ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES



MINI PROJECT IN JAVA

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To create a registration form with details like Student name, DOB, Mail ID, Mobile number, Course, Father name, Branch etc.

COMPONENTS:

- i)JLabel
- ii)JTextField
- iii)JRadioButton
- iv)ButtonGroup
- v)JComboBox
- vi)JTextArea
- vii)JPasswordField
- viii)JButton

1. JLabel:

JLabel is used to display a single line of read only text. JLabel is used to display text, image or both.



JLabel is used in creating Student name, DOB, Gender.

2.JTextField:

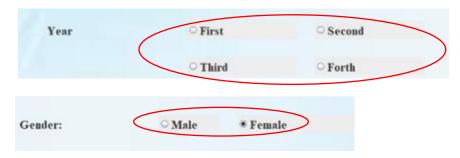
JTextField allows the editing of a single line of text.



JTextField is used in creating Mail ID, Mobile no etc. Where we can enter our preferred ID and number.

3.JRadioButton:

JRadioButton is used to choose one option from multiple options.



JRadioButton is used in creating gender and year of study. We can choose based on our preference.

4.ButtonGroup:

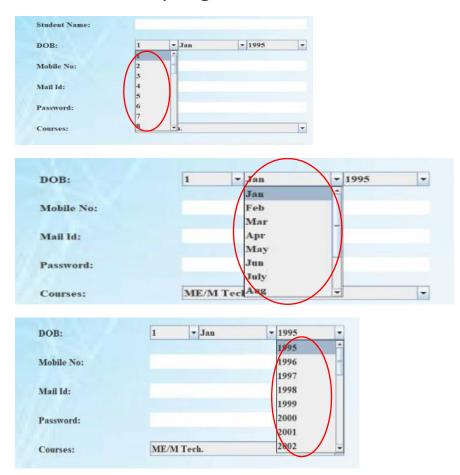
ButtonGroup are used in combination with radio buttons to ensure that only one radio button is selected.



ButtonGroup is used in combination of year radiobutton and gender radiobutton to select one option.

5. JComboBox:

JComboBox can be editable or read only depending on the choice of the programmer.



JComboBox is used to select the date, year and month according to user DOB.

6. JTextArea:

JTextArea is a multi-line area that displays plain text.



JTextArea is used to enter the address of the user.

7. JPasswordField:

JPasswordField is used to provide specialized text fields for password entry.



It is used to enter respective password of the email ID.

8. JButton:

JButton is used to create a labeled button.



JButton is used in creating register and reset buttons.

