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:	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 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;

2. Java Program:

```java
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 = "2SD20CS023";

String password = "Apeksha";

// 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);
```
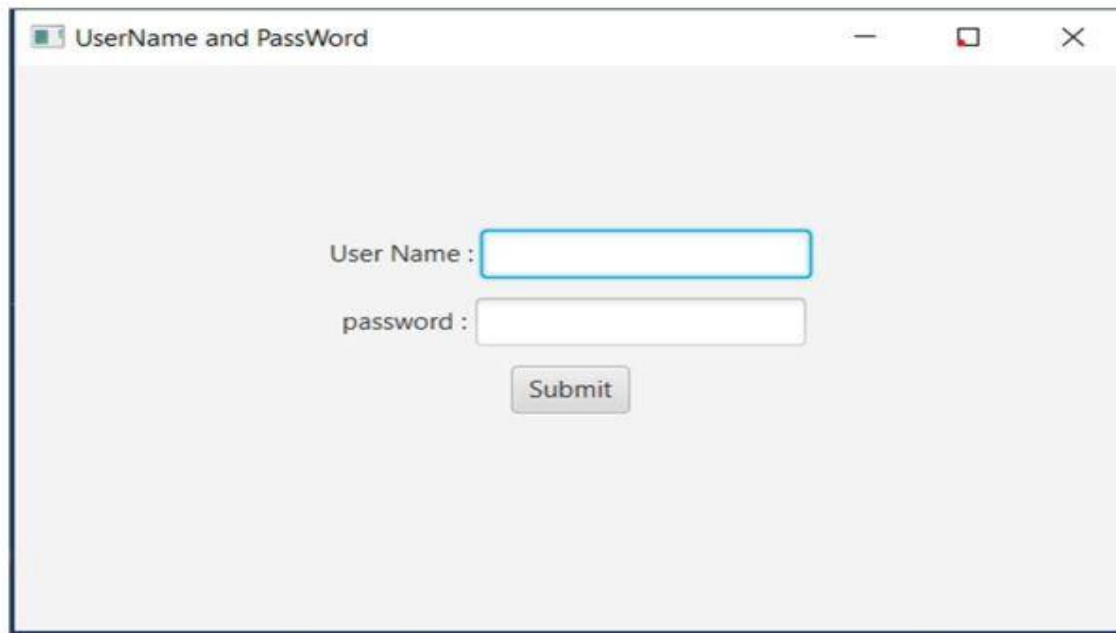
```
myStage.setScene(myScene);

4

myStage.show();

}

}
class MyException extends Exception{

public String toString() {

return "Invaid UserName and Password";

}

}
```

3. Screen Shots of Execution:

1. Problem Definition:

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:

```java
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
```

```java
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[]){
```
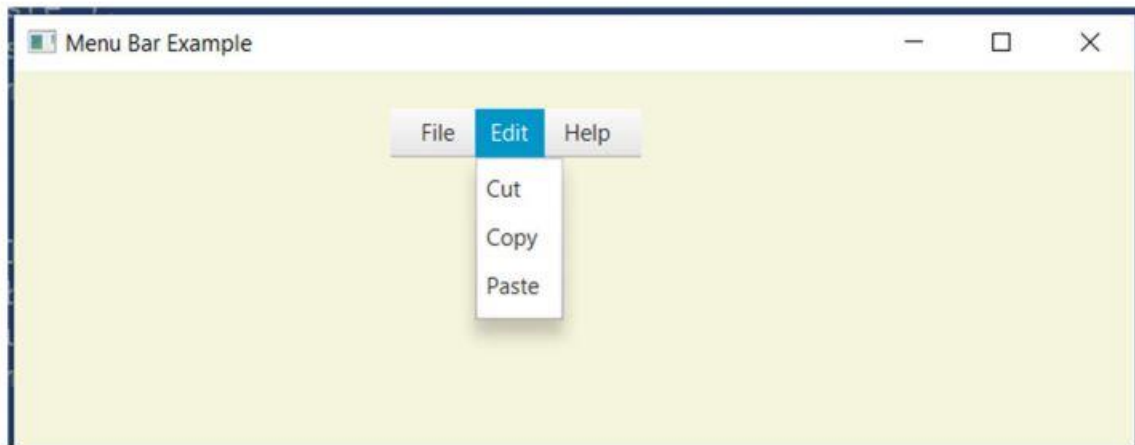
```
launch(args);

}

}
```

3. Screen Shots of Execution:

1.Problem Definition:

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:

```
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;
```

```java
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);
}
}
```

1. **Screen Shots of Execution:**

1.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):
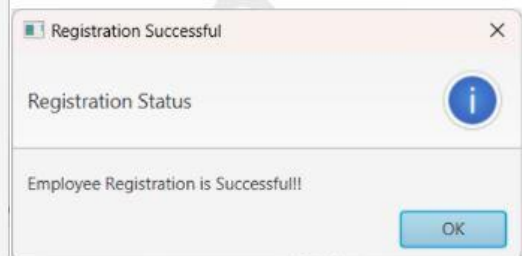

Figure.1

Figure. 2

2. Java Program:

```java
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 {


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);
```

```
}

} }
```