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Assignment #6

import java.util.Scanner;

public class Account

{

// ATM Machine

// Simulate an ATM machine with 10 accounts with initial balance of $100.00

// Ask the user to enter their account ID and then display a menu to show

// the current balance, make a deposit, withdraw funds, or exit.

// The program will run continuously, as would a real-life ATM

// Create a class name it “Account” that has all methods needed to

// accomplish the above requirements.

private int id;

private double balance;

// holds each account's data

public Account(int id)

{

this.id = id;

this.balance = 100;

}

// updates an accounts balance

public void setBalance(double newBalance)

{

balance = newBalance;

}

// returns account's balance

public double getBalance()

{

return balance;

}

// returns account ID

public int getID()

{

return id;

}

// withdraw function

public double withDraw(double withDrawAmount)

{

return balance = balance - withDrawAmount;

}

// deposit function

public double deposit(double depositAmount)

{

return balance = balance + depositAmount;

}

// Main

public static void main(String[] args)

{

//ID given by user input

int userID;

// while loop parameters

boolean mainMenu = true;

boolean validID = true;

// Account array

Account[] accounts = new Account[10];

for (int i = 0; i < accounts.length; i++)

{

accounts[i] = new Account(i);

}

Scanner input = new Scanner(System.in);

// while loop

do

{

System.out.print("== What is your account number? ");

userID = input.nextInt();

// if valid userID from Account array

if (userID <= 9 && userID >=0 && userID == accounts[userID].getID())

{

// welcome message

System.out.println("");

System.out.println("== Welcome Account Holder " + userID + "!");

System.out.println("");

// sets loop condition to repeat

validID = true;

// nested while loop

do

{

// main menu

System.out.println("ATM Options: (1) Balance (2) Withdraw (3) Deposit (4) Exit");

System.out.print("Please select transaction: ");

int choice = input.nextInt();

System.out.println("");

// switch statement for the 4 main menu options

switch(choice)

{

case 1:

// (1) Balance

System.out.println("== Your current balance is $" + accounts[userID].getBalance());

System.out.println("");

break;

case 2:

// (2) Withdraw

System.out.print("== Enter amount to withdraw: ");

int withdrawAmount = input.nextInt();

accounts[userID].withDraw(withdrawAmount);

System.out.println("== Your new balance is $" + accounts[userID].getBalance());

System.out.println("");

break;

case 3:

// (3) Deposit

System.out.print("== Enter amount to deposit: ");

int depositAmount = input.nextInt();

accounts[userID].deposit(depositAmount);

System.out.println("== Your new balance is $" + accounts[userID].getBalance());

System.out.println("");

break;

case 4:

// (4) Exit

System.out.println("== Sign off.");

System.out.println("== Thank you for using our ATM. Come back soon!");

System.out.println("");

// necesssary for reseting userID and making loop continuous

System.out.print("== What is your account number? ");

userID = input.nextInt();

if (userID <= 9 && userID >=0 && userID == accounts[userID].getID())

{

// repeats loop

validID = true;

System.out.println("");

System.out.println("== Welcome Account Holder " + userID + "!");

System.out.println("");

continue;

}

else

{

System.out.println("== Invalid account number. Please try again.");

// exits loop

validID = false;

}

break;

default:

// input error

System.out.println("");

System.out.println("== Invalid option. Please try again.");

System.out.println("");

}

} while (validID);

}

else

{

System.out.println("== Invalid account number. Please try again.");

}

}while(mainMenu);

}

}

