import java.util.\*;

import java.lang.\*;

class Account {

String name, abc;

int accNo;

char accType;

double bal = 0;

double deposit;

Scanner in = new Scanner(System.in);

void input\_data() {

System.out.println("Enter your account type (S/C):");

abc = in.nextLine();

accType = abc.charAt(0);

}

void deposit() {

System.out.println("Enter an amount to deposit: ");

deposit = in.nextDouble();

bal += deposit;

System.out.println("Balance has been updated. ");

}

void view\_balance() {

System.out.println("Balance = " + bal);

}

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int x;

Account a1 = new Account();

a1.input\_data();

if(a1.accType == 'C' || a1.accType == 'c'){

Current a2 = new Current();

do {

System.out.println("WELCOME TO YOUR CURRENT ACCOUNT");

System.out.println("1. Deposit ");

System.out.println("2. Check Balance ");

System.out.println("3. Issue Cheque ");

System.out.println("4. Exit");

System.out.println("Enter your choice: ");

x = s.nextInt();

switch(x) {

case 1: a2.deposit();

break;

case 2: a2.check\_balance();

break;

case 3: a2.issue\_cheque();

break;

case 4: System.exit(0);

break;

default: System.out.println("ERROR. INVALID CHOICE.");

}

} while(x <= 4 && x >= 1);

}

else if (a1.accType == 'S' || a1.accType == 's'){

Savings a3 = new Savings();

do {

System.out.println("WELCOME TO YOUR SAVINGS ACCOUNT");

System.out.println("1. Deposit");

System.out.println("2. View Balance");

System.out.println("3. Withdraw ");

System.out.println("4. Calculate compound interest ");

System.out.println("5. Exit ");

System.out.println("Enter your choice: ");

x = s.nextInt();

switch(x) {

case 1: a3.deposit();

break;

case 2: a3.view\_balance();

break;

case 3: a3.withdraw\_balance();

break;

case 4: a3.compute\_CI();

break;

case 5: System.exit(0);

break;

default: System.out.println("ERROR. INVALID CHOICE.");

}

} while(x <= 5 && x >=1);

}

else System.out.println("INVALID ACCOUNT TYPE");

}

}

class Current extends Account {

Current() {

System.out.println("Enter your name: ");

name = in.nextLine();

System.out.println("Enter your account number: ");

accNo = in.nextInt();

deposit();

}

double chq\_amount;

void issue\_cheque() {

System.out.println("Enter amount for which cheque is to be issued.");

chq\_amount = in.nextDouble();

if(chq\_amount > bal) {

System.out.println("ERROR! Insufficient balance in account.");

}

else {

bal -= chq\_amount;

System.out.println("Cheque has been issued SUCCESSFULLY");

}

}

void check\_balance() {

if(bal < 1000) {

System.out.println("Current available balance is lesser than minimum required balance.");

bal -= 100;

System.out.println("Service charge of Rs.100 has been deducted from your balance.");

}

view\_balance();

}

}

class Savings extends Account {

double CI, withdrawal\_ammount, time;

Savings() {

System.out.println("Enter your name: ");

name = in.nextLine();

System.out.println("Enter your account number: ");

accNo = in.nextInt();

deposit();

}

void compute\_CI() {

System.out.println("Enter time period: ");

time = in.nextInt();

CI = bal \* Math.pow(1 + (0.08 / 12), 12 \* time) - bal;

System.out.println("CI = " + CI);

bal += CI;

System.out.println("CI has been deposited");

}

void withdraw\_balance() {

System.out.println("Enter the amount you want to withdraw: ");

withdrawal\_ammount = in.nextDouble();

if(withdrawal\_ammount > bal) {

System.out.println("ERROR! THE ENTERED AMOUNT IS GREATER THAN THE AVAILABLE BALANCE...");

}

else {

bal -= withdrawal\_ammount;

System.out.println("AMOUNT HAS SUCCESSFULLY BEEN WITHDRAWN!");

}

}

}