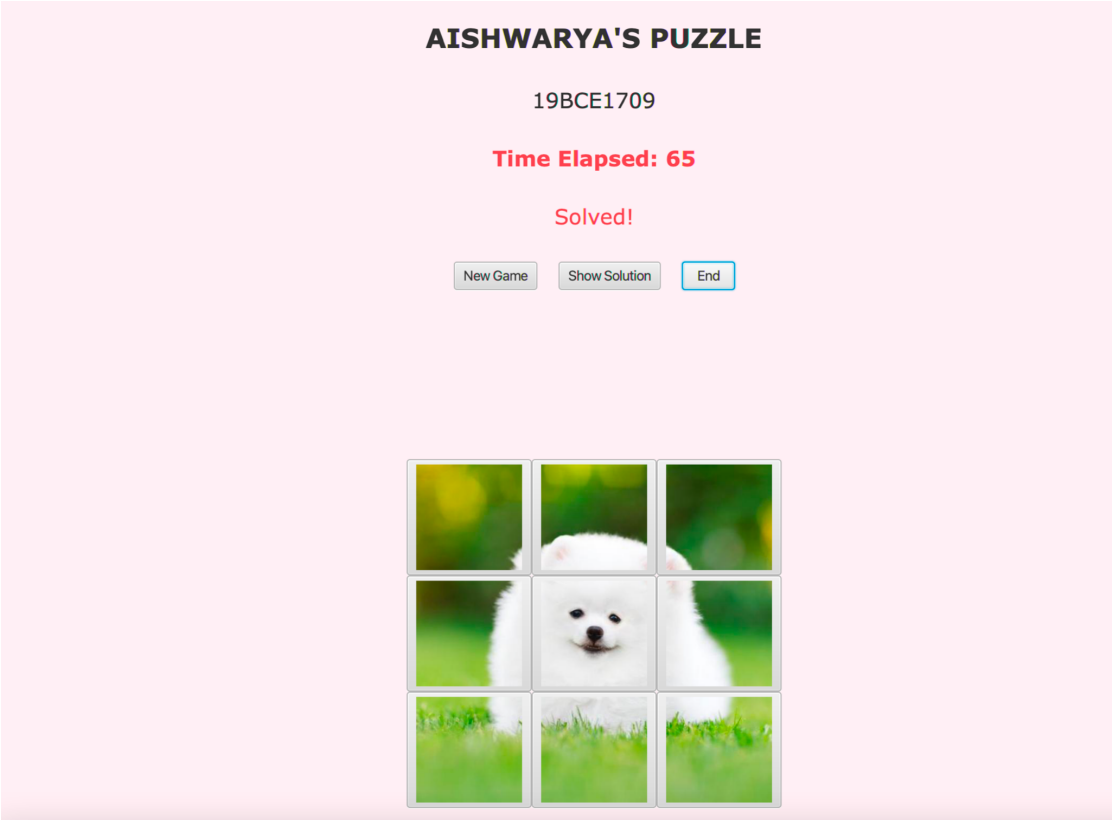
After starting a new game



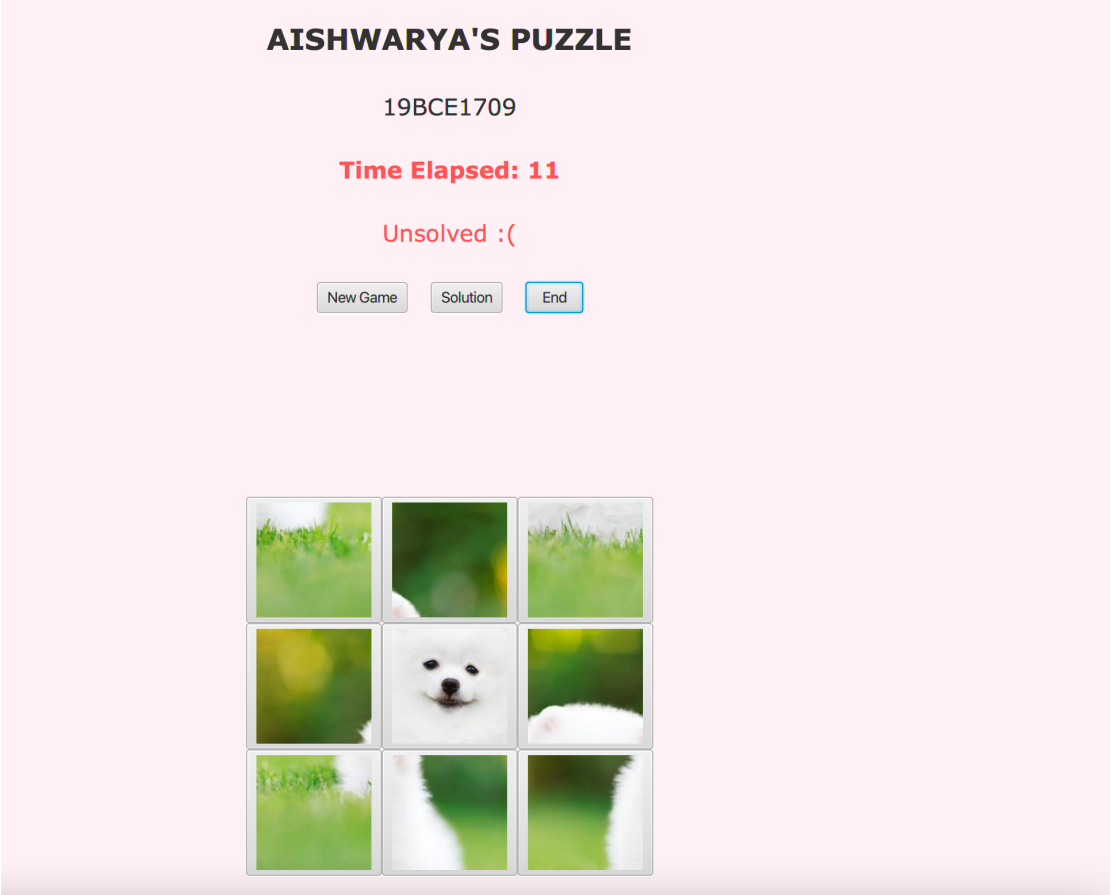
To show solution



If the puzzle is solved



Else, if the puzzle is unsolved



CODE:

```
package jlabs;
import java.util.Timer;
import java.util.TimerTask;

import java.util.ArrayList;
import java.util.HashMap;
import java.util.HashSet;
import java.util.List;
import java.util.Set;
import java.util.Stack;

import javafx.animation.AnimationTimer;
import javafx.animation.Timeline;
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.geometry.Bounds;
import javafx.geometry.Pos;
import javafx.scene.Node;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.Tooltip;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.layout.BorderPane;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.Pane;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
import javafx.scene.paint.Color;
import javafx.scene.shape.Circle;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.scene.text.Text;

import java.util.concurrent.ThreadLocalRandom;
public class lab13 extends Application {
		String[] sa= {"UP", "DOWN","LEFT", "RIGHT"};
		Button[] b=new Button[9];
		HashMap<Integer,Set<Integer>> hp= new HashMap<Integer,Set<Integer>>();
		Stack<Integer> stack = new Stack<Integer>();
		List<Image> imgs= new ArrayList<Image>();
		List<ImageView> imgs1= new ArrayList<ImageView>();
		Set<Integer>set= new HashSet<Integer>();
		int total=0;
		int max=9;
		int min=0;
		int state=0;
		int newg=0;
		Label solved=new Label("");
		Label status= new Label("Time Elapsed: ");
		private static Integer time = 0;
```

```
        static double x, y = 0;
        public static void main(String[] args) {
           launch(args);
        }
        @Override
        public void start(Stage st) throws Exception {
        UIinit(st);
        }
public void new_game()
{    for(int i=0;i<9;i++)
   {  int rand= ThreadLocalRandom.current().nextInt(min, max);

   while(set.contains(rand))
   {
         rand= ThreadLocalRandom.current().nextInt(min, max);


   }
   set.add(rand);
   b[i].setGraphic(imgs1.get(rand));

}
}


public boolean end_game()
{  int f=0;
                int j=0;
                for(int i=0;i<9;i++)
                {  j=i+1;
                        if(!b[i].getGraphic().getId().equals(""+j))
                        {
                                f=f+1;
                                System.out.print(b[i].getGraphic().getId()+" ");

                        }

                }
                System.out.print(f);
                if(f==0)
                        return true;
                else
