



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:

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 the user name and password are matched with the assumed values, then display the welcome scene with proper text.
- c) If username and password don't match, then raise appropriate exception.

2. Java Program:

package application;

```
/*Java program to build GUI application using javaFx
```

```
* Date:15-10-22
```

```
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```

```
*/
```

```
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 UserNamePass 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");

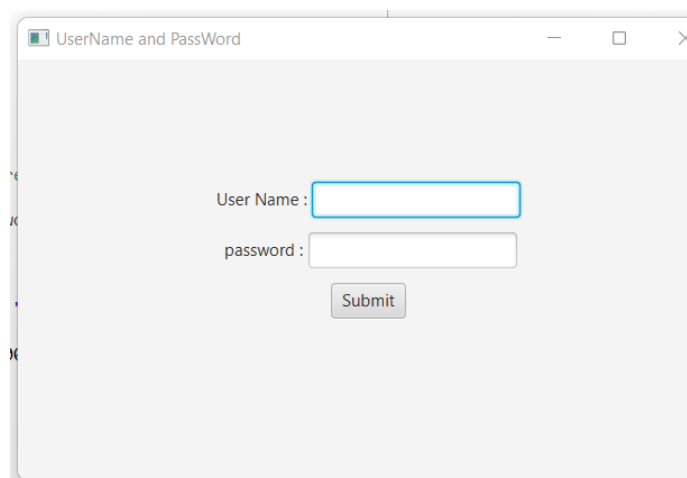
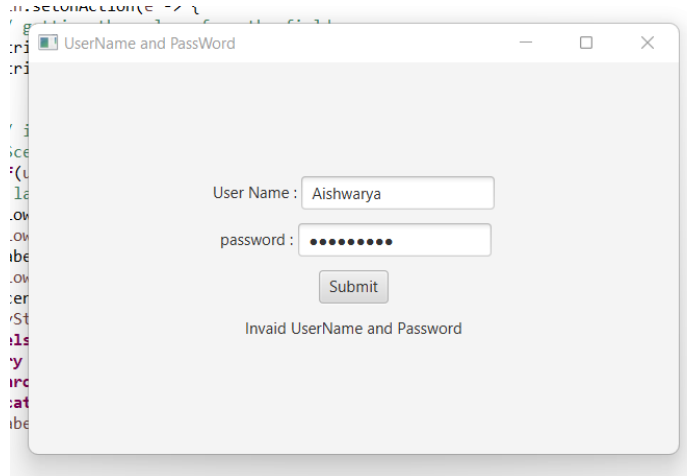
// label for show results
Label label1 = new Label("");

// assumed value for validation
String username = "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);  
  
// spacing between the vertical 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";  
    }  
}}
```

3. Screen Shots of Execution:



1. Problem Definition:

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

2. Java Program:

```
package application;
```

```
/*Java program to build GUI application using javaFx
```

- 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

```
* Date:15-10-22
```

```
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```

```
*/
```

```
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 MenuBar1 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();

}

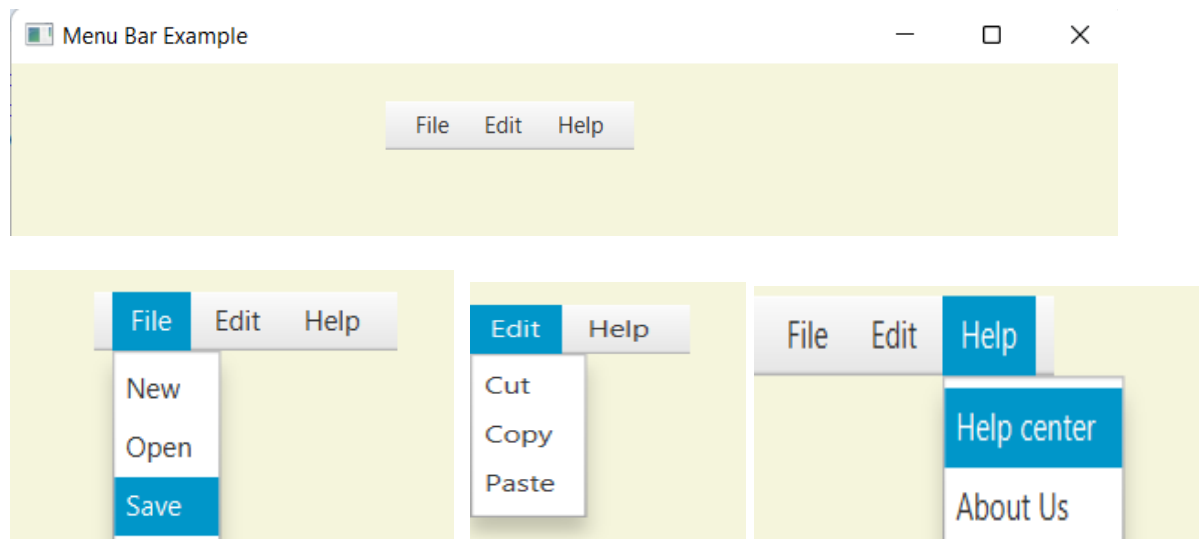
public static void main(String args[]){

launch(args);

}

}
```

