

WEEK-5

Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the 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-acct and Sav-acct 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.

CODE:

```
import java.util.*;
import java.lang.*;

class Account
{
    public String acc_name;
    public double acc_no;
    public int acc_type;
    public double balance;
    public void getdata(String name,double no,int type,double bal)
    {

        acc_name=name;
        acc_no=no;
        acc_type=type;
        balance=bal;
    }
}

class Savings extends Account
{
```

```

public void deposit(double amt)
{
    balance=balance+amt;
    System.out.println(balance);
}
public void withdraw(double amt)
{
    balance=balance-amt;
    System.out.println(balance);
}
public void interest(int time,int no)
{
    double intr=balance*(1+6/no);
    intr=Math.pow(intr,(time*no));
    System.out.println("Interest calculated is"+intr);

    balance=balance+intr;
    System.out.println("The new balance is"+balance);
}
}

```

```

class Current extends Account
{
    public void deposit(double amt)
    {
        balance=balance+amt;
        System.out.println(balance);
    }
    public void withdraw(double amt)
    {
        balance=balance-amt;
        System.out.println(balance);
        check(balance);
    }
    public void check(double amt)
    {
        if(amt<10000)
        {
            balance =balance-500;
            System.out.println("Insufficient Balance"+balance);

        }
    }
}

```

```
}
```

```
class Main
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        int temp=1;
        while(temp==1)
        {
            double amt=0;
            System.out.println("Enter name");
            sc.next();
            String name=sc.nextLine();
            System.out.println("Enter acc_no");
            double no=sc.nextDouble();
            System.out.println("Enter acc_type\n0 for Savings\n1 for Current");
            int type=sc.nextInt();
            do
            {
                System.out.println("Enter balance");

                amt=sc.nextDouble();
            }while(type==1 && amt<10000);
            if(type==0)
            {
                Savings s=new Savings();
                s.getdata(name,no,type,amt);
                System.out.println("\n1.Deposit\n2.Withdraw\n3.Interest");
                int temp3=sc.nextInt();
                if(temp3==1)
                {
                    System.out.println("Enter Amount");
                    double amt1=sc.nextDouble();
                    s.deposit(amt1);
                }
                else if(temp3==2)
                {
                    System.out.println("Enter Amount");
                    double amt1=sc.nextDouble();
                    s.withdraw(amt1);
                }
            }
        }
    }
}
```

```

else if(temp3==3)
{
System.out.println("Enter time period");

int tp=sc.nextInt();
System.out.println("Enter no of times");
int nof=sc.nextInt();
s.interest(tp,nof);
}
}
else if(type==1)
{
Current c=new Current();
c.getdata(name,no,type,amt);
System.out.println("\n1.Deposit\n 2.Withdraw");
int temp3=sc.nextInt();
if(temp3==1)
{
System.out.println("Enter Amount");
double amt1=sc.nextDouble();
c.deposit(amt1);
}
else if(temp3==2)
{
System.out.println("Enter Amount");
double amt1=sc.nextDouble();
c.withdraw(amt1);

}

}
System.out.println("To continue 1 else 0");
temp=sc.nextInt();
}
}
}

```

Output:

Command Prompt - java Main

```
Microsoft Windows [Version 10.0.22000.1335]
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C:\Users\Admin>cd C:\Users\Admin\Desktop\vaishnavi

C:\Users\Admin\Desktop\vaishnavi> set path="C:\Program Files\Java\jdk-19\bin"

C:\Users\Admin\Desktop\vaishnavi>javac week5.java

C:\Users\Admin\Desktop\vaishnavi>java Main
Enter name
vaishnavi
Enter acc_no
1234
Enter acc_type
0 for Savings
1 for Current
0
Enter balance
64000

1.Deposit
2.Withdraw
3.Interest
3
Enter time period
2
Enter no of times
3
Interrest calculated is5.0096498540544E31
The new balance is5.0096498540544E31
To continue 1 else 0

1
Enter name
vaishnavi
Enter acc_no
1234
Enter acc_type
0 for Savings
1 for Current
1
Enter balance
400
Enter balance
456666

1.Deposit
2.Withdraw
1
Enter Amount
122
456788.0
To continue 1 else 0
```