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Advanced Java Programming

10/31/2023

**Project 2-2 Creating a GUI Data Application**

**Source Code:**

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import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.time.Period;

import java.time.LocalDate;

// Creating the BirthDateApplication class that extends JFrame and implements ActionListener

public class BirthDateApplication extends JFrame implements ActionListener {

// Declaring the instance variables

private final JTextField birthdateField;

private final JButton calculateAgeButton;

private final JLabel ageLabel;

// Constructor for the class

public BirthDateApplication() {

// Sets the title and size for the frame

setTitle("Age Calculator Application");

setSize(300, 150);

// Exits the frame when the 'x' is clicked

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

// Centers the frame on the screen

setLocationRelativeTo(null);

// Creating the panel to hold the components

JPanel panel = new JPanel();

// Creating the birthdateField, setting the size of the text field, and adding to the panel

birthdateField = new JTextField("YYYY-MM-DD");

birthdateField.setPreferredSize(new Dimension(150, 30));

panel.add(birthdateField);

// Creating the calculateAge button, adding an action listener, and adding to the panel

calculateAgeButton = new JButton("Calculate Age");

calculateAgeButton.addActionListener(this);

panel.add(calculateAgeButton);

// Creating the age label and adding to the panel

ageLabel = new JLabel("Age: ");

panel.add(ageLabel);

// Adding the panel to the frame

add(panel);

// Setting the frame to be visible

setVisible(true);

}

// Implementing the ActionListener

@Override

public void actionPerformed(ActionEvent e) {

// If the calculate age button is clicked

if (e.getSource() == calculateAgeButton) {

// Asks user for an input

String birthdateString = birthdateField.getText();

try {

// Attempts to parse into a LocalDate object

LocalDate birthdate = LocalDate.parse(birthdateString);

// Gets the current date

LocalDate currentDate = LocalDate.now();

// Calculates the time between the birthdate and the current date

Period period = Period.between(birthdate, currentDate);

// Gets years from the period, which is the age

int age = period.getYears();

// Displays the calculated age to the label

ageLabel.setText("Age: " + age);

} catch (Exception ex) {

// Handles if the input is not in the expected format

JOptionPane.showMessageDialog(this, "Please enter a valid date in the format YYYY-MM-DD.");

}

}

}

// Main method to start the application

public static void main(String[] args) {

new BirthDateApplication();

}

}

**Executing the Application:**

First Example:







Second Example:







Exceptions:











