**SDM College of Engineering and Technology** Dhavalagiri, Dharwad-580002. Karnataka State. India.



           Department of Computer Science & Engineering,

SDMCET, Dharwad

**AOOP Assignment Submission**

**Report**

**[Submitted as part of CTA Assignment ]**

Course: Advanced Object-Oriented Programming Course code: 18UCSE508

 Semester: V Division: B

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| Course  Instructor: | Prof.Indira Umarji |

 AOOP ASSIGNMENT-2

Submitted by:

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| --- | --- | --- | --- |
|  | NAME: SUDHANVA R MANNARI | USN: | 2SD20CS110 |

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

/\*

\*Name: Sudhanva R M

\*Date: 14/10/2022

\*Place: Dharawad

\*Sem: 5th (5B)

\*USN:2SD20CS110

\*

\*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** jfxprograms;

**import** javafx.application.Application;

**import** javafx.event.ActionEvent;

**import** javafx.event.EventHandler;

**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.GridPane;

**import** javafx.scene.text.Font;

**import** javafx.stage.Stage;

**public class** Login **extends** Application{

@SuppressWarnings("serial")

**class** InvalidUserNameOrPasswordException **extends** Exception{ **public** InvalidUserNameOrPasswordException() {

**super**("please enter valid UserName or Password!!!");

}

}

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

*launch*();

}

**public void** start(Stage primaryStage) **throws** Exception{

 Label lb1 = **new** Label("Username: ");

 Label lb3 = **new** Label();

 lb3.setWrapText(**true**);

TextField user = **new** TextField();

user.setMaxWidth(200);

Label lb2 = **new** Label("Password: ");

PasswordField passwd = **new** PasswordField();

user.setMaxWidth(200);

Button bt = **new** Button("LOGIN");

bt.setOnAction(**new** EventHandler<ActionEvent>() {

@Override

**public void** handle(ActionEvent arg0) {

**try** {

**if**(user.getText().equalsIgnoreCase("Sudhanva")&&passwd.getText().equals( "srm@3098")) {

 lb3.setText("Login Successful");

 lb3.setTextFill(javafx.scene.paint.Color.***GREY***);

 lb3.setFont(**new** Font("Times New Roman", 32));

}

**else** {

**throw new**

InvalidUserNameOrPasswordException();

}

 } **catch** (InvalidUserNameOrPasswordException e) {

System.***out***.println(e);

 }

 }

 });

GridPane gp = **new** GridPane();

gp.setHgap(10);

gp.setVgap(10);

gp.add(lb1, 0, 0);

gp.add(user, 1,0 );

gp.add(lb2, 0, 1);

gp.add(passwd, 1,1 );

gp.add(bt, 1, 2);

gp.add(lb3, 1, 3);

gp.setAlignment(Pos.***CENTER***);

Scene sc = **new** Scene(gp);

primaryStage.setScene(sc);

primaryStage.setWidth(500);

primaryStage.setHeight(500);

primaryStage.show();

}

}

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

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

/\*

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\*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 → HelpCentre, About Us

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

\*/

**package** jfxprograms;

**import** javafx.application.Application;

**import** javafx.scene.Scene;

**import** javafx.scene.control.Menu;

**import** javafx.scene.control.MenuBar;

**import** javafx.scene.control.MenuItem;

**import** javafx.scene.layout.BorderPane;

**import** javafx.stage.Stage;

**public class** menuCreation **extends** Application{

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

*launch*();

}

**public void** start(Stage primaryStage) **throws** Exception {

//Creation of main menu File,Edit,Help

MenuBar main\_menu = **new** MenuBar();

Menu File = **new** Menu("File");

Menu Edit = **new** Menu("Edit");

Menu Help = **new** Menu("Help");

main\_menu.getMenus().add(File);

main\_menu.getMenus().add(Edit);

main\_menu.getMenus().add(Help);

MenuItem New = **new** MenuItem("New");

MenuItem Open = **new** MenuItem("Open");

MenuItem Save = **new** MenuItem("Save");

//Adding Submenus New,Open and Save to File Menu

File.getItems().addAll(New,Open,Save);

MenuItem Cut = **new** MenuItem("Cut");

MenuItem Copy = **new** MenuItem("Copy");

MenuItem Paste = **new** MenuItem("Paste");