SOURCE CODE:

```
import java.awt.Container;
import java.awt.Font;
import java.awt.event.*;
import javax.lang.model.util.ElementScanner14;
import javax.swing.*;
import java.util.regex.Matcher;
import java.util.regex.Pattern;
import javax.swing.border.Border;
import javax.swing.BorderFactory;
import java.awt.Color;
import java.io.*;
public class RegisterFrame extends JFrame implements
ActionListener
JLabel message;
JLabel
                                                  dobLabel.
                      nameLabel,
genderLabel, year of study Label, prevper;
JTextField nameField;
JRadioButton genderMale, genderFemale;
```

```
JRadioButton
year of study First, year of study Second, year of study Third, year of
studyForth;
ButtonGroup genderGroup;
ButtonGroup yearofstudyGroup;
JComboBox date;
JComboBox month;
JComboBox year;
JLabel mailIdLabel, mobileNoLabel, addressLabel;
JTextField mailIdField, mobileNoField, fatherField;
JTextArea addressarea,gpa;
JLabel fatherLabel, passwordLabel;
JPasswordField passwordField;
JLabel programLabel;
JComboBox<String> programList;
JLabel branchLabel, semesterLabel;
JComboBox<String> branchList;
JComboBox<Integer> semesterList;
JButton registerButton, resetButton;
Container container;
JPanel panel;
JLabel bg,img;
Imagelcon image1,image2;
private String dates[]
= { "1", "2", "3", "4", "5",
"6", "7", "8", "9", "10"
"11", "12", "13", "14", "15",
"16", "17", "18", "19", "20",
"21", "22", "23", "24", "25"
"26", "27", "28", "29", "30",
"31" };
private String months[]
= { "Jan", "Feb", "Mar", "Apr",
```

```
"May", "Jun", "July", "Aug",
    "Sep", "Oct", "Nov", "Dec" };
    private String years[]
    = { "1995", "1996", "1997", "1998",
    "1999", "2000", "2001", "2002",
    "2003", "2004", "2005", "2006",
    "2007", "2008", "2009", "2010",
    "2011", "2012", "2013", "2014",
    "2015", "2016", "2017", "2018",
"2019","2020","2021","2022" };
    public RegisterFrame()
    prevper = new JLabel();
    // prevper label end
    nameField = new JTextField();
    // gpa textfield
    gpa = new JTextArea();
    // gpa textfield end
    image1=new
    ImageIcon("C:\\Users\\harikakushal\\OneDrive\\Desktop\\b
    ackground1.jpg");
    bg = new JLabel(image1);
    bg.setSize(1700,1080);
    panel = new JPanel();
    image2=new
    ImageIcon("C:\\Users\\harikakushal\\OneDrive\\Desktop\\a
    nits22.jpg");
    panel.setSize(1700,100);
    img = new JLabel(image2);
    Border eb = BorderFactory.createEmptyBorder();//For setting
    the default border
    message = new JLabel("STUDENT REGISTRATION FORM");
    message.setFont(new Font("Courier", Font.BOLD, 50));
```

```
nameLabel = new JLabel("Student Name: ");
    nameLabel.setFont(new Font("Serif", Font.BOLD, 20));
    nameField = new JTextField();
    nameField.setBorder(eb);
    nameField.setFont(new Font("Serif", Font.BOLD, 20));
    dobLabel = new JLabel("DOB: ");
    dobLabel.setFont(new Font("Serif", Font.BOLD, 20));
    date = new JComboBox(dates);
    date.setFont(new Font("Serif", Font.BOLD, 20));
    month = new JComboBox(months);
    month.setFont(new Font("Serif", Font.BOLD, 20));
    year = new JComboBox(years);
    year.setFont(new Font("Serif", Font.BOLD, 20));
    yearofstudyLabel=new JLabel("Year");
    yearofstudyFirst=new
                                              JRadioButton(new
    AbstractAction("First"){
    public void actionPerformed(ActionEvent e){
    prevper.setVisible(true);
    prevper.setText("Inter Gpa: ");
    gpa.setVisible(true);
});
    prevper.setFont(new Font("Serif", Font.BOLD, 20));
    gpa.setFont(new Font("Serif", Font.BOLD, 20));
    yearofstudyLabel.setFont(new Font("Serif", Font.BOLD, 20));
    // yearofstudyFirst=new JRadioButton("First");
    yearofstudyFirst.setFont(new Font("Serif", Font.BOLD, 20));
    // yearofstudySecond=new JRadioButton("Second");
    yearofstudySecond.setFont(new Font("Serif", Font.BOLD,
    20));
    // yearofstudyThird=new JRadioButton("Third");
    yearofstudyThird.setFont(new Font("Serif", Font.BOLD, 20));
    // yearofstudyForth=new JRadioButton("Forth");
```

```
yearofstudyForth.setFont(new Font("Serif", Font.BOLD, 20));
yearofstudyGroup=new ButtonGroup();
yearofstudyGroup.add(yearofstudyFirst);
yearofstudyGroup.add(yearofstudySecond);
yearofstudyGroup.add(yearofstudyThird);
yearofstudyGroup.add(yearofstudyForth);
genderLabel = new JLabel("Gender:");
genderLabel.setFont(new Font("Serif", Font.BOLD, 20));
genderMale = new JRadioButton("Male", true);
genderMale.setFont(new Font("Serif", Font.BOLD, 20));
genderFemale = new JRadioButton("Female");
genderFemale.setFont(new Font("Serif", Font.BOLD,20));
genderGroup = new ButtonGroup();
