



AOOP Assignment Submission Report

[Submitted as part of CTA Assignment No-2]

Course:	Advanced Object-Oriented Programming	Course Code:	18UCSE508
Semester:	V	Division:	A

Submitted by:

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Q1. Write a Java program to build the GUI application using JavaFX for the following requirements:

- a) Read user name and password using appropriate JavaFX controls.
- b) Validate the input. If user name and password are matched with the assumed values, then display the welcome scene with proper text.
- c) If user name and password don't match, then raise appropriate exception.

```
package application;
import javafx.application.Application;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.PasswordField;
import javafx.scene.control.TextField;
import javafx.scene.layout.FlowPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
public class Question1 extends Application {
    public static void main(String[] args) {
        launch(args);
    }
    @Override
    public void start(Stage myStage) {
        // TODO Auto-generated method stub
        myStage.setTitle("UserName and PassWord");

        VBox vbox = new VBox();
        HBox hbox = new HBox();

        Label label = new Label("User Name : ");
        TextField tf = new TextField();

        // layout for component
        HBox hbox2 = new HBox();

        Label label2 = new Label(" password : ");
        PasswordField pass = new PasswordField();

        // to keep components center
        hbox.setAlignment(Pos.CENTER);
        hbox2.setAlignment(Pos.CENTER);

        //adding components to the horizontal layout
        hbox.getChildren().addAll(label,tf);
        hbox2.getChildren().addAll(label2,pass);

        // creating the button
```

```
Button btn = new Button("Submit");

// label for show results
Label label1 = new Label("");

// assumed value for validation
String username = "20cs051";
String password = "Madhushree";
// setting action on button
btn.setOnAction(e -> {
// getting the values from the field
String EUsername = tf.getText();
String Epassword = pass.getText();

// if entered username and password are equal then create a new welcome
Scene
if(username.equals(EUsername) && password.equals(Epassword)) {
// label1.setText(" : WELCOME : ");
FlowPane flowpane = new FlowPane();
flowpane.setAlignment(Pos.CENTER);
Label welcome = new Label(": Welcome :");
flowpane.getChildren().add(welcome);
Scene myScene1 = new Scene(flowpane,500,300);
myStage.setScene(myScene1);
}else {
try {
throw new MyException();
}catch(MyException e1){
label1.setText(e1.toString());
}
}
});

// adding horizontal components to the main vertical layout
vbox.getChildren().addAll(hbox,hbox2,btn,label1);

// adding layout to the scene
Scene myScene = new Scene(vbox,500,300);

// sapcing between the vartical components
vbox.setSpacing(10);
vbox.setAlignment(Pos.CENTER);

myStage.setScene(myScene);

myStage.show();
}
}

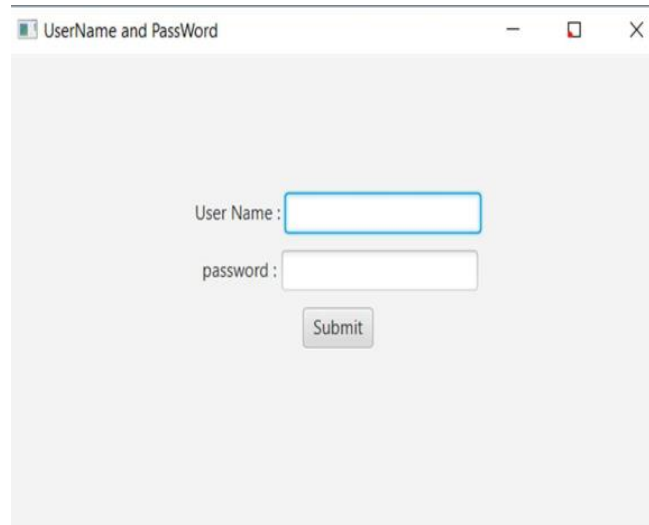
class MyException extends Exception{
public String toString() {
return "Invalid UserName and Password";
```

```

    }
}

}

```



Q2. Write a Java program to build the GUI application using JavaFX for the following requirements:

a) Create a Menu control to display the menu items: File, Edit & Help.

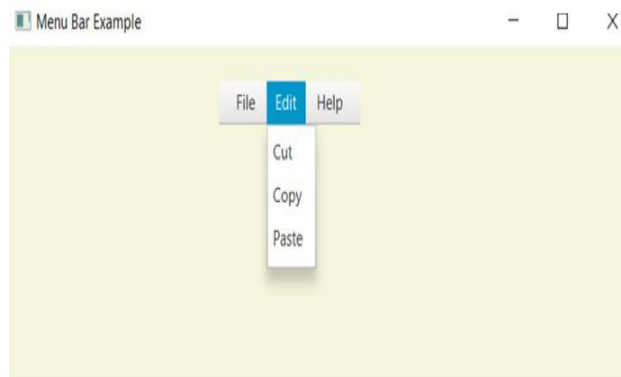
b) Create sub menus in the order: File → New, Open & Save. Edit → Cut, Copy & Paste. Help → Help Centre, About Us

```

package application;
import javafx.application.Application;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.control.Menu;
import javafx.scene.control.MenuBar;
import javafx.scene.control.MenuItem;
import javafx.scene.paint.Color;
import javafx.stage.Stage;
public class Question2 extends Application {
    public void start(Stage stage) {
        //Creating file menu
        Menu file = new Menu("File");
        //Creating file menu items
        MenuItem item1 = new MenuItem("New");
        MenuItem item2 = new MenuItem("Open");
        MenuItem item3 = new MenuItem("Save");
        //Adding all the menu items to the file menu
    }
}

