



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();
3

// 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);
```

```
4
```

```
myStage.show();
```

```
}
```

```
}
```

```
class MyException extends Exception{
```

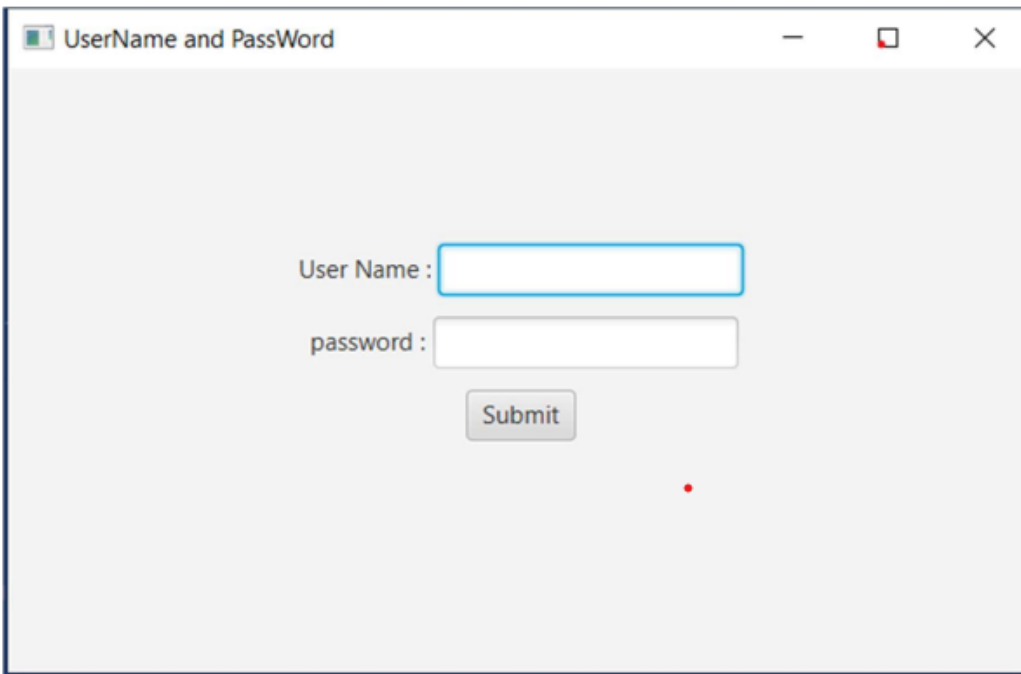
```
    public String toString() {
```

```
        return "Invaidd 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

Java Program:

```
package application;  
import javafx.application.Application;  
import javafx.scene.Group;  
5  
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();

        6

        menuBar.setTranslateX(200);
```