genderGroup.add(genderMale);
genderGroup.add(genderFemale);
fatherLabel = new JLabel("Father Name:");
fatherLabel.setFont(new Font("Serif", Font.BOLD,20));
fatherField = new JTextField();
fatherField.setFont(new Font("Serif", Font.BOLD, 20));
fatherField.setBorder(eb);
mobileNoLabel = new JLabel("Mobile No:");
mobileNoLabel.setFont(new Font("Serif", Font.BOLD, 20));
mobileNoField = new JTextField();
mobileNoField.setFont(new Font("Serif", Font.BOLD, 20));
mobileNoField.setBorder(eb);
mailIdLabel = new JLabel("Mail Id:");
mailIdLabel.setFont(new Font("Serif", Font.BOLD, 20));
mailIdField = new JTextField();
mailIdField.setFont(new Font("Serif", Font.BOLD, 20));
mailIdField.setBorder(eb);
passwordLabel = new JLabel("Password:");
passwordLabel.setFont(new Font("Serif", Font.BOLD, 20));
passwordField = new JPasswordField();
```

```
passwordField.setFont(new Font("Serif", Font.BOLD, 20));
passwordField.setBorder(eb);
programLabel = new JLabel("Courses:");
programLabel.setFont(new Font("Serif", Font.BOLD, 20));
programList = new JComboBox<String>();
programList.setFont(new Font("Serif", Font.BOLD, 20));
programList.addItem("ME/M Tech.");
programList.addItem("BE/B Tech.");
branchLabel = new JLabel("Branch:");
branchLabel.setFont(new Font("Serif", Font.BOLD, 20));
branchList = new JComboBox<String>();
branchList.setFont(new Font("Serif", Font.BOLD, 20));
branchList.addItem("Computer Science and Engineering in AI
and ML");
branchList.addItem("Computer Science and Engineering in
Data Science");
branchList.addItem("Computer Science and Engineering");
branchList.addItem("Electronics
                                           Communications
                                   and
Engineering");
branchList.addItem("Information Technology");
branchList.addItem("Electrical and Electronics Engineering");
branchList.addItem("Civil Engineering");
branchList.addItem("Chemical Engineering");
semesterLabel = new JLabel("Semester:");
semesterLabel.setFont(new Font("Serif", Font.BOLD, 20));
semesterList = new JComboBox<>();
semesterList.setFont(new Font("Serif", Font.BOLD, 20));
semesterList.addItem(1);
semesterList.addItem(2);
addressLabel = new JLabel("Address:");
addressLabel.setFont(new Font("Serif", Font.BOLD, 20));
addressarea = new JTextArea();
addressarea.setFont(new Font("Serif", Font.BOLD, 20));
```

```
registerButton = new JButton("Register");
    registerButton.setFont(new Font("Serif", Font.BOLD, 20));
    registerButton.setBackground(Color.green);
    resetButton = new JButton("Reset");
    resetButton.setFont(new Font("Serif", Font.BOLD, 20));
    resetButton.setBackground(Color.orange);
    container = getContentPane();
    container.setLayout(null);
    setBounds();
addComponents();
    public void setBounds()
    {// prevper label bounds
    prevper.setBounds(720,600,200,30);
    // prevper label bounds end
    // gpa textfield bounds
    gpa.setBounds(950,600,400,30);
    // gpa textfield bounds end
    message.setBounds(400, 100, 1000, 50);
    nameLabel.setBounds(50, 180, 200, 30);
    nameField.setBounds(280, 180, 400, 30);
    fatherLabel.setBounds(720, 180, 200, 30);
    fatherField.setBounds(950, 180, 400, 30);
    dobLabel.setBounds(50, 240, 200, 30);
    date.setBounds(280,240,100,30);
    month.setBounds(380,240,160,30);
    year.setBounds(540,240,140,30);
    genderLabel.setBounds(720, 240, 200, 30);
    genderMale.setBounds(950, 240, 100, 30);
    genderFemale.setBounds(1080, 240, 200, 30);
    mobileNoLabel.setBounds(50, 300, 200, 30);
    mobileNoField.setBounds(280, 300, 400, 30);
    addressLabel.setBounds(720,300,200,30);
```

```
addressarea.setBounds(950,300,400,150);
    mailIdLabel.setBounds(50, 360, 200, 30);
    mailIdField.setBounds(280, 360, 400, 30);
    passwordLabel.setBounds(50, 420, 200, 30);
    passwordField.setBounds(280, 420, 400, 30);
    programLabel.setBounds(50, 480, 200, 30);
    programList.setBounds(280, 480, 400, 30);
    branchLabel.setBounds(720, 480, 200, 30);
    branchList.setBounds(950, 480, 400, 30);
    yearofstudyLabel.setBounds(50,540,200,30);
    yearofstudyFirst.setBounds(280,540,180,30);
    yearofstudySecond.setBounds(490,540,180,30);
    yearofstudyThird.setBounds(280,600,180,30);
    yearofstudyForth.setBounds(490,600,180,30);
    semesterLabel.setBounds(720, 540, 200, 30);
    semesterList.setBounds(950, 540, 400, 30);
    registerButton.setBounds(480, 680, 200, 30);
    resetButton.setBounds(720, 680, 200, 30);
    registerButton.addActionListener(this);
    resetButton.addActionListener(this);
public void addComponents()
{// prevper label add
container.add(prevper);
// prevper lable add end
// gpa field add
container.add(gpa);
