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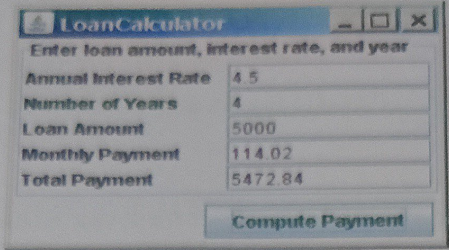
3.ให้ศึกษาและทดลองพิมพ์ตัวอย่างการสร้าง GUI จากตัวอย่างต่อไปนี้ ให้เขียนอธิบายการทำงานในแต่ละบรรทัด




```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.TitledBorder;
public class LoanCalculator extends JFrame {
  // Create text fields for interest rate, years
  // loan amount, monthly payment, and total payment
  private JTextField jtfAnnualInterestRate = new JTextField();
  private JTextField jtfNumberOfYears = new JTextField();
  private JTextField jtfLoanAmount = new JTextField();
  private JTextField jtfMonthlyPayment = new JTextField();
  private JTextField jtfTotalPayment = new JTextField();

// Create a Compute Payment button
private JButton jbtComputeLoan = new JButton("Compute Payment");
  public LoanCalculator() {
    // Panel p1 to hold labels and text fields
    JPanel p1 = new JPanel(new GridLayout(5, 2));
    p1.add(new JLabel("Annual Interest Rate"));
    p1.add(jtfAnnualInterestRate);
    p1.add(new JLabel("Number of Years"));
    p1.add(jtfNumberOfYears);
    p1.add(new JLabel("Loan Amount"));
    p1.add(jtfLoanAmount);
    p1.add(new JLabel("Monthly Payment"));
    p1.add(jtfMonthlyPayment);
    p1.add(new JLabel("Total Payment"));
    p1.add(jtfTotalPayment);
    p1.setBorder(new
      TitledBorder("Enter loan amount, interest rate, and years"));
    // Panel p2 to hold the button
    JPanel p2 = new JPanel(new FlowLayout(FlowLayout.RIGHT));
    p2.add(jbtComputeLoan);
    // Add the panels to the frame
    add(p1, BorderLayout.CENTER);
    add(p2, BorderLayout.SOUTH);

    // Register listener
    jbtComputeLoan.addActionListener(new ButtonListener());
  }
/** Handle the Compute Payment button */
  private class ButtonListener implements ActionListener {
    @Override
    public void actionPerformed(ActionEvent e) {
      // Get values from text fields
      double interest =
        Double.parseDouble(jtfAnnualInterestRate.getText());
      int year = Integer.parseInt(jtfNumberOfYears.getText());
      double loanAmount =
        Double.parseDouble(jtfLoanAmount.getText());

```

} import lib

สร้าง Class extends JFrame และสร้าง TextField สำหรับต่างๆ

สร้างปุ่ม Compute Payment

สร้าง Labels ต่างๆ แล้ว add เข้า Frame

สร้าง Action Listener ให้ปุ่ม

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```java
      // Create a loan object
      Loan loan = new Loan(interest, year, loanAmount);

      // Display monthly payment and total payment
      jtfMonthlyPayment.setText(String.format("%.2f",
        loan.getMonthlyPayment()));
      jtfTotalPayment.setText(String.format("%.2f",
        loan.getTotalPayment()));
    }
  }
```

Override actionPerformed
กำหนดเงื่อนไขการคำนวณให้ปุ่ม

```java
  public static void main(String[] args) {
    LoanCalculator frame = new LoanCalculator();
    frame.pack();
    frame.setTitle("LoanCalculator");
    frame.setLocationRelativeTo(null); // Center the frame
    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    frame.setVisible(true);
  }
}
```

สร้าง Frame GUI และตั้งค่า

```java
public class Loan {
  private double annualInterestRate;
  private int numberOfYears;
  private double loanAmount;
  private java.util.Date loanDate;
```

กำหนด attributes

```java
  /** Default constructor */
  public Loan() {
    this(2.5, 1, 1000);
  }
```

Constructor Chaining

```java
  /** Construct a loan with specified annual interest rate,
      number of years, and loan amount
    */
  public Loan(double annualInterestRate, int numberOfYears,
      double loanAmount) {
    this.annualInterestRate = annualInterestRate;
    this.numberOfYears = numberOfYears;
    this.loanAmount = loanAmount;
    loanDate = new java.util.Date();
  }
```

setter Constructor

```java
  /** Return annualInterestRate */
  public double getAnnualInterestRate() {
    return annualInterestRate;
  }
```

getter Method

```java
  /** Set a new annualInterestRate */
  public void setAnnualInterestRate(double annualInterestRate) {
    this.annualInterestRate = annualInterestRate;
  }
```

setter Method

```java
  /** Return numberOfYears */
  public int getNumberOfYears() {
    return numberOfYears;
  }
```

getter Method

```java
  /** Set a new numberOfYears */
  public void setNumberOfYears(int numberOfYears) {
    this.numberOfYears = numberOfYears;
  }
}
```

setter Method