Account

package Program02.Class;

import java.util.ArrayList;

import java.util.Date;

public class Account{

    private String name;

    private String id;

    private double balance;

    private double annualInterestRate;

    private Date dateCreated;

    private ArrayList<Transaction>transactions;

    public Account(){

        this("Unknow","0000",0);

        transactions=new ArrayList<Transaction>();

        dateCreated = new Date();

    }

    public Account(String name,String id ,double balance){

        dateCreated = new Date();

        transactions=new ArrayList<Transaction>();

        this.name = name;

        this.id = id;

        this.balance = balance;

    }

    public String getId(){

        return this.id;

    }

    public double getBalance(){

        return this.balance;

    }

    public double getAnnualInterestRate(){

        return this.annualInterestRate;

    }

    public Date getDateCreated(){

        return this.dateCreated;

    }

    public double setAnnualInterestRate(double annualTnterestRate){

        this.annualInterestRate = annualTnterestRate;

        return this.annualInterestRate;

    }

    public double getMonthlyInterestRate(){

        double monthlyInterestRate = this.annualInterestRate / 12;

        return monthlyInterestRate/100;

    }

    public double getMonthlyInterest(){

        double monthlyInterest = (getMonthlyInterestRate()\*this.balance);

        return monthlyInterest;

    }

    public void withdraw(double amount,String description){

        this.balance -=amount;

        transactions.add(new Transaction('W',amount,balance,description));

    }

    public void deposit(double amount,String description){

        this.balance += amount;

        this.transactions.add(new Transaction('D',amount,balance,description));

    }

    public String getName() {

        return name;

    }

    public void displayTransaction(){

        System.out.println("Name : " + name);

        System.out.println("Acount ID : " + id);

        System.out.println("Annual Interestrate :" + annualInterestRate);

        System.out.println("Balance : " + balance);

        System.out.printf("Date\t\t\t\tType\tAmount\tBalance\t\n");

        for(int i = 0 ; i < transactions.size() ; i++){

            System.out.printf(transactions.get(i).getDate()+"\t"+transactions.get(i).getType()+"\t"+transactions.get(i).getAmount()+"\t"+transactions.get(i).getBalance()+"\t\n");

        }

    }

}

Transaction

package Program02.Class;

import java.util.Date;

public class Transaction{

    private Date date;

    private char type;

    private double amount;

    private double balance;

    private String description;

    Transaction(){

    }

    public Transaction(char type, double amount, double balance, String description) {

        date = new Date();

        this.type = type;

        this.amount = amount;

        this.balance = balance;

        this.description = description;

    }

    public Date getDate() {

        return date;

    }

    public char getType() {

        return type;

    }

    public double getAmount() {

        return amount;

    }

    public double getBalance() {

        return balance;

    }

    public String getDescription() {

        return description;

    }

}

Main

package Program02.Main;

import Program02.Class.\*;

public class Main {

    public static void main(String[] args) {

        Account a = new Account("George","1122",1000);

        a.setAnnualInterestRate(1.5);

        a.deposit(30, "");

        a.deposit(40, "");

        a.deposit(50, "");

        a.withdraw(5, "");

        a.withdraw(4, "");

        a.withdraw(2, "");

        a.displayTransaction();

    }

}