gpa.setVisible(false);
// gpa field add end
panel.add(img);
```

```
bg.add(message);
bg.add(nameLabel);
bg.add(nameField);
bg.add(dobLabel);
bg.add(date);
bg.add(month);
bg.add(year);
bg.add(genderLabel);
bg.add(genderMale);
bg.add(genderFemale);
bg.add(fatherLabel);
bg.add(fatherField);
bg.add(mobileNoLabel);
bg.add(mobileNoField);
bg.add(mailIdLabel);
bg.add(mailIdField);
bg.add(passwordLabel);
bg.add(passwordField);
bg.add(programLabel);
bg.add(programList);
bg.add(branchLabel);
bg.add(branchList);
bg.add(yearofstudyLabel);
bg.add(yearofstudyFirst);
bg.add(yearofstudySecond);
```

```
bg.add(yearofstudyThird);
bg.add(yearofstudyForth);
bg.add(semesterLabel);
bg.add(semesterList);
bg.add(addressLabel);
bg.add(addressarea);
bg.add(registerButton);
bg.add(resetButton);
bg.add(panel);
container.add(bg);
//To verify Names
public boolean CheckName(String s){
if(s.length()==0)return false;
char[] c=s.toCharArray();
int d=0;
for(char i:c){
if(i=='.')d++;
if(!Character.isAlphabetic(i))return false;
if(d>1)return false;
return true;
//To verify Number
public boolean CheckNum(String s){
```

```
char[] c=s.toCharArray();
if(s.length()!=10)return false;
for (char i:c){
if(!Character.isDigit(i))return false;
return true;
//To verify Mail Id using REGEX expression
public boolean CheckMail(String email){
if(email.length()==0)return false;
         String ePattern = "^[a-zA-Z0-9.!\#\%\&'*+/=?^ `{|}^-
else{
]+@((\\[[0-9]{1,3}\\.[0-9]{1,3}\\.[0-9]{1,3}\\])|(([a-zA-
Z\-0-9]+\.)+[a-zA-Z]{2,}))$";
java.util.regex.Pattern
                                            p
java.util.regex.Pattern.compile(ePattern);
java.util.regex.Matcher m = p.matcher(email);
return m.matches();}
//To verify Password
public boolean CheckP(String s1) {
if(s1.length()<8)
return false;
else
return true;
```

```
// To reset Border color for correct Entries
public void resetB(){
Border res = BorderFactory.createEmptyBorder();
nameField.setBorder(res);
fatherField.setBorder(res);
mobileNoField.setBorder(res);
mailIdField.setBorder(res);
passwordField.setBorder(res);
addressarea.setBorder(res);
public boolean Checkg(String gpa){
if (gpa == null) {
return false;
try {
double d = Double.parseDouble(gpa);
if(d<0||d>10)return false;
} catch (NumberFormatException nfe) {
return false;
return true;
public void actionPerformed(ActionEvent e)
// For creating Border for Invalid entries
```

```
Border border = BorderFactory.createLineBorder(Color.RED,2);
if (e.getSource() == registerButton)
String name=nameField.getText();
String fname=fatherField.getText();
String num=mobileNoField.getText();
String mail=mailIdField.getText();
String pass=new String (passwordField.getPassword());
String add=addressarea.getText();
String g=gpa.getText();
String h;
if(genderMale.isSelected())
h="male";
else
h="female";
String zf;
if( yearofstudyFirst.isSelected())
zf="1st year";
else if(yearofstudySecond.isSelected())
zf="2nd year";
else if(yearofstudyThird.isSelected())
zf="3rd year";
else
zf="4th year";
String str=branchList.getSelectedItem().toString();
```

```
String mtr= semesterList.getSelectedItem().toString();
String fan= date.getSelectedItem().toString();
String fin =month.getSelectedItem().toString();
String fen= year.getSelectedItem().toString();
String ntr= programList.getSelectedItem().toString();
if(!CheckName(name)){
JOptionPane.showMessageDialog(this ,"Invalid Name");
resetB();
nameField.setBorder(border);
nameField.requestFocusInWindow();
}else if(!CheckName(fname)){
JOptionPane.showMessageDialog(this ,"Invalid Father Name");
resetB();
fatherField.setBorder(border);
fatherField.requestFocusInWindow();
}else if(!CheckNum(num)){
JOptionPane.showMessageDialog(this,"Invalid Mobile Number");
resetB();
mobileNoField.setBorder(border);
mobileNoField.requestFocusInWindow();
}else if(!CheckMail(mail)){
JOptionPane.showMessageDialog(this
                                            ,"Invalid
                                                            email
Credentials");
resetB();
mailIdField.setBorder(border);
```

```
//passwordField.setBorder(border);
mailIdField.requestFocusInWindow();
else if(!CheckP(pass)){
JOptionPane.showMessageDialog(this ,"Invalid
                                                       password
Credentials");
resetB();
passwordField.setBorder(border);
passwordField.requestFocusInWindow();
else if(add.length()==0){
JOptionPane.showMessageDialog(this, "Invalid Address");
resetB();
addressarea.setBorder(border);
else if(!Checkg(g)){
JOptionPane.showMessageDialog(this, "Invalid Gpa");
resetB();
gpa.setBorder(border);
gpa.requestFocusInWindow();
else {
try{
FileWriter w= new FileWriter("Sam.txt",true);
```