                        return false;




}


private class TimerMethod extends AnimationTimer {
        //define the handle method
         private long lu = 0 ;
        @Override
        public void handle(long now) {
                if (now - lu >= 1000_000_000) {
                        startc();
```

```
    lu = now ;
}

    }

    private void startc() {
      time++;


    status.setText("Time Elapsed: "+Integer.toString(time));


    System.out.println(time+" "+" s");
    }
    }


    public void UIinit(Stage primaryStage) throws Exception {



                for (int i = 1; i <= 9; i++)
                {
            imgs.add(new Image(getClass().getResource("img"+i + ".png").toExternalForm()));

            imgs1.add(new ImageView((imgs.get(i-1))));
             imgs1.get(i-1).setId(""+i);
        }


                ImageView fp= new ImageView(new Image(getClass().getResource("dog.jpg").toExternalForm()));
                fp.setFitHeight(100);
                fp.setFitWidth(100);
                fp.setVisible(false);

                Label name= new Label("AISHWARYA'S PUZZLE");
                Label regno= new Label("19BCE1709");
                 VBox vb = new VBox();
                 vb.getChildren().add(name);
                 vb.getChildren().add(regno);
                 HBox hb = new HBox();
                 vb.getChildren().add(status);
                 vb.getChildren().add(solved);
                 Button reset=new Button("New Game");
                 hb.getChildren().add(reset);
                 Button sol= new Button("Solution");
                 hb.getChildren().add(sol);
                 Button end= new Button("  End  ");
                 hb.getChildren().add(end);



                 AnimationTimer tm = new TimerMethod();
                 status.setFont(Font.font("verdana", FontWeight.BOLD,20));
                 solved.setFont(Font.font("verdana",20));
                 name.setFont(Font.font("verdana", FontWeight.BOLD,25));
                 regno.setFont(Font.font("verdana",20));
```

```
solved.setTextFill(Color.web("red", 0.8));
status.setTextFill(Color.web("red", 0.8));




GridPane gp= new GridPane();


vb.getChildren().add(hb);
vb.getChildren().add(fp);

int col=0;
int id=0;
String s="img";
int kk=1;

for(int i=0;i<3;i++)
{
        b[id]= new Button();
    b[id].setPrefWidth(70);
    b[id].setId(""+id);
        gp.add(b[id], col, i);
        //s=s+k;


        id++;
        col++;

        b[id]= new Button();
        b[id].setPrefWidth(70);
        b[id].setId(""+id);
        gp.add(b[id], col, i);

        id++;
        col++;

        b[id]= new Button();
