Shahaan Mirza

09/18/2021

Papademas

Lab 1

**AccountHolderTest.java Code:**

/\*Name: Shahaan Mirza

Lab: 1

Project Description:

This test file acts as an account for a user.

The User is prompted to enter an initial balance for their account.

A following prompt asks them to enter the amount that they wish to deposit.

Lastly the user is prompted to enter the amount they wish to withdraw.

\*/

import java.util.\*;

public class AccountHolderTest {

public static void main(String[] args){ //driver class

Scanner sc = new Scanner(System.in); //create new scanner object

System.out.println("Please enter your initial balance");

double balance = sc.nextDouble(); //accept user input as initial balance

AccountHolder acct1 = new AccountHolder(balance); //create new accountHolder object

System.out.println("Please enter a deposit");

double deposit = sc.nextDouble();

acct1.deposit(deposit); //accept user input as deposit amount and run deposit method

System.out.println("Please enter a withdraw method");

//memory position for test balance value

double withdraw = sc.nextDouble();

acct1.withdraw(withdraw); //accept user input as withdrawal amount and run withdraw method

acct1.monthlyInterest(); //calculates and adds monthlyInterest

System.out.printf("Balance with interest applied = $%.2f",acct1.balance); //prints final balance output

}

}

**AccountHolder.java Code:**

//Name: Shahaan Mirza

//Lab 1

public class AccountHolder { //abstract accountHolder class holds methods

protected double balance; //account holder's balance attribute

protected static double annualInterestRate = .04; //account holder's interest rate (4%)

public AccountHolder(double x){ //constructor

if(x<0)

throw new IllegalArgumentException("ERROR: starting balance must be positive");

else

this.balance = x;

}

public void deposit(double x){

this.balance += x;

}

public void withdraw(double x){

if((this.balance - x)<50.0)

throw new IllegalArgumentException("ERROR: balance cannot be below 50");

else

this.balance = this.balance - x;

}

public void monthlyInterest(){

double temp = (this.balance \* (annualInterestRate / 12.0));

this.balance += temp;

}

}

SC 1:

Text

Description automatically generated

SC2:

Text

Description automatically generated

SC3:

A screenshot of a computer

Description automatically generated with medium confidence