Department of Computer Science & Engineering, SDMCET, Dharwad-2

AOOP Assignment Submission Report

[Submitted as part of CTA Assignment No-2]

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

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.package application;

2. Java Program:

```
package application;


   /*Java program to build GUI application using javaFx
    * Date:15-10-22
    * USN:2SD20CS007
    */ 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
```

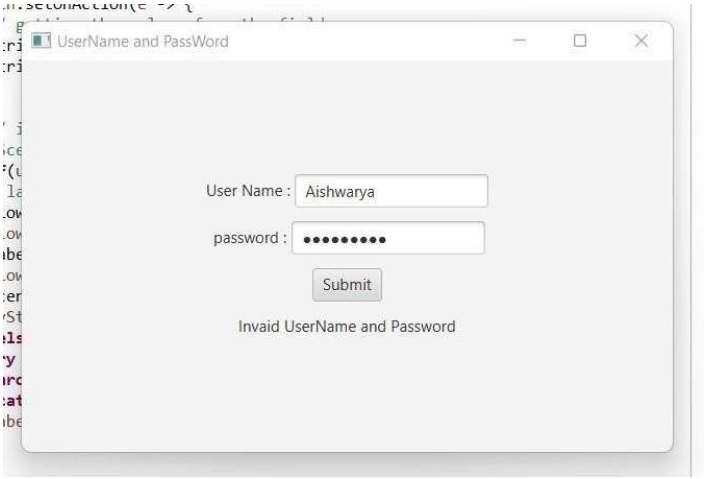
```
javafx.scene.layout.VBox; import
javafx.stage.Stage; public class UserNamePass
extends Application { public static void
main(String[] args) { launch(args);
        }
        @Override
        public void start(Stage myStage) { // TODO Auto-
        generated method stub myStage.setTitle("UserName 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);
```

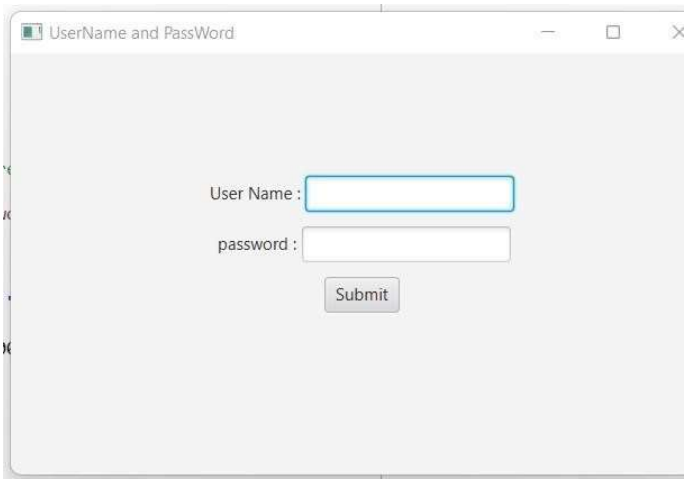
```
//adding components to the horizontal layout
hbox.getChildren().addAll(label,tf); hbox2.getChildren().addAll(label2,pass);


// 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 "Invaid 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.

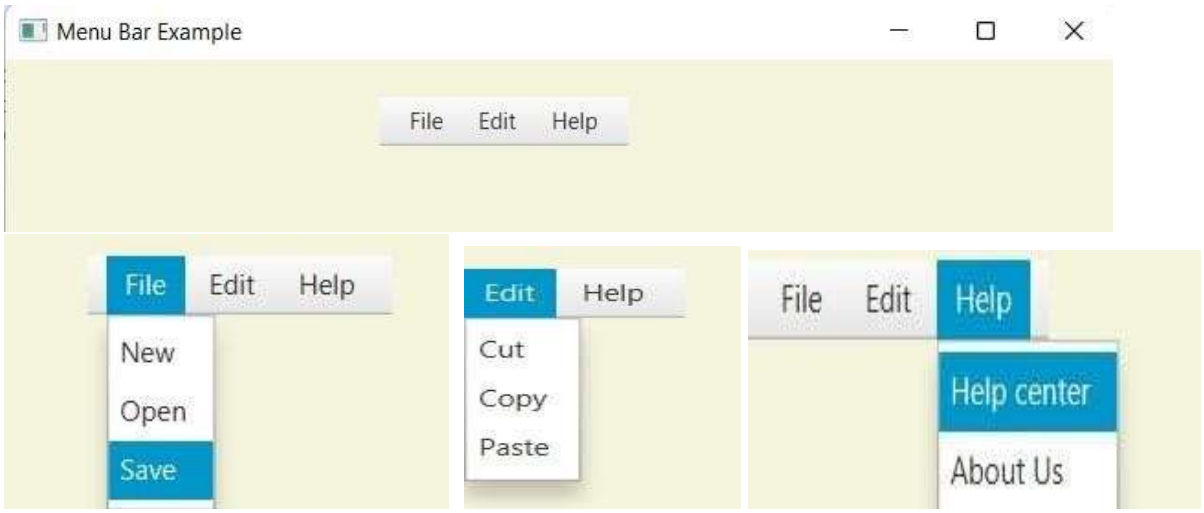
b) Create sub menus in the order: File → New, Open & Save. Edit → Cut, Copy & Paste. Help → Help Centre, About Us

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
* USN:2SD20CS007
*/

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

* USN:2SD20CS007

```
*/ 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);
```

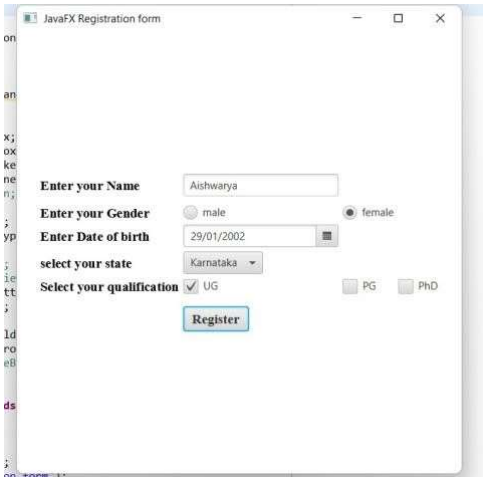
```
Text selectyourqualificationLabel = new Text("Select your qualification"); //check
box for education
CheckBox ugCheckBox = new CheckBox("UG");
ugCheckBox.setIndeterminate(false);

//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();
```

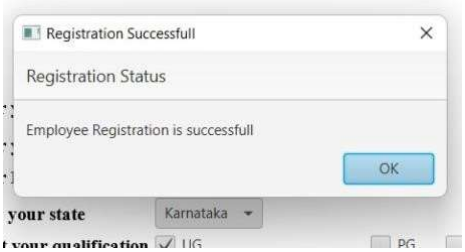
```
//Setting size for the pane
gridPane.setMinSize(500, 500);

//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:


JavaFX Registration form
Enter your Name
Aishwarya
Enter your Gender
male
female
Enter Date of birth
29/01/2002
select your state
Karnataka
Select your qualification
UG
PG
PhD
Register


Registration Successfull
Registration Status
Employee Registration is successfull
OK
your state
Karnataka