Program - 5

WAP 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 withdraw 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, acc number and type of account. From this derive the class cur-account and sv-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 updat balance

Check for minimum balance, impose penalty 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 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);
 }
 account(){}
}
```

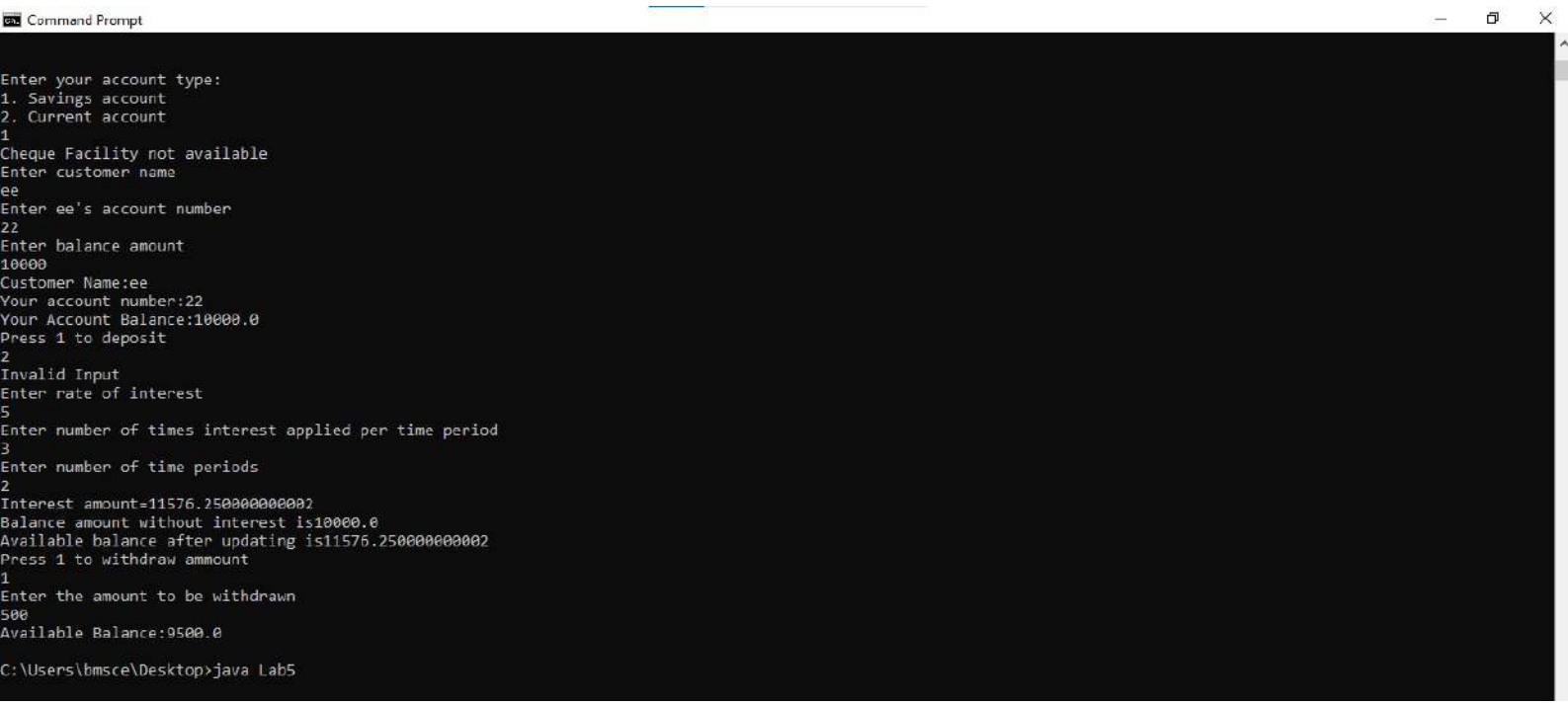
```
class savacct extends account
{
Scanner s= new Scanner(System.in);
savacct()
{
 System.out.println(" Cheque
                Facility not available");
}
void deposit()
{
 int ch;
 double amt;
 System.out.println("Press 1 to
                    deposit");
   ch = s.nextInt();
   if(ch==1)
  {
 System.out.println("Enter amount to be
                    deposited");
 amt = s.nextDouble();
 bal = bal+amt;
}
 else
 System.out.println("Invalid Input");
}
void in()
{
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 = (1 + (r/100));
double ci = bal * Math.pow(x,n);
System.out.println("Interest amount
    = "+ci+"\nBalance amount
    without interest is "+bal);
System.out.println("Available balance
                    after updating is"+ci);
}
void wd()
{
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("Balance below
        minimum amount.\nA penalty
    of 50Rs has been credited");
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\nEnter your
          account type\n1.Saving account
          \n2.Current account");
    ch = s.nextInt();
    switch(ch)
    {
    case 1:
    Saveract s1 = new Saveract();
      s1.set();
      s1.display();
      s1.deposit();
      s1.in();
      s1.wd();
      break;
    case 2:
    Currenct c1 = new Currenct();
        c1.set();
        c1.display();
        c1.deposit();
        c1.wd()
        break;
default: exit(0); } } }
```

```
Enter your account type:
1. Savings account
2. Current account
2
Cheque Facility available
Enter customer name
er
Enter er's account number
23
Enter balance amount
50000
Customer Name:er
Your account number:23
Your Account Balance:50000.0
Press 1 to deposit
1
Enter amount to be deposited
4500
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn :
2500
Available Balance:52000.0

C:\Users\bmsce\Desktop>
```


Command Prompt
Enter your account type:
1. Savings account
2. Current account
1
Cheque Facility not available
Enter customer name
ee
Enter ee's account number
22
Enter balance amount
10000
Customer Name:ee
Your account number:22
Your Account Balance:10000.0
Press 1 to deposit
2
Invalid Input
Enter rate of interest
5
Enter number of times interest applied per time period
3
Enter number of time periods
2
Interest amount=11576.250000000002
Balance amount without interest is10000.0
Available balance after updating is11576.250000000002
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn
500
Available Balance:9500.0
C:\Users\bmsce\Desktop>java Lab5

Command Prompt

```
C:\Users\bmsce>javac quadratic.java

C:\Users\bmsce>java quadratic
enter the value of a b c
1
a is 1
1
b is1
1
c is1
d is-3
roots are imaginary
r1=0.0+i0.8660254037844386
r2=0.0-i0.8660254037844386

C:\Users\bmsce>java quadratic
enter the value of a b c
1
a is 1
4
b is4
2
c is2
d is8
roots are real and distinict
the roots are-2.585786437626905and-5.414213562373095

C:\Users\bmsce>java quadratic
enter the value of a b c
2
a is 2
4
b is4
2
c is2
d is0
roots are real and equal
the roots are-1.0and-1.0
```