



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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1. Problem Definition:

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.

2. Java Program:

```
: 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();  
    2  
    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 = "20cs107";
String password = "soumya";
// 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);

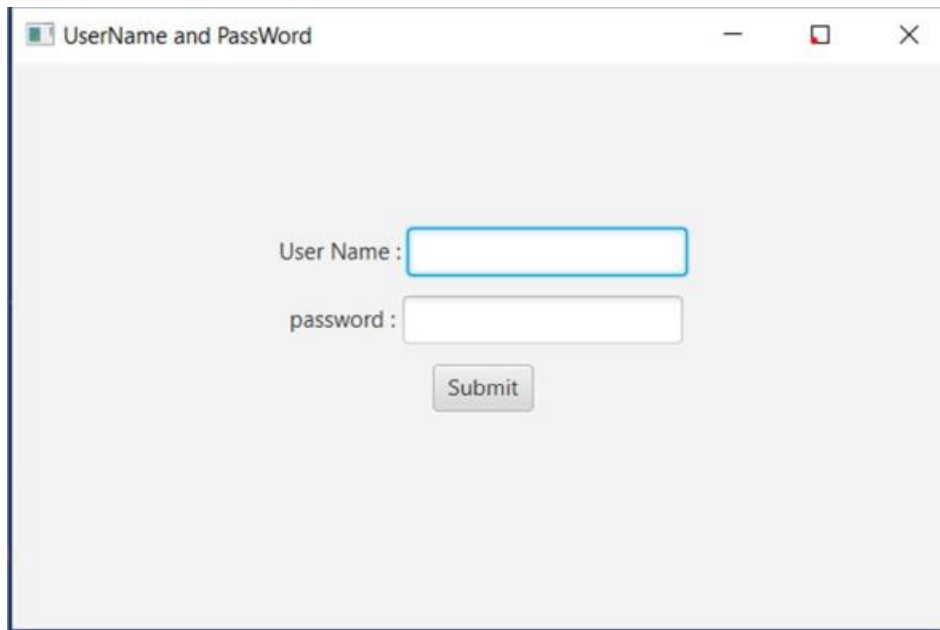
// adding layout to the scene
Scene myScene = new Scene(vbox,500,300);

// 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 "Invaidd UserName and Password";
    }
}
```

Screen Shots of Execution:



2. 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 The program must use Mnemonics and Accelerators (wherever appropriate) to Menu Items.**

2. Java Program:

```
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();
```

```
}
```

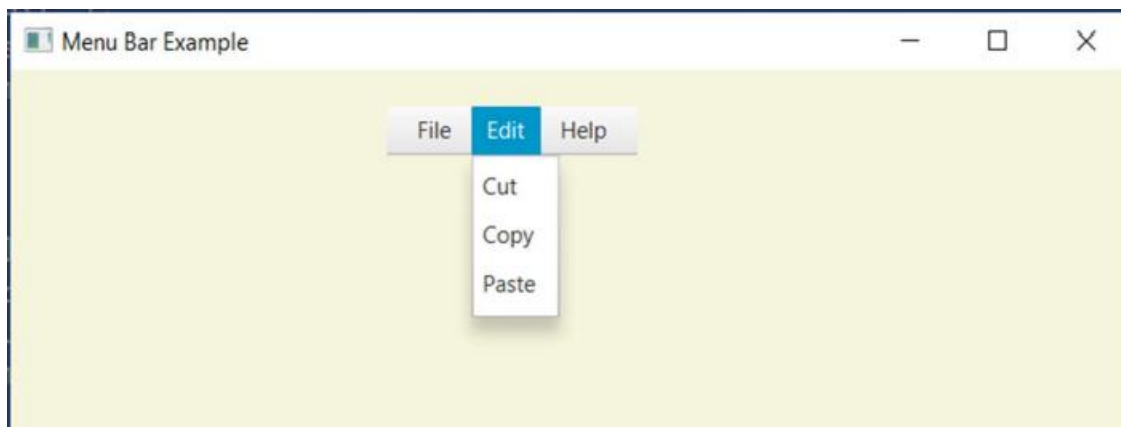
```
public static void main(String args[]){
```

```
launch(args);
```

```
}
```

```
}
```

Screen Shots of Execution:



3. Problem Definition:

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

- a) Create Context menu involving the menu items in the order: New & View.**
- b) 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.**

Java Program:

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;

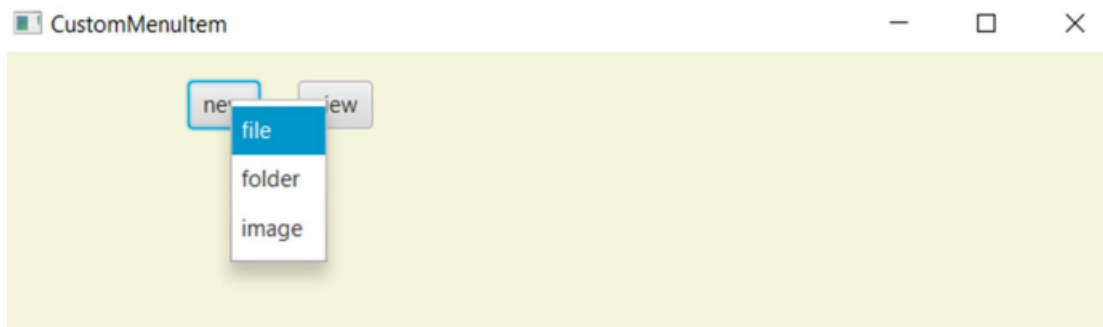
import javafx.stage.Stage;

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);  
}  
}
```

Screen Shots of Execution:



4. Problem Definition:

Write a JavaFX program that produces the following output when executed and displays Dialog Box

(as shown in Figure.2) on click of Register button (as shown in Figure.1):

Java Program:

```
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' ");
```

```
12
```

```
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();
});

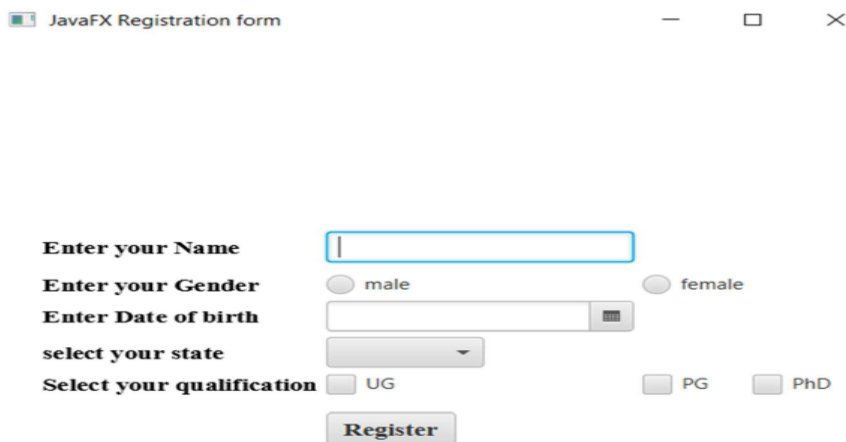
Scene scene = new Scene(gridPane);

// 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);
}
}
}
```

Screen Shots of Execution:



JavaFX Registration form

Enter your Name

Enter your Gender ☐ male ☐ female

Enter Date of birth

select your state

Select your qualification ☐ UG ☐ PG ☐ PhD