**TASK DESCRIPTION**

This is a program using javafx that displays five playing cards. Three random cards out of 52 are displayed in first row. Then second row contains another card other than first row at 45 degree of angle in right direction. And finally, third row contains another card other than first row at 90 degree. Image icon of cards needs to be shown for this cards.

1. To do this program, cards grid that extends application and overrides start method.
2. Then, number from 1 to 52 are stored in array list and shuffled which can be used later to set three random cards for first row.
3. Then hbox has been setup with padding and alignment settings is set for first row.
4. Three imageview is set with three random card images and set into hbox pane.
5. Another vbox has been setup with padding and alignment settings is set for second and third row.
6. Two imageview is set with one per row and set into vbox.
7. Borderpan is created with top as hbox and bottom as vbox.
8. Finally scene is created and is displayed with program fully running.

**TASK OUTPUT**

|  |  |
| --- | --- |
| **Test Data** | **Screenshot** |
| Run the program |  |

**TASK – CODE**

**import** javafx.scene.image.Image;

**import** javafx.scene.image.ImageView;

**import** javafx.geometry.Insets;

**import** javafx.geometry.Pos;

**import** java.util.\*;

**import** javafx.application.Application;

**import** javafx.stage.Stage;

**import** javafx.scene.layout.BorderPane;

**import** javafx.scene.layout.HBox;

**import** javafx.scene.layout.VBox;

**import** javafx.scene.Scene;

**public** **class** CardsGrid **extends** Application {

// overriding the start method in application class

@Override

**public** **void** start(Stage primaryStage)

{

// creating array list of 52 cards

ArrayList<Integer> cardList = **new** ArrayList<Integer>();

**for** (**int** i = 1; i <= 52; i++)

{

cardList.add(i);

}

// shuffling all the numbers in array list

Collections.*shuffle*(cardList);

// creating horizontal pane and align in the center

HBox hPane = **new** HBox(15);

hPane.setPadding(**new** Insets(15,15,15,15));

hPane.setAlignment(Pos.***CENTER***);

// creating the first card image and add to horizontal pane in first row

Image card1 = **new** Image("file:cards\\" + cardList.get(0) + ".png");

ImageView cardView1 = **new** ImageView(card1);

hPane.getChildren().add(cardView1);

// creating the second card image and add to horizontal pane in first row

Image card2 = **new** Image("file:cards\\" + cardList.get(1) + ".png");

ImageView cardView2 = **new** ImageView(card2);

hPane.getChildren().add(cardView2);

// creating the third card image and add to horizontal pane in first row

Image card3 = **new** Image("file:cards\\" + cardList.get(2) + ".png");

ImageView cardView3 = **new** ImageView(card3);

hPane.getChildren().add(cardView3);

// creating vertical pane and align in the center

VBox vPane = **new** VBox(15);

vPane.setAlignment(Pos.***CENTER***);

// creating the first joker image and add to vertical pane in second row with 45 degree rotation

Image joker1 = **new** Image("file:cards\\joker1.png");

ImageView jokerView1 = **new** ImageView(joker1);

jokerView1.setRotate(45);

vPane.getChildren().add(jokerView1);

// creating the second joker image and add to vertical pane in third row at 90 degree rotation

Image joker2 = **new** Image("file:cards\\joker2.png");

ImageView jokerView2 = **new** ImageView(joker2);

jokerView2.setRotate(90);

vPane.getChildren().add(jokerView2);

// creating border pane and setting up top with horizontal pane having one row with three cards

// and bottom with vertical pane having two rows with one card each

BorderPane pane = **new** BorderPane();

pane.setTop(hPane);

pane.setBottom(vPane);

// creating a scene and place it in stage

Scene scene = **new** Scene(pane);

primaryStage.setTitle("Cards in a Grid");

primaryStage.setScene(scene);

primaryStage.show();

}

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

*launch*(args);

}

}