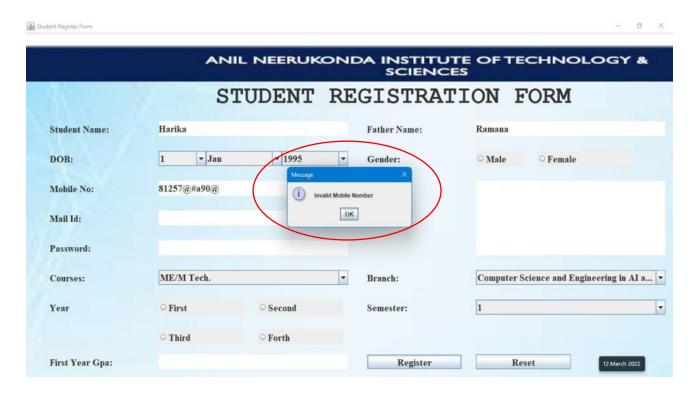
```
w.write("Name:"+name+"\n");
w.write("Father Name:"+fname+"\n");
w.write("DOB:"+fan+"\\"+fin+"\\"+fen+"\n");
w.write("Gender:"+h+"\n");
w.write("Mobile number:"+num+"\n");
w.write("Address:"+add+"\n");
w.write("Mail id:"+mail+"\n");
w.write("Password"+pass+"\n");
w.write("Course name:"+ntr+"\n");
w.write("Branch name:"+str+"\n");
w.write("Year of Study:"+zf+"\n");
w.write("Semester:"+mtr+"\n");
w.write("GPA:"+g+"\n");
w.write("\n");
w.close();
JOptionPane.showMessageDialog(this, "Data Saved Successfully");
resetB();
catch(Exception ae)
System.out.println(ae);
if(e.getSource() == resetButton)
```

```
resetB();
semesterList.setSelectedIndex(0);
branchList.setSelectedIndex(0);
programList.setSelectedIndex(0);
date.setSelectedIndex(0);
month.setSelectedIndex(0);
year.setSelectedIndex(0);
  genderGroup.clearSelection();
  yearofstudyGroup.clearSelection();
  nameField.setText("");
  mailIdField.setText("");
  addressarea.setText("");
  mobileNoField.setText("");
  fatherField.setText("");
  passwordField.setText("");
  gpa.setText("");
 public static void main(String[] args)
  {
    RegisterFrame frame = new RegisterFrame();
    frame.setTitle("Student Register Form");
    frame.setVisible(true);
```

```
frame.setBounds(500, 100, 500, 700);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
frame.setResizable(true);
}
```

