```java
/*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: •
Accept deposit from customer and update the balance. • Display the balance. • Compute and
deposit interest • Permit withdrawal and update the balance • Check for the minimum balance,
impose penalty if necessary and update the balance*/
import java.util.Scanner;
class Account{
    String cust_name,type;
    long account_num;
    double balance;
    boolean check_book;
    static double min=500.0,sercharge=100;
    Scanner ss=new Scanner(System.in);
    void getdata(){
        System.out.println("Enter the name of the customer:");
        cust_name=ss.nextLine();
        System.out.println("Enter the account number:");
        account_num=ss.nextLong();
        System.out.println("Enter the balance amount:");
        balance=ss.nextDouble();
    }
    void display(){
        System.out.println("Customer name:"+cust_name);
        System.out.println("Account number:"+account_num);
        System.out.println("Current Balance:"+balance);
    }
}
class Savings extends Account{
    double interest,rate=0.03,withdraw_amt;
    int n,time;
    Scanner ss=new Scanner(System.in);
    void calc_interest(){
        System.out.println("Enter the time in years:");
        time=ss.nextInt();
        System.out.println("Enter the number of times the interestis to be compunded :");
        n=ss.nextInt();
        interest=balance*(Math.pow((1+(rate/n)),(time*n)));
        balance+=interest;
        System.out.println("The interestamount is:"+interest);
```

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bankih.java

```java
43        interest=balance (Math.pow((1+(rate/n)),(time*n)));
44        balance+=interest;
45        System.out.println("The interestamount is:"+interest);
46        System.out.println("The balanceafter calculating the interest is:"+balance);
47    }
48    void withdrawal(){
49        System.out.println("Enter the amount to be withdrawn:");
50        withdraw_amt=ss.nextDouble();
51        if(balance>withdraw_amt)
52            balance-=withdraw_amt;
53        else
54            System.out.println("The balance amount is insufficient");
55        System.out.println("The total balance after withdrawal is:"+balance);
56    }
57    void penalty(){
58        if(balance<min){
59            balance=balance-sercharge;
60            System.out.println("The balance amount after the penalty:"+balance);
61        }
62        else
63            System.out.println("No penalty is imposed.");
64    }
65 }
66 class Current extends Account{
67    Scanner ss=new Scanner(System.in);
68    double deposit;
69    void getdeposit(){
70        System.out.println("Enter the amount to be deposited:");
71        deposit=ss.nextDouble();
72        balance+=deposit;
73        System.out.println("The total balance after deposition is:"+balance);
74    }
75    void penalty(){
76        if(balance<min){
77            balance=balance-sercharge;
78            System.out.println("The balance amount after the penalty:"+balance);
79        }
80        else
81            System.out.println("No penalty is imposed.");
82    }
83 }
84 class BankMain{
85    public static void main(String args[]){
86        int type;
87        Savings s=new Savings();
```

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bankih.java

```java
76          if(balance<min){
77              balance=balance-sercharge;
78              System.out.println("The balance amount after the penalty:"+balance);
79          }
80          else
81              System.out.println("No penalty is imposed.");
82      }
83  }
84  class BankMain{
85      public static void main(String args[]){
86          int type;
87          Savings s=new Savings();
88          Current c=new Current();
89          Scanner ss=new Scanner(System.in);
90          System.out.println("Enter the type of account:");
91          System.out.println("Enter 1 for Savings and 2 for Current:");
92          type=ss.nextInt();
93          if(type==1){
94              int withdrw=0;
95              s.getdata();
96              s.display();
97              s.calc_interest();
98              System.out.println("Would you like to withdraw money from your account?");
99              System.out.println("Enter 1 if yes and 2 if no:");
100             withdrw=ss.nextInt();
101             if(withdrw==1){
102                 s.withdrawal();
103             }
104             s.penalty();
105         }
106         if(type==2){
107             int deposit=0;
108             c.getdata();
109             c.display();
110             System.out.println("Would you like to deposit money to your account?");
111             System.out.println("Enter 1 if yes and 2 if no:");
112             deposit=ss.nextInt();
113             if(deposit==1){
114                 c.getdeposit();
115             }
116             c.penalty();
117         }
118     }
119 }
```

```
C:\Program Files\Java\bin\basic>javac bankih.java

C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
1
Enter the name of the customer:
harsh
Enter the account number:
434535353422
Enter the balance amount:
500
Customer name:harsh
Account number:434535353422
Current Balance:500.0
Enter the time in years:
2
Enter the number of times the interestis to be compunded :
2
The interestamount is:530.6817753124998
The balanceafter calculating the interest is:1030.6817753124997
Would you like to withdraw money from your account?
Enter 1 if yes and 2 if no:
1
Enter the amount to be withdrawn:
400
The total balance after withdrawal is:630.6817753124997
No penalty is imposed.

C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
1
Enter the name of the customer:
kush
Enter the account number:
589428426424
Enter the balance amount:
200
Customer name:kush
```

```
C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
1
Enter the name of the customer:
kush
Enter the account number:
589428426424
Enter the balance amount:
200
Customer name:kush
Account number:589428426424
Current Balance:200.0
Enter the time in years:
1
Enter the number of times the interestis to be compunded :
1
The interestamount is:206.0
The balanceafter calculating the interest is:406.0
Would you like to withdraw money from your account?
Enter 1 if yes and 2 if no:
2
The balance amount after the penalty:306.0

C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
2
Enter the name of the customer:
supri
Enter the account number:
049373446744
Enter the balance amount:
700
Customer name:supri
Account number:49373446744
Current Balance:700.0
Would you like to deposit money to your account?
Enter 1 if yes and 2 if no:
1
```

```
C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
2
Enter the name of the customer:
supri
Enter the account number:
049373446744
Enter the balance amount:
700
Customer name:supri
Account number:49373446744
Current Balance:700.0
Would you like to deposit money to your account?
Enter 1 if yes and 2 if no:
1
Enter the amount to be deposited:
200
The total balance after deposition is:900.0
No penalty is imposed.

C:\Program Files\Java\bin\basic>java BankMain
Enter the type of account:
Enter 1 for Savings and 2 for Current:
2
Enter the name of the customer:
kushii
Enter the account number:
32887434544
Enter the balance amount:
100
Customer name:kushii
Account number:32887434544
Current Balance:100.0
Would you like to deposit money to your account?
Enter 1 if yes and 2 if no:
2
The balance amount after the penalty:0.0

C:\Program Files\Java\bin\basic>
```