//Adding Submenus Cut,Copy and Paste to Edit Menu

Edit.getItems().addAll(Cut,Copy,Paste);

MenuItem Help\_Centre = **new** MenuItem("Help Centre");

MenuItem About\_Us = **new** MenuItem("About Us");

//Adding Submenus Help\_Centre and About\_Us to Help menu

Help.getItems().addAll(Help\_Centre,About\_Us);

BorderPane root = **new** BorderPane();

 root.setTop(main\_menu);

 //Creating Scene

 Scene sc=**new** Scene(root);

 //Adding Scene to Stage

 primaryStage.setScene(sc);

 primaryStage.setTitle("Menu Control");

 primaryStage.setWidth(500);

 primaryStage.setHeight(500);

 primaryStage.show();

}

}

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.

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\*

\*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. \*/

**package** question\_3;

**import** java.io.FileNotFoundException;

**import** javafx.application.Application;

**import** javafx.event.ActionEvent;

**import** javafx.event.EventHandler;

**import** javafx.geometry.Pos;

**import** javafx.scene.Scene;

**import** javafx.scene.control.\*;

**import** javafx.scene.input.ContextMenuEvent;

**import** javafx.scene.layout.BorderPane;

**import** javafx.scene.layout.FlowPane;

**import** javafx.scene.text.Font;

**import** javafx.stage.Stage;

**public class** ContextMenuCreation **extends** Application {

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

*launch*(args);

 }

 @Override

**public void** start(Stage primaryStage) **throws** FileNotFoundException {

 Label txt=**new** Label("Press right click of the mouse button to display  Context Menu :");

 txt.setFont(**new** Font("Times New Roman", 28));

 BorderPane root = **new** BorderPane();

 root.getChildren().add(txt);

 //Creating a context menu

 ContextMenu contextMenu = **new** ContextMenu();

 //Creating the menu Items for the context menu

 Menu New = **new** Menu("New");

 Menu View = **new** Menu("View");

 contextMenu.getItems().addAll(New, View);

 MenuItem file = **new** MenuItem("File");

 MenuItem folder = **new** MenuItem("Folder");

 MenuItem image = **new** MenuItem("Image");

 New.getItems().addAll(file,folder,image);

 MenuItem large = **new** MenuItem("Large");

 MenuItem medium = **new** MenuItem("Medium");

 MenuItem small = **new** MenuItem("Small");

 View.getItems().addAll(large,medium,small);

 Label response = **new** Label("Context menu demo");

 root.setOnContextMenuRequested(**new** EventHandler<ContextMenuEvent>() {  **public void** handle(ContextMenuEvent event) {

 contextMenu.show(root,event.getScreenX(),event.getScreenY());  }

});

 EventHandler<ActionEvent> MEHandler = **new** EventHandler<ActionEvent>() { **public void** handle(ActionEvent ae) {

String name = ((MenuItem) ae.getTarget()).getText();

response.setText(name + " selected");

}

};

 New.setOnAction(MEHandler);

 file.setOnAction(MEHandler);

 folder.setOnAction(MEHandler);

 image.setOnAction(MEHandler);

 View.setOnAction(MEHandler);

 large.setOnAction(MEHandler);

 medium.setOnAction(MEHandler);

 small.setOnAction(MEHandler);

 Scene sc = **new** Scene(root,500,500);

 FlowPane fpRoot = **new** FlowPane(10, 10);

 root.setCenter(fpRoot);

 fpRoot.setAlignment(Pos.***CENTER***);

 fpRoot.getChildren().addAll(txt,response);

 response.setWrapText(**true**);

 txt.setWrapText(**true**);

 root.setTop(txt);

 primaryStage.setTitle("CustomMenuItem");

 primaryStage.setScene(sc);

 primaryStage.setWidth(500);

 primaryStage.setHeight(500);

 primaryStage.show();

 }

}

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):

