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2nd Year BSCS

Graphical user interface, application

Description automatically generatedGraphical user interface

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using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CarLoanContinuation {

class Car {

string brand;

string model;

double price;

int terms;

double interestRate;

double interest;

double downpayment;

double monthlyAmortization;

double grossAmount;

double netPrice;

public Car() {

brand = "";

model = "";

price = 0;

terms = 0;

interestRate = 0;

interest = 0;

downpayment = 0;

monthlyAmortization = 0;

grossAmount = 0;

netPrice = 0;

}

public void SetBrand(string brd) {

brand = brd;

}

public string GetBrand() {

return brand;

}

public void SetModel(string mdl) {

model = mdl;

}

public string GetModel() {

return model;

}

public void SetPrice(double p) {

price = p;

}

public double GetPrice() {

return price;

}

public void SetTerms(int trms) {

terms = trms;

}

public int GetTerms() {

return terms;

}

public void SetInterestRate() {

if (terms == 24)

interestRate = 0.15;

if (terms == 36)

interestRate = 0.10;

if (terms == 48)

interestRate = 0.05;

if (terms == 60)

interestRate = 0.03;

}

public double GetInterestRate() {

return interestRate;

}

public void SetDownpayment(double dp) {

downpayment = dp;

}

public double GetDownpayment() {

return downpayment;

}

public void ComputeNetPrice() {

netPrice = price - downpayment;

}

public double GetNetPrice() {

return netPrice;

}

public void ComputeInterest() {

interest = netPrice \* interestRate;

}

public double GetInterest() {

return interest;

}

public void ComputeGrossAmount() {

grossAmount = netPrice + interest;

}

public double GetGrossAmount() {

return grossAmount;

}

public void ComputeMonthlyAmortization() {

monthlyAmortization = grossAmount / terms;

}

public double GetMontlyAmortization() {

return monthlyAmortization;

}

}

}

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace CarLoanContinuation {

public partial class MainForm : Form {

static string[] CarBrands = { "Toyota", "Nissan" };

static string[] ToyotaModels = { "Raize", "Veloz", "Wigo", "Vios",};

static double[] ToyotaModelPrices = { 1000000, 1250000, 700000, 1035000 };

static string[] NissanModels = { "Kicks", "NV350", "Livina", "Z" };

static double[] NissanModelPrices = { 1500000, 2000000, 1200000, 2500000 };

static string[][] CarModels = { ToyotaModels, NissanModels };

static double[][] CarModelsPrices = { NissanModelPrices, ToyotaModelPrices };

static int[] Terms = { 24, 36, 48, 60 };

static double[] InterestRates = { 0.15, 0.10, 0.05, 0.03 };

Car loanClient = new Car();

public MainForm() {

InitializeComponent();

}

private void MainForm\_load(object sender, EventArgs e) {

LoadCarBrands();

LoadTerms();

}

private void cmbCarBrand\_SelectedIndexChanged(object sender, EventArgs e) {

cmbCarModel.ResetText();

cmbCarModel.Items.Clear();

LoadCarModels();

loanClient.SetBrand(cmbCarBrand.Text);

}

private void cmbCarModel\_SelectedIndexChanged(object sender, EventArgs e) {

txtCarPrice.ResetText();

LoadPrice();

loanClient.SetModel(cmbCarModel.Text);

loanClient.SetPrice(double.Parse(txtCarPrice.Text));

}

private void cmbLoanTerm\_SelectedIndexChanged(object sender, EventArgs e) {

loanClient.SetTerms(int.Parse(cmbLoanTerm.Text));

loanClient.SetInterestRate();

}

private void btnCompute\_Click(object sender, EventArgs e) {

loanClient.SetDownpayment(double.Parse(txtDownPayment.Text));

loanClient.ComputeNetPrice();

loanClient.ComputeInterest();

loanClient.ComputeGrossAmount();

loanClient.ComputeMonthlyAmortization();

txtInterest.Text = loanClient.GetInterest().ToString();

txtGrossAmount.Text = loanClient.GetGrossAmount().ToString();

txtMonthlyAmortization.Text = loanClient.GetMontlyAmortization().ToString();

}

private void btnClear\_Click(object sender, EventArgs e) {

cmbCarBrand.ResetText();

cmbCarModel.ResetText();

txtCarPrice.ResetText();

cmbLoanTerm.ResetText();

txtDownPayment.ResetText();

txtInterest.ResetText();

txtGrossAmount.ResetText();

txtMonthlyAmortization.ResetText();

}

// Form loading methods

private void LoadCarBrands() {

for (int i = 0; i < CarBrands.Length; i++) {

cmbCarBrand.Items.Add(CarBrands[i]);

}

}

private void LoadCarModels() {

int brandIndex = cmbCarBrand.SelectedIndex;

string[] modelArrayToUse = CarModels[brandIndex];

for (int i = 0; i < modelArrayToUse.Length; i++) {

cmbCarModel.Items.Add(modelArrayToUse[i]);

}

}

private void LoadPrice() {

int brandIndex = cmbCarBrand.SelectedIndex;

int modelIndex = cmbCarModel.SelectedIndex;

double[] modelPriceArrayToUse = CarModelsPrices[brandIndex];

txtCarPrice.Text = modelPriceArrayToUse[modelIndex].ToString();

}

private void LoadTerms() {

for (int i = 0; i < Terms.Length; i++) {

cmbLoanTerm.Items.Add(Terms[i]);

}

}

}

}