For: Melissa Bakke

Assignment: Exercise 16.13 Compare loans with various interest rates

|  |
| --- |
| **Screenshot(s)** |
|  |
|  |

|  |
| --- |
| **Code** |
| *import javafx.application.Application;*  *import javafx.geometry.Insets;*  *import javafx.geometry.Pos;*  *import javafx.scene.Scene;*  *import javafx.scene.control.Button;*  *import javafx.scene.control.Label;*  *import javafx.scene.control.ScrollPane;*  *import javafx.scene.control.TextArea;*  *import javafx.scene.control.TextField;*  *import javafx.scene.layout.BorderPane;*  *import javafx.scene.layout.HBox;*  *import javafx.stage.Stage;*  */\*\**  *\* Class: Compare Loans Exercise 16.13*  *\* Developer: Melissa Bakke*  *\* Date: 02/19/2017*  *\* Purpose: Program allows user to enter loan amount and loan period and displays*  *\* the monthly and total payments for each interest rate from 5-8 percent in eighths.*  *\*/*  *public class CompareLoansExercise1613 extends Application{*  *@Override*  *public void start (Stage primaryStage){*  *// Create components of the GUI application*  *BorderPane pane = new BorderPane();*  *TextField tfLoanAmount = new TextField();*  *tfLoanAmount.setPrefColumnCount(8);*  *TextField tfLoanPeriod = new TextField();*  *tfLoanPeriod.setPrefColumnCount(2);*  *Button btShow = new Button("Show Table");*    *// Place label and loan amount textfield in hbox1*  *HBox hBox1 = new HBox();*  *hBox1.setAlignment(Pos.CENTER);*  *hBox1.setPadding(new Insets(5, 5, 5, 5));*  *hBox1.getChildren().addAll(new Label("Loan Amount "), tfLoanAmount);*    *// Place label and loan period textfield in hbox2*  *HBox hBox2 = new HBox();*  *hBox2.setAlignment(Pos.CENTER);*  *hBox2.setPadding(new Insets(5, 5, 5, 5));*  *hBox2.getChildren().addAll(new Label("Number of Years "), tfLoanPeriod);*    *// Place button in hbox3*  *HBox hBox3 = new HBox();*  *hBox3.setAlignment(Pos.CENTER);*  *hBox3.setPadding(new Insets(5, 5, 5, 5));*  *hBox3.getChildren().add(btShow);*    *// Place hbox1, hbox2, hbox3 into hbox4*  *HBox hBox4 = new HBox();*  *hBox4.getChildren().addAll(hBox1, hBox2, hBox3);*  *pane.setTop(hBox4);*    *// Create textarea, place it in scroll pane, place scroll pane on bottom of main pane*  *TextArea taPayments = new TextArea();*  *taPayments.setWrapText(true);*  *ScrollPane scrollPane = new ScrollPane(taPayments);*  *pane.setBottom(scrollPane);*    *Scene scene = new Scene(pane, 425, 200);*  *primaryStage.setTitle("Compare Loans");*  *primaryStage.setScene(scene);*  *primaryStage.show();*    *// Button action event calls calculatePayment method*  *btShow.setOnAction(e -> {*  *calculatePayment(tfLoanAmount, tfLoanPeriod, taPayments);*  *});*  *}*    */\*\*calculatePayment gets the loan amount and loan period the user entered in the form*  *\* and sends the interests rates to the text area.*  *\* @param amount*  *\* @param years*  *\* @param textArea*  *\*/*  *public void calculatePayment(TextField amount, TextField years, TextArea textArea){*  *// Enter yearly interest rate start value*  *double annualInterestRate = 5.0;*    *// Printing table header*  *textArea.setText("Interest Rate \t Monthly Payment \t Total Payment\n");*    *while (annualInterestRate <= 8.0) {*  *// Obtain monthly interest rate*  *double monthlyInterestRate = annualInterestRate / 1200;*    *// Variables for the text entered into the GUI form*  *double loanAmount = Double.parseDouble(amount.getText());*  *int numberOfYears = Integer.parseInt(years.getText());*    *// Calculate payment*  *double monthlyPayment = loanAmount \* monthlyInterestRate / (1 - 1 / Math.pow(1 + monthlyInterestRate, numberOfYears \* 12));*  *double totalPayment = monthlyPayment \* numberOfYears \* 12;*    *// Make a string variable to hold other variables and format it*  *String text = String.format("%-25.3f%-25.2f%-25.2f\n", annualInterestRate, monthlyPayment, totalPayment);*  *// Display results*  *textArea.appendText(text);*  *annualInterestRate = annualInterestRate + 1.0 / 8;*  *}*  *}*  */\*\**  *\* @param args the command line arguments*  *\*/*  *public static void main(String[] args) {*  *Application.launch(args);*  *}*    *}* |
|  |