SPECIFICATIONS:

1. **Displaying dialogue box**:- whenever you click on register Button a display box pops up showing the status of the form whether completed filled or any invalid data entry.



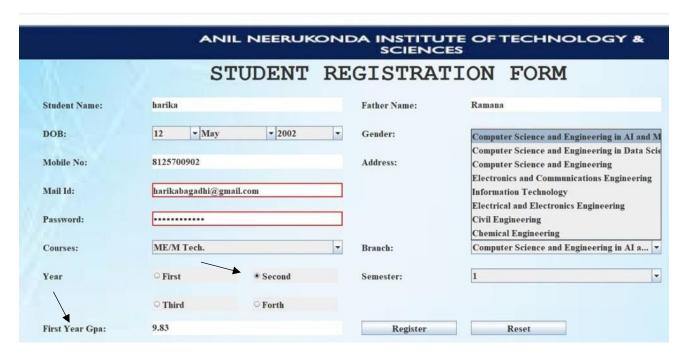
2.Red colour border:- Whenever the user enters any invalid details in the given fields rather than the accepted one, then the field is highlighted with a red colour border.



3.Validity checking:-In order to check the given content of the fields are valid or not Regex or Regular expressions is an API that can be used to define the email password name areas of the string to define the constrains properly.



4. Previous year percentage:



Soon after clicking on the respective year of the student the corresponding previous year gpa field label is displayed along a text box .For example on clicking on the Second year First year gpa is displayed as shown in the above figure.

5.Reset:- The reset button is used to reset all the input fields. A new empty form is displayed on clicking on the Reset button.



6.Inserting the image:-

To embrace the look and feel of the registration form, Backgrond image and a image containing the college name are inserted.

7. Transferring the details of the form to a Txt File:

After successful registration the details entered by the student are transferred to a txt file ,for readability purpose.

FINAL OUTCOME:-

Compiling the code:

```
Command Prompt

Microsoft Windows [Version 10.0.22000.493]

(c) Microsoft Corporation. All rights reserved.

C:\Users\PRADEEP KUMAR>Cd Desktop

C:\Users\PRADEEP KUMAR\Desktop>javac Registerframe.java
```

Running the code:

```
where E is a type-variable:

E extends Object declared in class ]ComboBox

RegisterFrame, Java:26: warning: [deprecation] getText() in JPasswordField has been deprecated

pf = passwordField.getText();

RegisterFrame, Java:8: warning: [serial] serialIzable class registerframe has no definition of serialVersionUID

public class registerframe extends JFrame implements ActionListener

11 warnings

C:\Users\PRADEEP KUMAR\Desktop>Registerframe.java

1. inew notification
```

Output:

Form is displayed in the below format



After all the details are entered correctly, then on clicking on the Register button a dialogue box pops up showing that the data is successfully saved, then we proceed by click the ok button of the dialogue box.



As a last step, we can view the details entered in the form in a file called Sam.txt. Thus the no of users visiting the form and getting registered is shown in the specified file as below.

