LAB PROGRAM 5

QUESTION: 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 Curr-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:

```java
import java.util.Scanner;


class Account
{
        private String name;
        private long account_number;
        private int account_type;
        double balance;


        void get_data()
        {
         Scanner ss=new Scanner(System.in);
         System.out.println("\n Enter your name: ");
         name=ss.next();
         System.out.println("\n Enter the Account number: ");
         account_number=ss.nextLong();
    System.out.println("\n Choose the account type: ");
         System.out.println("\n 1. Savings account");
         System.out.println("\n 2. Current account");
         account_type=ss.nextInt();
        }
```

```java
        int return_account_type()

        {

         return account_type;

        }

}


class Sav_acct extends Account

{

        Scanner ss=new Scanner(System.in);

        double amount;


        void get_sav_balance()

        {

         System.out.println("\n Enter the amount to be placed in your savings account: ");

         amount=ss.nextDouble();

         balance= balance+amount;

        }


        void display_sav_blnce()

        {

         System.out.println("\n Balance = "+balance);

        }


        void compute_sav_interest()

        {

         System.out.println("\n Interest of 5% shall be added to your balance");

         balance=balance+(0.05*balance);

        }


        void withdrawl_sav()
```

```java
        {
         System.out.println("\n Enter the amount to be withdrawn: ");

         amount=ss.nextDouble();

         balance=balance-amount;

        }


}


class Curr_acct extends Account
{
        Scanner ss=new Scanner(System.in);

        double amount;

        final double min_balance=5000;


        void get_cur_balance()

        {
         System.out.println("\n Enter the amount to be placed in your current account: ");

          amount=ss.nextDouble();

          balance+=amount;

        }


        void display_cur_blnce()

        {
         System.out.println("\n Balance = "+balance);

        }


        void compute_cur_service_charges()

        {
          if(balance<min_balance)

                {

                   System.out.println("\n Service tax of rs.500 shall be levied");
```

```java
                balance=balance-500;

                }
        else
                {
                System.out.println("\n Minimum balance is maintained");
                }
        }


        void withdrawl_cur()
        {
        System.out.println("\n Enter the amount to be withdrawn: ");
        amount=ss.nextDouble();
        balance=balance-amount;
        }

}

class Bank
{
public static void main(String args[])
{

        System.out.println("\n Enter the bank details: ");
        Account acc=new Account();
        acc.get_data();
        int type=acc.return_account_type();
        if (type==1)
    {
    System.out.println("***SAVINGS ACCOUNT***");
    Sav_acct sav=new Sav_acct();
        sav.get_sav_balance();
```

```java
            sav.display_sav_blnce();

            sav.compute_sav_interest();

            sav.display_sav_blnce();

            sav.withdrawl_sav();

            sav.display_sav_blnce();

    }

    if(type==2)

    {

     System.out.println("***CURRENT ACCOUNT***");

            Curr_acct cur=new Curr_acct();

            cur.get_cur_balance();

            cur.display_cur_blnce();

            cur.compute_cur_service_charges();

            cur.display_cur_blnce();

            cur.withdrawl_cur();

            cur.display_cur_blnce();

        }

}


}
```

OUTPUT:

```
C:\Users\Ramya>cd..

C:\Users>cd..

C:\>cd java

C:\java>javac Bank.java

C:\java>java Bank
 Enter the bank details:

 Enter your name:
Ramya

 Enter the Account number:
4058767

 Choose the account type:

 1. Savings account

 2. Current account
1
***SAVINGS ACCOUNT***

 Enter the amount to be placed in your savings account:
20000

 Balance = 20000.0

 Interest of 5% shall be added to your balance

 Balance = 21000.0

 Enter the amount to be withdrawn:
4000

 Balance = 17000.0

C:\java>_
```

```
Command Prompt

C:\Users\Ramya>cd..

C:\Users>cd..

C:\>cd java

C:\java>javac Bank.java

C:\java>java Bank

 Enter the bank details:

 Enter your name:
Ramya

 Enter the Account number:
6789032

 Choose the account type:

 1. Savings account

 2. Current account
2
***CURRENT ACCOUNT***

 Enter the amount to be placed in your current account:
3000

 Balance = 3000.0

 Service tax of rs.500 shall be levied

 Balance = 2500.0

 Enter the amount to be withdrawn:
1000

 Balance = 1500.0

C:\java>_
```