

5. Develop a java program to create Bank that maintains two kinds of account for its customers, one savings and other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility, but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed.

Create a class Account that stores customer name, account number and type of account. From this derive the classes cur-acc and sav-acc to make them more specific to their requirements.

Include necessary methods to achieve following tasks:

- accept deposit from customer and update the balance.
- Display the balance.
- compute the deposit interest.
- permit withdrawal and update the balance.

check for minimum balance, impose penalty if necessary and update the balance.


```
import java.util.Scanner;
import java.lang.Math;
class account
{
    String name = new String("");
    int accno;
    double bal;
    Scanner s = new Scanner(System.in);
    void set()
    {
        System.out.println("Enter the Customer name");
        name = s.nextLine();
        System.out.println("Enter " + name + "'s account number");
        accno = s.nextInt();
        System.out.println("Enter balance amount");
        bal = s.nextDouble();
    }
    void display()
    {
        System.out.println("Customer Name: " + name);
        System.out.println("Your account number: " + accno);
        System.out.println("Your Account Balance: " + bal);
    }
}
class savacc extends account
{
    Scanner s = new Scanner(System.in);
    savacc()
```



```

{
    System.out.println("Cheque facility not
        available");
}

void deposit()
{
    int ch;
    double amt;
    System.out.println("Press 1 to deposit");
    ch = s.nextInt();
    if (ch == 1)
    {
        System.out.println("Enter amount to be deposited");
        amt = s.nextDouble();
        bal = bal + amt;
    }
    else
    {
        System.out.println("Invalid Input");
    }
}

void rn()
{
    System.out.println("Enter rate of interest");
    double r = s.nextDouble();
    System.out.println("Enter number of times interest
        applied per time period");
    int n = s.nextInt();
    System.out.println("Enter number of time periods");
    int t = s.nextInt();
    double x = bal * (1 + (r/n));
    double ci = Math.pow(x, n*t);
    System.out.println("Interest amount = " + ci*t);
    In Balance amount without interest is
    (t * bal);
    bal = bal + ci;
}

```



```

System.out.println(" Available balance after
updating is" + bal);
}
void wdl()
{
    System.out.println("Press 1 to withdraw
amount");
    int ch = s.nextInt();
    if (ch == 1)
    {
        System.out.println("Enter the amount to be
withdrawn");
        double wdraw = s.nextDouble();
        bal = bal - wdraw;
        System.out.println("Available balance : " + bal);
    }
    else
        System.out.println("Invalid input");
}
}

```

```

class curacct extends account
{
    Scanner s = new Scanner(System.in);
    curacct()
    {
        System.out.println("Cheque Facility
available");
    }
}

```

```

void deposit()
{
    int ch;
    double amt;
    System.out.println("Press 1 to deposit");
    ch = s.nextInt();
    if (ch == 1)
    {

```

```

System.out.println("Enter amount to be deposited");
amt = s.nextDouble();
bal = bal + amt;
}
Use
System.out.println("Invalid input");
}
void wdl()
{
    System.out.println("Press 1 to withdraw amount");
    int ch = s.nextInt();
    if (ch == 1)
    {
        System.out.println("Enter the amount to be withdrawn");
        double wdraw = s.nextDouble();
        bal = bal - wdraw;
        System.out.println("Available Balance: " + bal);
        else System.out.println("Invalid input");
        if (bal < 1000)
        {
            System.out.println("You are running out of minimum balance. Amount of rs 50 has been credited as service charge for having low balance");
            bal = bal + 50;
            System.out.println("Your Available Balance: " + bal);
        }
    }
}
}
}
public class Lab5

```



```

{
public static void main (String xx[])
{
Scanner s = new Scanner (System.in);
int ch;
System.out.println("\n\nPress \n1. if your account
is savings account \n2. if your account
is current account");
ch = s.nextInt();
switch (ch)
{
case 1:
savings s1 = new sav acct();
s1.set ();
s1.display();
s1.deposit ();
s1.rm ();
s1.wd ();
break;
case 2:
current c1 = new cur acct();
c1.set ();
c1.display();
c1.deposit ();
c1.wd ();
break;
default : System.exit (0);
}
}
}

```

output.

*) Press

1. if your account is savings account.
2. if your account is current account.

2
cheque facility available

Enter customer name

Sara

Enter Sara's account number

22556

Enter balance amount

50000

Customer Name: Sara

Your account number: 22556

Your account Balance: 50000.0

Press 1 to deposit.

Enter amount to be deposited

10000

Press 1 to withdraw amount

1

Enter the amount to be withdrawn

5000

Available Balance: 55000.0

*) Press

1. if your account is ~~savings~~ account
2. if your account is ~~current~~ account

1.
cheque facility not available

Enter customer name

Sam

Enter Sam's account number

55555

Enter balance : 50000.0

Press 1, to deposited.

1

Enter Amount to be deposited

10000

Enter rate of interest

5

Enter number of times interest applied per
time period

5

Enter number of time periods

10

Interest amount = 9.1004315000

Balance amount without interest is 60000.0
 available balance after updating is
 press 1 to withdraw amount

1

Enter the amount to be withdrawn

10000

Available balance 900043

22


```
Command Prompt
Press
1. if your account is savings account
2. if your account is current account
1
Cheque Facility not available
Enter customer name
sara
Enter sara's account number
44
Enter balance amount
44
Customer Name:sara
Your account number:44
Your Account Balance:44.0
Press 1 to deposit
1
Enter amount to be deposited
50
Enter rate of interest
5
Enter number of times interest applied per time period
5
Enter number of time periods
5
Interest amount=7.144078723798714E56
Balance amount without interest is94.0
Available balance after updating is7.144078723798714E56
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn
2
Available Balance:7.144078723798714E56
C:\Users\ADMIN\Desktop\oojlab>java Lab

Press
1. if your account is savings account
2. if your account is current account
2
Cheque Facility available
Enter customer name
leo
```