

WEEK 5 JAVA

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PROGRAM

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 Amoumt");
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\n2.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 Amoumt");  
double amt1=sc.nextDouble();  
c.withdraw(amt1);  
  
}  
  
}  
System.out.println("To continue 1 else 0");  
temp=sc.nextInt();  
}  
}  
}
```

OUTPUT

Command Prompt - java Main

```
C:\Users\Admin\Desktop\cs255>javac Main.java
```

```
C:\Users\Admin\Desktop\cs255>java Main
```

Enter name

kaoru

Enter acc_no

12345

Enter acc_type

0 for Savings

1 for Current

0

Enter balance

90000

1.Deposit

2.Withdraw

3.Interest

1

Enter Amount

3000

93000.0

To continue 1 else 0

1

Enter name

chisato

Enter acc_no

67890

Enter acc_type

0 for Savings

1 for Current

0

Enter balance

80000

1.Deposit

2.Withdraw

3.Interest

2

Enter Amount

3000

77000.0

To continue 1 else 0

ca. Command Prompt - java Main

```
To continue 1 else 0
1
Enter name
kokoro
Enter acc_no
23456
Enter acc_type
0 for Savings
1 for Current
0
Enter balance
90500

1.Deposit
2.Withdraw
3.Interest
3
Enter time period
2
Enter no of times
2
Interest calculated is1.7172529936E22
The new balance is1.7172529936E22
To continue 1 else 0
1
Enter name
misaki
Enter acc_no
34567
Enter acc_type
0 for Savings
1 for Current
1
Enter balance
70000

1.Deposit
2.Withdraw
1
Enter Amount
200
70200.0
To continue 1 else 0
1
Enter name
hagumi
Enter acc_no
56789
Enter acc_type
0 for Savings
1 for Current
1
Enter balance
80500

1.Deposit
2.Withdraw
2
Enter Amount
390
80110.0
To continue 1 else 0
```