 /\*

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\*

\*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) \*/

**package** jfxprograms;

**import** javafx.application.Application;

**import** javafx.geometry.Insets;

**import** javafx.geometry.Pos;

**import** javafx.scene.Scene;

**import** javafx.scene.control.Alert;

**import** javafx.scene.control.Alert.AlertType;

**import** javafx.scene.control.Button;

**import** javafx.scene.control.CheckBox;

**import** javafx.scene.control.ComboBox;

**import** javafx.scene.control.DatePicker;

**import** javafx.scene.control.Label;

**import** javafx.scene.control.RadioButton;

**import** javafx.scene.control.TextField;

**import** javafx.scene.control.ToggleGroup;

**import** javafx.scene.layout.BorderPane;

**import** javafx.scene.layout.HBox;

**import** javafx.scene.layout.VBox;

**import** javafx.scene.text.Font;

**import** javafx.stage.Stage;

**public class** Registration **extends** Application{

**public void** start(Stage primaryStage) **throws** Exception{

VBox root = **new** VBox();

root.setAlignment(Pos.***CENTER***);

root.setSpacing(10);

root.setPadding(**new** Insets(0,10,0,50));

//Adding 'Employee Registration Form' label

Label lb1 = **new** Label("Employee Registration Form"); lb1.setWrapText(**true**);

lb1.setFont(**new** Font(20));

//Adding label lb1 control to BorderPane layout

BorderPane bp = **new** BorderPane(lb1);

BorderPane.*setAlignment*(lb1, Pos.***TOP\_CENTER***);

//Adding Name field

HBox name = **new** HBox();

 Label lb2 = **new** Label("Enter your Name:");

 TextField tf1 = **new** TextField();

 tf1.setPromptText("Enter your Name");

 tf1.setFocusTraversable(**false**);

 name.setSpacing(10);

 name.getChildren().addAll(lb2,tf1);

 //Adding Gender Radiobuttons

 HBox gender = **new** HBox();

 Label lb3 = **new** Label("Select Your Gender:");  ToggleGroup tg = **new** ToggleGroup();

 RadioButton rb1 = **new** RadioButton("Male");

 RadioButton rb2 = **new** RadioButton("Female");  rb1.setToggleGroup(tg);

 rb2.setToggleGroup(tg);

 gender.setSpacing(10);

 gender.getChildren().addAll(lb3,rb1,rb2);

 //Adding DatePicker

 HBox date = **new** HBox();

 Label lb4 = **new** Label("Enter Date of Birth:");  DatePicker dp = **new** DatePicker();

 date.setSpacing(10);

 date.getChildren().addAll(lb4,dp);

 //Adding State field

 HBox state = **new** HBox();

 Label lb5 = **new** Label("Select Your State:");  ComboBox<String> cb = **new** ComboBox<String>();

cb.getItems().addAll("Karnataka","Maharashtra","Goa","AndhraPradesh","Tamilnadu ","Kerala");

 state.setSpacing(10);

 state.getChildren().addAll(lb5,cb);

 //Adding Qualification Selection checkbox

 HBox qualification = **new** HBox();

 Label lb6 = **new** Label("Select Your Qualification:");

 CheckBox ch1 = **new** CheckBox("UG");

 CheckBox ch2 = **new** CheckBox("PG");

 CheckBox ch3 = **new** CheckBox("PhD");

 qualification.setSpacing(10);

 qualification.getChildren().addAll(lb6,ch1,ch2,ch3);

 //Adding register button

 Button button = **new** Button("Register");

 button.setOnAction((ae)->{

**if**((!(ch1.isSelected() || ch2.isSelected() || ch3.isSelected())) ||  cb.getSelectionModel().isEmpty() || (!(rb1.isSelected() || rb2.isSelected()))  || tf1.getText().isEmpty())

 {

 Alert registration = **new** Alert(AlertType.***ERROR***);

 registration.setTitle("Registration Unsuccessful");

 registration.setHeaderText("Registration Error");

 registration.setContentText("Kindly Fill All The Details!!");  registration.showAndWait();

 }

**else**

{

 Alert registration = **new** Alert(AlertType.***INFORMATION***);  registration.setTitle("Registration Successful");

 registration.setHeaderText("Registration Status");

 registration.setContentText("Employee Registration Successful!!");  registration.showAndWait();

 }

 });

 //Adding all controls to layout

root.getChildren().addAll(bp,name,gender,date,state,qualification,button) ;

//Adding layout to scene

Scene sc = **new** Scene(root);

//Adding scene to stage

primaryStage.setScene(sc);

primaryStage.setWidth(500);

primaryStage.setHeight(350);

primaryStage.setTitle("Registration Form");

primaryStage.show();

}

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

*launch*();

}

}