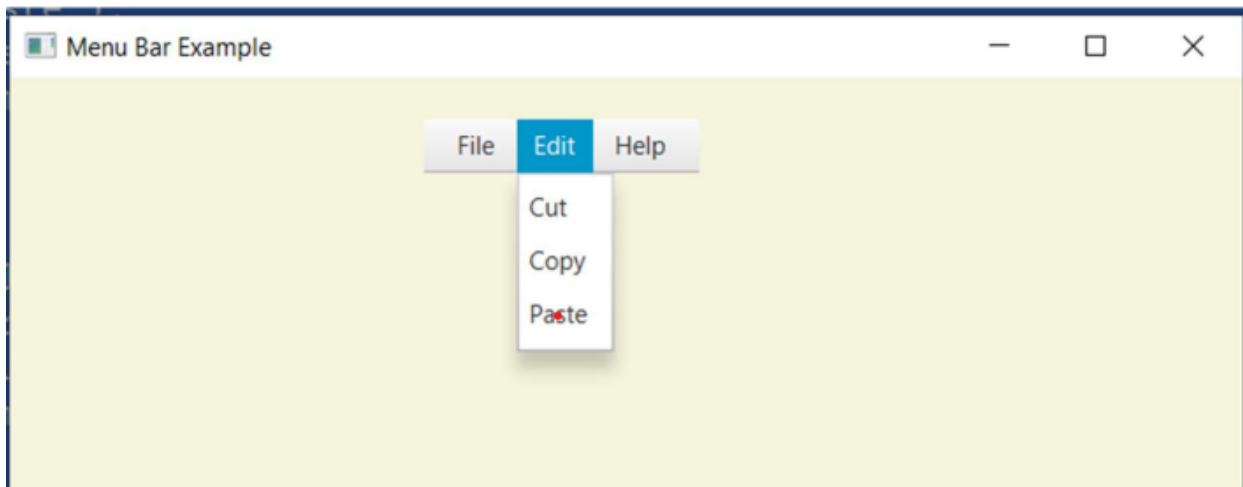
```
menuBar.setTranslateY(20);

//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 Defination:

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:

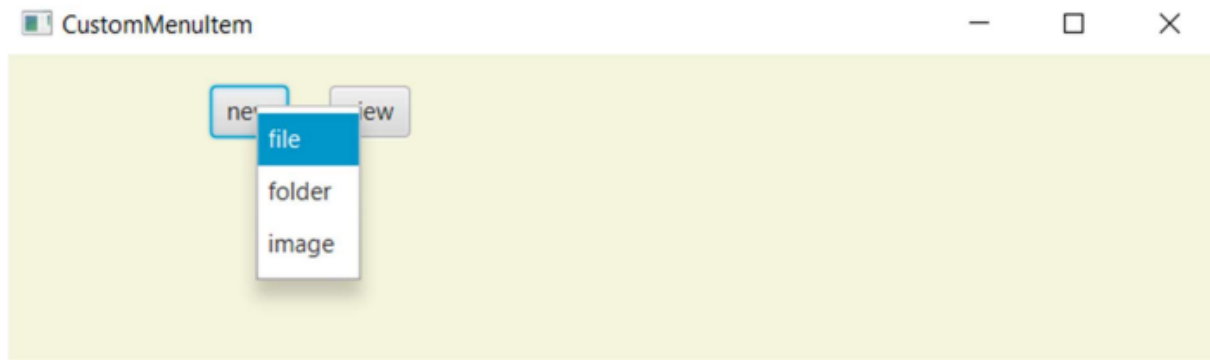
```
import java.io.FileNotFoundException;
import javafx.application.Application;
import javafx.geometry.Insets;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ContextMenu;
import javafx.scene.control.MenuItem;
//import javafx.scene.control.TextField;
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");
8
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 Defination:

Q4. 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):

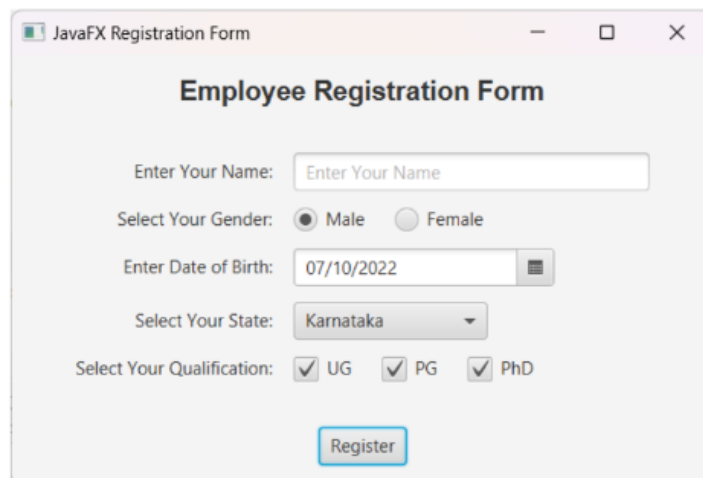
A screenshot of a JavaFX application window titled "JavaFX Registration Form". The window contains a form titled "Employee Registration Form". The form has several input fields and controls: "Enter Your Name:" with a text box containing "Enter Your Name"; "Select Your Gender:" with radio buttons for "Male" (selected) and "Female"; "Enter Date of Birth:" with a date picker showing "07/10/2022"; "Select Your State:" with a dropdown menu showing "Karnataka"; and "Select Your Qualification:" with checkboxes for "UG", "PG", and "PhD", all of which are checked. At the bottom of the form is a blue "Register" button.

Figure.1

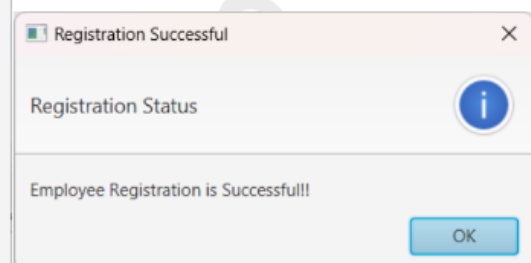


Figure. 2

2.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
10
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
```

```
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```

```
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' ");
```

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```
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);
}
```

3. 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

Register