        b[id].setPrefWidth(70);
        b[id].setId(""+id);
        gp.add(b[id], col, i);

        id++;

        col=0;


}

for(int i=0;i<9;i++)
{  b[i].setGraphic(imgs1.get(i));
imgs1.get(i).setFitHeight(100);
imgs1.get(i).setFitWidth(100);

}
for(int i=0;i<9;i++)
```

```
{    int j=i;
b[i].setPrefWidth(100);
b[i].setPrefHeight(100);
            b[i].setOnAction(event -> {
                stack.push(j);

                 total++;
                 if(total==2)
                 {

                   int s1=(Integer) stack.pop();
                   int s2=(Integer) stack.pop();
                  // String a1=b[s1].getText();
                   //String a2=b[s2].getText();
                   System.out.println(s1+" "+s2+" ");
                  // System.out.println(a1+" "+a2);
                  Node a1= b[s1].getGraphic();

                   Node a2= b[s2].getGraphic();

                    if(s1==s2-1 || s1==s2+3 || s1==s2+1 ||s1==s2-3)
              { b[s1].setGraphic(a2);
                        b[s2].setGraphic(a1);
                    }
                    total=0;
                    stack.clear();


                }

              });
}


        end.setOnAction(event -> {
          if(end_game())
                    {solved.setText("Solved!");


                    }
          else
          {
                    solved.setText("Unsolved :(");
          }
          tm.stop();
          newg=0;



        });

reset.setOnAction(event ->
        { if(newg==0)
                  {new_game();
                   status.setText("Time: ");
                   solved.setText("");
           tm.start();
           newg++;
```

```
            }
            System.out.print("New Game");


        });

            sol.setOnAction(event ->
            {   if(state==0)
            {   sol.setText("Hide Solution");
                fp.setVisible(true);
                state=1;
            }
            else
                        {   sol.setText("Show Solution");
                            fp.setVisible(false);
                            state=0;
                        }



        });




            gp.setAlignment(Pos.CENTER);

            hb.setAlignment(Pos.CENTER);
            hb.setSpacing(20.0);
            vb.setSpacing(30.0);
             vb.getChildren().add(gp);
             vb.setAlignment(Pos.CENTER);
             vb.setStyle("-fx-background-color: lavenderblush;");

              Scene scene = new Scene(vb,2000,3000,Color.LAVENDERBLUSH);
              scene.setFill(Color.LAVENDERBLUSH);

                primaryStage.setScene(scene);
                primaryStage.show();


}
}
```