package bank\_management\_system;

import java.util.ArrayList;

import java.util.List;

public abstract class Account {

private String accountNumber;

private String accountHolderName;

private double balance;

protected List<Transaction> transactions;

private static int nextAccountNumber = 1000;

public Account(String accountHolderName, double initialBalance) {

if (initialBalance < 100) {

throw new IllegalArgumentException("Cannot create account. Initial balance must be a positive amount and at least 100. Please insert a correct positive amount.");

}

this.accountNumber = generateAccountNumber();

this.accountHolderName = accountHolderName;

this.balance = initialBalance;

this.transactions = new ArrayList<>();

addTransaction("Initial Deposit", initialBalance);}

public String getAccountNumber() {

return accountNumber;

}

public String getAccountHolderName() {

return accountHolderName;

}

public double getBalance() {

return balance;

}

public void setAccountHolderName(String accountHolderName) {

this.accountHolderName = accountHolderName;

}

public abstract void withdraw(double amount);

public void deposit(double amount) {

if (amount <= 0) {

System.out.println("Deposit amount must be positive.");

return;

}

this.balance += amount;

addTransaction("Deposit", amount);

System.out.println("Deposited $" + String.format("%.2f", amount) + " successfully. New balance: $" + String.format("%.2f", this.balance));

}

protected void addTransaction(String type, double amount) {

transactions.add(new Transaction(type, amount, this.balance));

}

public List<Transaction> getTransactions() {

return new ArrayList<>(transactions);

}

public void getAccountInfo() {

System.out.println("Account Number: " + accountNumber);

System.out.println("Account Holder: " + accountHolderName);

System.out.println("Current Balance: $" + String.format("%.2f", balance));

}

private static String generateAccountNumber() {

return "ACC-" + (nextAccountNumber++);

}

protected void updateBalance(double amount) {

this.balance += amount;

}

}