```

```
file.getItems().addAll(item1, item2, item3);
//Creating edit menu
Menu edit = new Menu("Edit");
//Creating fileList menu items
MenuItem item6 = new MenuItem("Cut");
MenuItem item7 = new MenuItem("Copy");
MenuItem item8 = new MenuItem("Paste");
//Adding all the items to File List menu
edit.getItems().addAll(item6, item7, item8);
//Creating help menu
Menu help = new Menu("Help");
MenuItem item9 = new MenuItem("Help center");
MenuItem item10 = new MenuItem("About Us");
help.getItems().addAll(item9, item10);
//Creating a menu bar
MenuBar menuBar = new MenuBar();
menuBar.setTranslateX(200);
menuBar.setTranslateY(20);
//Adding all the menus to the menu bar
menuBar.getMenus().addAll(file, edit, help);
//Setting the stage
Group root = new Group(menuBar);
Scene scene = new Scene(root, 595, 200, Color.BEIGE);
stage.setTitle("Menu Bar Example");
stage.setScene(scene);
stage.show();
}
public static void main(String args[]){
    launch(args);
}
}
```



Q3. Write a Java program to build the GUI application using JavaFX for the following requirements:

- Create Context menu involving the menu items in the order: New & View.
- Create sub menus for the above main context menu: New → File, Folder & Image. View → Large, Medium & Small. The context menu must be displayed on right-click of the mouse button.

```
package application;
import java.io.FileNotFoundException;
import javafx.application.Application;
import javafx.geometry.Insets;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ContextMenu;
import javafx.scene.control.MenuItem;
//import javafx.scene.control.TextField;
import javafx.scene.layout.HBox;
import javafx.scene.paint.Color;
import javafx.stage.Stage;
public class Question3 extends Application {
    public void start(Stage stage) throws FileNotFoundException {
        //Creating the image view
        Button button1 = new Button("new");
        Button button2 = new Button("view");
        //TextField textField = new TextField();
        //Creating a context menu
        ContextMenu contextMenu1 = new ContextMenu();
        //Creating the menu Items for the context menu
        MenuItem item1 = new MenuItem("file");
        MenuItem item2 = new MenuItem("folder");
        MenuItem item3 = new MenuItem("image");
        contextMenu1.getItems().addAll(item1, item2, item3);
        //Adding the context menu to the button and the text field
        ContextMenu contextMenu2 = new ContextMenu();
        //Creating the menu Items for the context menu
        MenuItem item11 = new MenuItem("large");
        MenuItem item21 = new MenuItem("medium");
        MenuItem item31 = new MenuItem("small");
        contextMenu2.getItems().addAll(item11, item21, item31);

        // textField.setContextMenu(contextMenu);
        button1.setContextMenu(contextMenu1);
        button2.setContextMenu(contextMenu2);
        HBox layout = new HBox(20);
        layout.setPadding(new Insets(15, 15, 15, 100));
        layout.getChildren().addAll(button1, button2);
        //Setting the stage
        Scene scene = new Scene(new Group(layout), 595, 150, Color.BEIGE);
        stage.setTitle("CustomMenuItem");
        stage.setScene(scene);
        stage.show();
    }
    public static void main(String args[]){
```

```
launch(args);
}
}
```



Q4. Write a JavaFX program that produces the following output when executed and displays Dialog Box 9 (as shown in Figure.2) on click of Register button (as shown in Figure.1):

