#include <iostream>

#include <math.h>

struct QuitNow: public std::exception

{

QuitNow() { }

virtual ~QuitNow() throw() { }

virtual const char\* what() throw()

{

return "QuitNow: request normal termination of program.\n"

"(You should not see this message. Please report it if you do.)";

}

};

using namespace std;

int menu();

int signIn();

int main() {

// Declare Variables

int selection, accountNumber;

double accounts[10] = {1000,1000,1000,1000,1000,1000,1000,1000,1000,1000};

bool login = false;

cout << "+----------------------------ATM------------------------------+\n";

cout << "+-------------------------------------------------------------+\n";

cout << "| 1. Sign In |\n";

cout << "| 2. Balance |\n";

cout << "| 3. Deposit |\n";

cout << "| 4. Withdraw |\n";

cout << "| 5. Exit |\n";

cout << "+-------------------------------------------------------------+\n";

while (login == false){

cin >> selection;

if (selection == 1) {

accountNumber = signIn();

login = true;

} else if (selection == 5) {

cout << "Thank you. Have a good day.\n";

return 0;

} else if (selection != 1 && selection != 5) {

cout << "You must login before using the ATM. Thank you.\n";

cout << "Please enter your selection again: ";

}

}

cout << "The account number you entered is: " << accountNumber << endl;

selection = menu();

while (login == true) {

switch(selection) {

case 2:

if (accounts[accountNumber-1] < 100) {

cout << "Low Balance";

}

cout << "Your current balance is: $" << accounts[accountNumber-1] << endl;

// FUTURE : Find a way to go back to the menu repetitively

selection = menu();

break;

case 3:

double depositAmount;

cout << "Please enter the amount that you would like to deposit: $";

cin >> depositAmount;

if (depositAmount > 0) {

cout << "Thank you! You have succesfully deposited: $" << depositAmount;

accounts[accountNumber-1]+=depositAmount;

cout << "Your new balance is: $" << accounts[accountNumber-1] << endl;

} else if (depositAmount < 0) {

cout << "You have entered a negative amount, please enter a new amount: $";

cin >> depositAmount;

if (depositAmount < 0) {

cout << "You have entered a negative amount again. You will now be taken to the main menu\n";

// FUTURE : Find a way to go back to the menu repetitively

} else {

cout << "Thank you! You have succesfully deposited: $" << depositAmount;

accounts[accountNumber-1]+=depositAmount;

cout << "Your new balance is: $" << accounts[accountNumber-1] << endl;

}

}

selection = menu();

break;

case 4:

double withdraw;

cout << "Please enter the amount that you would like to withdraw: $";

cin >> withdraw;

if (withdraw > accounts[accountNumber-1]) {

cout << "Sorry you have insufficient funds to perform that transaction, you requested: $" << withdraw << " but your current balance is: $" << accounts[accountNumber-1] << endl;

cout << "Please try again. What amount would you like to withdraw: $";

cin >> withdraw;

if (withdraw > accounts[accountNumber-1]) {

cout << "Sorry you have entered an insufficient amount once again. You will now be taken back to the main menu\n";

// FUTURE : Menu

} else if (withdraw < accounts[accountNumber-1]) {

cout << "You have withdrawn: $" << withdraw << " your current balance is now: $" << accounts[accountNumber-1]-withdraw << endl;

accounts[accountNumber-1]-=withdraw;

}

} else if (withdraw < accounts[accountNumber-1]) {

cout << "You have withdrawn: $" << withdraw << " your current balance is now: $" << accounts[accountNumber-1]-withdraw << endl;

accounts[accountNumber-1]-=withdraw;

}

selection = menu();

break;

}

}

}

int menu() {

int menuSelection;

bool menu = false;

while (menu == false) {

cout << "+----------------------------ATM------------------------------+\n";

cout << "+-------------------------------------------------------------+\n";

cout << "| 1. Sign In |\n";

cout << "| 2. Balance |\n";

cout << "| 3. Deposit |\n";

cout << "| 4. Withdraw |\n";

cout << "| 5. Exit |\n";

cout << "+-------------------------------------------------------------+\n";

cin >> menuSelection;

if (menuSelection == 5) {

cout << "Thank you. Have a good day.\n";

throw QuitNow();

} else if (menuSelection > 1 && menuSelection < 5) {

return menuSelection;

menu = true;

} else if (menuSelection == 1) {

cout << "You have already logged in, please make another selection.\n";

} else {

cout << "You have entered an incorrect selection.\n";

}

}

}

int signIn() {

int account;

bool login = false;

while (login != true) {

cout << "Please enter your account number: ";

cin >> account;

if (account >= 0 && account <= 10) {

cout << endl;

cout << endl;

cout << "Welcome back!\n";

login = true;

return account;

} else {

cout << "Sorry that was an incorrect account number\n";

login = false;

}

}

}

