//PROBLEM2.cpp

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//Additional files used: PROBLEM2\_FUNCTIONS.cpp

/\*File Discription:

This program allows a user to calculate a mortgage payment schedule.

Additionaly, the functions used in this program are in the file: PROBLEM2\_FUNCTIONS.cpp

\*/

#include <iostream>

#include <iomanip>

#include <string>

using namespace std;

double safeInput(string errorMessage,string prompt,double minValue);

char safeInput(string errorMessage,string prompt,char validChar1,char validChar2);

void sub\_calculateAndDisplayMortgagePaymentSchedule(double principal,double monthlyPayment,double monthlyIntrest);

void highIntrestRateLongPaymentsWarning(bool &printMortgagePaymentSchedule,\

double principal,double &monthlyPayment,double &monthlyIntrest);

int main()

{

double principal = 0,monthlyPayment = 0,monthlyIntrest = 0;

bool printMortgagePaymentSchedule = true;

//Output purpose of the program and name.

cout<<"|---------------------------------------------------|"<<endl

<<"| Mortgage Calculator V1.0 |"<<endl

<<"|This program allows you to create a mortgage pay- |"<<endl

<<"|back schedule. Just enter in the principal,the |"<<endl

<<"|monthly payment,and interest rate. Then the |"<<endl

<<"|program will calculate what you will owe per month.|"<<endl

<<"|\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_|"<<endl<<endl;

//Error checking and getting the values from the user (see mortgage\_functions.cpp) .

cout<<"Enter principal: ";

principal = safeInput("Invalid principal!","Please enter a valid principal: ",1);

cout<<"Enter monthly repayment: ";

monthlyPayment = safeInput("Invalid monthly payment!","Please enter a valid monthly payment: ",1);

cout<<"Enter monthly interest rate (%): ";

monthlyIntrest = safeInput("Invalid interest rate!","Please enter a valid interest rate(%): ",0);

//Set the output to display numbers to the second decimal place.

cout.precision(2);

cout.setf(ios::fixed);

/\*Warn the user that the interest rate is too large- the mortgage will never be payed off

or that the schedule will be long.\*/

highIntrestRateLongPaymentsWarning(printMortgagePaymentSchedule,\

principal,monthlyPayment,monthlyIntrest);

//Print the mortgage payent scedule.

if(printMortgagePaymentSchedule)

{

sub\_calculateAndDisplayMortgagePaymentSchedule(principal,monthlyPayment,monthlyIntrest);

}

cout<<"\nExiting the program. "<<endl;

return 0;

}