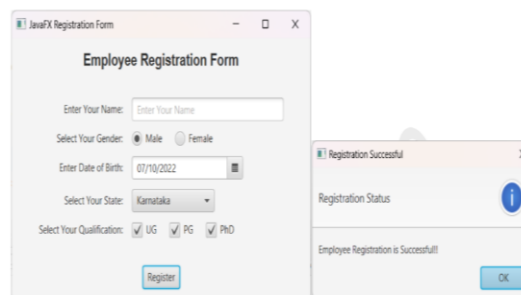


Figure. 1

Figure. 2

```
package application;
import javafx.application.Application;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.control.Dialog;
import javafx.scene.control.DialogPane;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.CheckBox;
import javafx.scene.control.ChoiceBox;
import javafx.scene.control.DatePicker;
import javafx.scene.layout.BorderPane;
//import javafx.scene.control.Button;
```

```
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.control.ButtonType;
import javafx.scene.control.Label;
//import javafx.scene.control.Label;
//import javafx.scene.control.ListView;
import javafx.scene.control.RadioButton;
import javafx.scene.layout.GridPane;
import javafx.scene.text.Text;
import javafx.scene.control.TextField;
import javafx.scene.control.ToggleGroup;
//import javafx.scene.control.ToggleButton;
import javafx.stage.Stage;

public class Question4 extends Application {
    @Override
    public void start(Stage stage) {
        //Label for name
        BorderPane root = new BorderPane();
        stage.setTitle(" JavaFX Registration form");
        // label headerLabel = new Label("Registration Form");
        Label label = new Label("Employee Registration Form");
        // Object root;
        root.setTop(label);
        //root.setAlignment(label, Pos.CENTER);

        Text nameLabel = new Text("Enter your Name");

        //Text field for name
        TextField nameText = new TextField();

        //Label for date of birth

        Text dobLabel = new Text("Enter Date of birth");

        //date picker to choose date
        DatePicker datePicker = new DatePicker();

        //Label for gender
        Text genderLabel = new Text("Enter your Gender");

        //Toggle group of radio buttons
        ToggleGroup groupGender = new ToggleGroup();
```

```
RadioButton maleRadio = new RadioButton("male");
maleRadio.setToggleGroup(groupGender);
RadioButton femaleRadio = new RadioButton("female");
femaleRadio.setToggleGroup(groupGender);
```

```
Text selectyourqualificationLabel = new Text("Select your qualification");
```

```
//check box for education
```

```
CheckBox ugCheckBox = new CheckBox("UG");
ugCheckBox.setIndeterminate(false);
```

```
//check box for education
```

```
CheckBox pgCheckBox = new CheckBox("PG");
pgCheckBox.setIndeterminate(false);
CheckBox phdCheckBox = new CheckBox("PhD");
phdCheckBox.setIndeterminate(false);
```

```
//Label for location
```

```
Text locationLabel = new Text("select your state");
```

```
//Choice box for location
```

```
ChoiceBox locationchoiceBox = new ChoiceBox();
locationchoiceBox.getItems().addAll
("Karnataka", "Tamilnadu", "Delhi", "Mumbai", "AP");
```

```
Button buttonRegister = new Button("Register");
```

```
//Creating a Grid Pane
```

```
GridPane gridPane = new GridPane();
```

```
//Setting size for the pane
```

```
gridPane.setMinSize(500, 500);
```

```
//Setting the padding
```

```
gridPane.setPadding(new Insets(10, 10, 10, 10));
```

```
//Setting the vertical and horizontal gaps between the columns
```

```
gridPane.setVgap(5);
gridPane.setHgap(5);
```

```
//Setting the Grid alignment
gridPane.setAlignment(Pos.CENTER);

//Arranging all the nodes in the grid
gridPane.add(nameLabel, 0, 0);
gridPane.add(nameText, 1, 0);

gridPane.add(dobLabel, 0, 3);
gridPane.add(datePicker, 1, 3);

gridPane.add(genderLabel, 0, 2);
gridPane.add(maleRadio, 1, 2);
gridPane.add(femaleRadio, 2, 2);
// gridPane.add(reservationLabel, 0, 3);
//gridPane.add(yes, 1, 3);

gridPane.add(selectyourqualificationLabel , 0, 5);
gridPane.add(ugCheckBox, 1, 5);
gridPane.add(pgCheckBox, 2, 5);
gridPane.add(phdCheckBox,3, 5);

gridPane.add(locationLabel, 0, 4);
gridPane.add(locationchoiceBox, 1, 4);

gridPane.add(buttonRegister, 1, 8);

//Styling nodes
buttonRegister.setStyle(
"-fx-font: normal bold 15px 'serif' " );

nameLabel.setStyle("-fx-font: normal bold 15px 'serif' ";);
dobLabel.setStyle("-fx-font: normal bold 15px 'serif' ";);
genderLabel.setStyle("-fx-font: normal bold 15px 'serif' ";);

selectyourqualificationLabel.setStyle("-fx-font: normal bold 15px 'serif' ";);

locationLabel.setStyle("-fx-font: normal bold 15px 'serif' ";);

gridPane.setStyle("-fx-background-color: white;");
```

```
buttonRegister.setOnAction(e->{
    // creating a dialog box
    Dialog dialog = new Dialog();
    dialog.setTitle("Registration Successfull");
    dialog.setHeaderText("Registration Status");
    dialog.setContentText("Employee Registration is successfull");

    // adding image to the dialog box
    // Image img = new Image("",50,50,true,true);
    //ImageView imageview = new ImageView(img);
    //
    //dialog.setGraphic(imageview);

    // adding button to the dialog box
    dialog.getDialogPane().getButtonTypes().add(ButtonType.OK);
    dialog.show();
});

Scene scene = new Scene(gridPane);

// stage.setTitle("Registration Form");

//Adding scene to the stage
stage.setScene(scene);

//Displaying the contents of the stage
stage.show();
}
public static void main(String args[]){
    launch(args);
}
}
```

JavaFX Registration form

— □ ×

Enter your Name

Enter your Gender ☐ male ☐ female

Enter Date of birth

select your state

Select your qualification ☐ UG ☐ PG ☐ PhD