5. Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called **Saving Account** and the  **Current Account**. The **savings** account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but with no interest. Current account holders should also maintain a **minimum balance** and if the balance falls below minimum balance, a service charge is imposed(levied).  
  
Create a class Account that stores customer name, account number and type of account. From this derive the classes **CurrentAccount** and **SavingAccount** to make them more specific to their requirements. Include the necessary methods  
in order to achieve the following tasks:  
  
a)     Accept deposit from customer and update the balance.  
  
b)     Display the balance.  
  
c)     Compute and deposit interest  
  
d)     Permit withdrawal and update the balance  
  
Check for the minimum balance, impose penalty if necessary and update the balance.

import java.util.Scanner;

class Account

{

String customer\_name;

long acc\_no;

float bal;

Scanner s = new Scanner(System.in);

public void input()

{

System.out.print("\nEnter the Customer Name: ");

customer\_name = s.nextLine();

System.out.print("\nEnter the Account Number: ");

acc\_no = s.nextLong();

System.out.print("\nEnter the Starting Amount (Minimum Amount = 5000): ");

bal = s.nextFloat();

if(bal<5000f)

{

System.out.println("\nAccount Balance cannot be less than 5000.0 \n");

System.exit(0);

}

}

public void display()

{

System.out.println("\nCustomer Name: "+customer\_name);

System.out.println("Account Number: "+acc\_no);

System.out.println("Amount: "+bal);

}

}

class Savings extends Account

{

Scanner s = new Scanner(System.in);

float deposit,withdraw,interest;

public void deposit()

{

System.out.print("\nEnter the amount to be deposited: ");

deposit = s.nextFloat();

bal+=deposit;

System.out.println("\nBalance: "+bal);

}

public void withdraw()

{

System.out.print("\nEnter the amount to be withdrawn: ");

withdraw = s.nextFloat();

if(bal<5000)

{

System.out.println("\nInsufficient Balance");

}

else

{

bal-=withdraw;

System.out.println("\nAmount Withdrawn: "+withdraw+"\nBalance: "+bal);

}

}

public void check\_Bal()

{

if(bal<5000)

{

System.out.println("\nInsufficient Balance!!\nBalance: "+bal);

}

else

{

System.out.println("\nBalance: "+bal);

}

}

public void interest()

{

interest=(bal\*6)/100;

bal+=interest;

System.out.println("\nInterest Credited: "+interest+"\nBalance :"+bal) ;

}

}

class Current extends Account

{

float deposit, withdraw, penalty;

public void deposit()

{

System.out.print("\nEnter Amount to be deposited: ");

deposit = s.nextFloat();

bal += deposit;

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

}

public void check\_Bal()

{

if (bal < 5000)

{

penalty = (0.1f \* bal);

System.out.println("\nInitial Account Balance: "+bal);

bal = bal-penalty;

System.out.println("\nLow balance!\nPenalty Amount: " + penalty + "\nAccount balance: " + bal);

}

else

{

System.out.println("\n Balance: " + bal);

}

}

public boolean check\_Bal\_part\_2()

{

if (bal < 5000)

{

penalty = (0.1f \* bal);

System.out.println("\nInitial Account Balance: "+bal);

bal = bal-penalty;

System.out.println("\nLow Balance!\nPenalty Amount: " + penalty + "\nAccount balance: " + bal);

return false;

}

return true;

}

public void withdraw()

{

System.out.print("\nEnter Amount to withdraw: ");

withdraw = s.nextFloat();

if(check\_Bal\_part\_2())

{

bal-=withdraw;

System.out.println("\nAmount Withdrawn: "+withdraw+"\nBalance: "+bal);

}

}

public void chequebook()

{

System.out.println("\nCheque Book has been Issued!");

}

}

public class Bank

{

public static void main(String[] args)

{

Scanner s = new Scanner(System.in);

String ch;

int n;

Current c = new Current();

Savings sa = new Savings();

System.out.print("\nEnter the Account Type (S for Savings , C for Current) : ");

ch = s.next();

switch(ch.toLowerCase())

{

case "s" : sa.input();

do

{

System.out.print("\n1. Deposit \n2. Withdrawal \n3. Check Balance \n4. Check Interest"

+"\n5. Show Account Details \n6. Exit Transaction\n\nEnter your choice: ");

n = s.nextInt();

switch(n)

{

case 1 : sa.deposit();

break;

case 2 : sa.withdraw();

break;

case 3 : sa.check\_Bal();

break;

case 4 : sa.interest();

break;

case 5 : sa.display();

break;

case 6 : System.out.println("\nExiting Transaction!");

System.exit(0);

break;

default : System.out.println("\nInvalid Operation");

}

}while(true);

case "c" : c.input();

do {

System.out.print("\n1. Deposit \n2. Withdrawal \n3. Check Balance \n4. Issue Cheque Book"

+ "\n5. Show Account Details \n6. Exit Transaction\n\nEnter your choice: ");

n = s.nextInt();

switch (n) {

case 1:

c.deposit();

break;

case 2:

c.withdraw();

break;

case 3:

c.check\_Bal();

break;

case 4:

c.chequebook();

break;

case 5:

c.display();

break;

case 6:

System.out.println("\nExiting Transaction!");

System.exit(0);

break;

default:

System.out.println("\nInvalid Operation");

}

}while(true);

default : System.out.println("\nInvalid Choice");

break;

}

}

}