3. Screen Shots of Execution:



1. Problem Definition:

Q3. 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.

2. Java Program:

/* 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

* Date:15-10-22

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*/

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 CustomMenuItem 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);
```

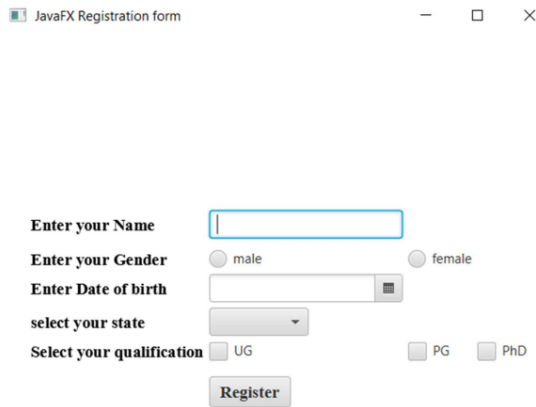
```
// textField.setContextMenu(contextMenu);  
button1.setContextMenu(contextMenu1);  
button2.setContextMenu(contextMenu2);  
HBox layout = new HBox(20);  
layout.setPadding(new Insets(15, 15, 15, 100));  
layout.getChildren().addAll( button1,button2);  
//Setting the stage  
Scene scene = new Scene(new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

3. Screen Shots of Execution:



1. Problem Definition:

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):



2. Java Program:

package application;

/*JavaFX program that produces the following output when executed and displays Dialog Box

* Date:15-10-22

* USN:2SD20CS007

*/

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 RegistrationForm 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' ");
```

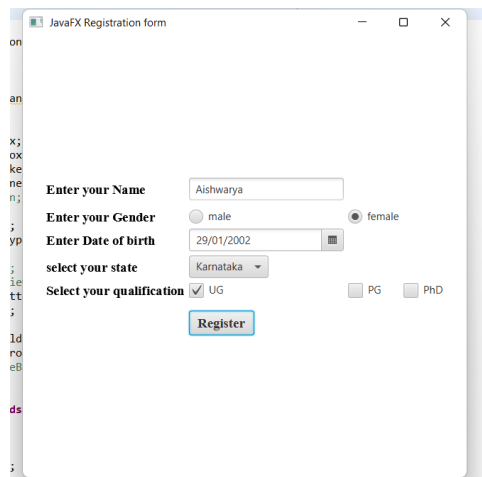
```
locationLabel.setStyle("-fx-font: normal bold 15px 'serif' ");
```

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

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

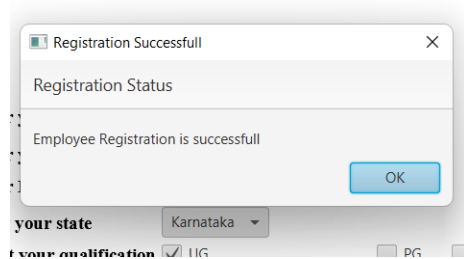
```
//Displaying the contents of the stage  
stage.show();  
  
}  
  
public static void main(String args[]){  
    launch(args);  
}
```

3. Screen Shots of Execution:



The screenshot shows a JavaFX window titled "JavaFX Registration form". It contains the following fields and controls:

- Enter your Name:** A text input field containing "Aishwarya".
- Enter your Gender:** Two radio buttons labeled "male" and "female", with "female" selected.
- Enter Date of birth:** A date picker showing "29/01/2002".
- select your state:** A dropdown menu showing "Karnataka".
- Select your qualification:** Three checkboxes labeled "UG", "PG", and "PhD", with "UG" checked.
- Register:** A blue button at the bottom.



The screenshot shows a dialog box titled "Registration Successfull". It contains the following text and controls:

- Registration Status:** A label.
- Employee Registration is successfull:** A message.
- OK:** A blue button at the bottom right.