{ LAB PROGRAM 5 }

```
import java.util.Scanner;
import java.lang.Math;

class account {
        double balance;
        String customer_name;
        int account_number;
        char account_type; // s for savings, c for current

        account(String name, int num, char type) {
            customer_name = name;
            account_number = num;
            account_type = type;
            balance = 500;
        }

        String retAcctType() {
            if (account_type == 's' || account_type == 'S')
                return "savings";
            else if (account_type == 'c' || account_type == 'C')
                return "Current";
            else
                return "None";
        }

        void display() {
        System.out.println("\n Here are your details :" + "\n Name" +
            customer_name + "\n account number :" + account_number +
            "\n acount type :" + retAcctType());
        }
}

class Curr_acct extends account {
        boolean check;
        double penalty = 50.0, min_balance = 400.0;

        Curr_acct (String name, int num, char type, boolean cheque) {
            super(name, num, type);
            check = cheque;
        }
        char checkoption() {
            if (check)
                return 'Y';
            else
                return 'N';
```

```
double Addpenalty() {
    if (balance <= 400)
        balance = balance - penalty;
    return balance;
}
double updateBalance (double n) {
    balance = Addpenalty();
    System.o
    balance = balance + n;
    return balance;
}
void displayBalance() {
    balance = Addpenalty();
    System.out.println("Your balance:" + balance);
}
void displayMin() {
    System.out.println("minBalance" + min_balance + "Penalty:" +
                                                    penalty);
}
}
class Sav_acct extends account {
    int interest_rate;
    Sav_acct(String name, int num, char type) {
        super(name, num, type);
        interest_rate = 5;
    }
    double calcInterest(int n, int t) {
        double val;
        val = Math.pow(1+(double) interest_rate/(n*100), n*t);
        return balance;
    }
}

class BankDemo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int choice, b;
        String a;
        char c, bool;
        boolean d;
        System.out.print("Enter your name:");
```

```
a = sc.next();
System.out.print("Enter your account number: ");
b= sc.nextInt();
System.out.print("Enter acct type (S for savings, C for current)");
c= sc.next().charAt(0);

if (c=='c' || c=='C') {
    System.out.print("Do you want check option (Y|N) ?");
    bool = sc.next().charAt(0);
    if (bool=='Y' || bool=='y')
        d = true;
    else
        d = false;
    Current_acct a1 = new Curr_acct(a,b,c,d);
    a1.display();
    while (true) {
        double x;
        System.out.println("\nEnter your choice:\n1.deposit\n
        2.display balance (after penalty, if applicable) \n3.
        withdraw \n4. check min. balance and penalty \n5.
        exit");
        choice = sc.nextInt();
        switch(choice) {
            case 1: System.out.print("How much do you want to
                    deposit?");
                x = sc.nextDouble;
                System.out.print("Balance has been updated
                to:" + a1.updateBalance(x));
                break;
            case 2: a1.displayBalance();
                break;
            Case 3: System.out.print("How much do you want
                to withdraw?");
                x = sc.nextDouble();
                System.out.print("Balance has been updated
                to Rs." + a1.updateBalance(-x));
                break;
            Case 4: a1.displayMin();
                break;
            Case 5: System.exit(0);
        }
    }
}
```

```
else if (c == 'y' || c == 'Y') {
    Sav_acct a2 = new Sav_acct (a, b, c);
    a2.display();
    while (true) {
        int p, q;
        System.out.println("\nEnter choice: \n1. compute interest \n2.
                deposit interest \n3. exit");
        choice = sc.nextInt();
        switch (choice){
            int p,q;
            case 1: System.out.print ("Enter n(per time period):");
                    p = sc.nextInt();
                    System.out.print ("Enter time period in years:");
                    q = sc.nextInt();
                    System.out.print("Interest amt. for interest
                    rate of 5% is :" + a2.calcInterest(p,q));
                    break;
            case 2: System.out.print ("Enter n(per time period):");
                    p= sc.nextInt();
                    System.out.print ("Enter time period:");
                    q = sc.nextInt();
                    System.out.print ("Balance has been updated
                    to Rs." + a2.depositInterest(p,q));
                    break;
            case 3: System.exit(0);
        }
    }
}
else
    System.exit(0);
}
```