

P4:Code

```
1  import java.util.Scanner;
2
3  abstract class shape
4  {
5      int i1,i2;
6      abstract void printarea();
7  }
8
9
10 class rectangle extends shape
11 {
12     void printarea()
13     {
14         System.out.println("\nArea: "+(i1*i2));
15     }
16 }
17
18 class triangle extends shape
19 {
20     void printarea()
21     {
22         System.out.println("\nArea of Triangle: "+(i1*i2/2));
23     }
24 }
25
26
27 class circle extends shape
28 {
29     void printarea()
30     {
31         System.out.println("\nArea: "+ (3.1415*i1*i1));
32     }
33 }
34
35 class shapeMain
36 {
37     public static void main(String args[])
38     {
39         Scanner get=new Scanner(System.in);
40         int choice;
41         triangle t= new triangle();
42         rectangle r= new rectangle();
43         circle c =new circle();
44         System.out.println("\n 1. Rectangle\n 2. Triangle\n 3. Circle");
45         System.out.printf("\nEnter the choice: ");
```

```
45     System.out.printf("\nEnter the choice: ");
46     choice=get.nextInt();
47     switch(choice)
48     { case 1 :
49         System.out.printf("\nEnter Height and Width:");
50         r.i1= get.nextInt();
51         r.i2= get.nextInt();
52         r.printarea();
53         break;
54     case 2 :
55         System.out.printf("\nEnter altitude and base:");
56         t.i1= get.nextInt();
57         t.i2= get.nextInt();
58         t.printarea();
59         break;
60     case 3 :
61         System.out.printf("Enter the radius :");
62         c.i1=get.nextInt();
63         c.printarea();
64         break;
65     default : System.out.println("Input Error! ");
66               System.exit(0);
67     }
68 }
69 }
```

P4:Output

```
1. Rectangle
2. Triangle
3. Circle

Enter the choice: 1

Enter Height and Width:10 4

Area: 40

G:\NoTePadPP\MyJava\00J_LAB\Week8>java shapeMain

1. Rectangle
2. Triangle
3. Circle

Enter the choice: 2

Enter altitude and base:10 5

Area of Triangle: 25

G:\NoTePadPP\MyJava\00J_LAB\Week8>java shapeMain

1. Rectangle
2. Triangle
3. Circle

Enter the choice: 3
Enter the radius :5

Area: 78.53750000000001
```

P5:Code

```
1 import java.util.Scanner;
2 import java.lang.Math;
3
4 abstract class account
5 {
6     String name;
7     String accountNo;
8     String typeOfAccount;
9     double balance;
10    Boolean chequeBook;
11    abstract void balanceDisplay();
12    abstract void balanceCredit();
13    abstract void balanceDebit();
14    abstract void balanceCheck(double amount);
15    abstract void operation();
16
17 }
18
19 class curAcc extends account
20 {
21     Scanner get = new Scanner(System.in);
22     double minBalance;
23     curAcc()
24     {
25         System.out.println("\n <----Welcome to Currents Account, Enter the below details to create an Account---->");
26         System.out.printf(" Name: ")name.get.nextLine();
27         typeOfAccount "Current Account";
28         chequeBook=true;
29         accountNo="SBE-".concat("CUR-").concat(name);
30         System.out.printf(" Your Account No is %s ",accountNo);
31         minBalance=1000;
32         balance =0;
33         firstDeposit();
34     }
35     void firstDeposit()
36     {
37         System.out.println("\n You Need Have min balance of " +minBalance+" Rupees, else you will be charged "+fineCal()+ " every month\n Deposit Now!");
38         balanceCredit();
39         System.out.printf("\n Thank you are creating An Account\n ");
40         this.operation();
41     }
42     void fineCheck()
43     {
44         int k;
45         if(balance<1000)
46             System.out.printf("\n You need Have min balance of " +minBalance+" Rupees, else you will be charged "+fineCal()+ " every month\n Deposit Now!");
47     }
48
49     {
50         int k;
51         if(balance<1000)
52         {
53             System.out.println("\n You Need Have min balance of " +minBalance+" Rupees, else you will be charged "+fineCal()+ " every month\n Deposit Now!");
54             System.out.printf("\n Press 1 to deposit or you will be charged with"+fineCal());
55             System.out.printf(" Choice: "); k=get.nextInt();
56             if(k==1)
57                 balanceCredit();
58             else
59                 balance=fineCal();
60         }
61     }
62     double fineCal()
63     {
64         double fine=0;
65         if(balance<0)
66         {
67             fine=100.0;
68         }
69         else
70         {
71             if(balance<=0)
72             {
73                 fine=50;
74             }
75             return fine;
76         }
77     }
78     void balanceCheck(double amount)
79     {
80         if(amount>balance)
81         {
82             System.out.printf("\n The Withdraw Amount exceeds the Balance, check your balance and try again! ");
83             balanceDisplay();
84             operation();
85         }
86     }
87     void balanceCredit()
88     {
89         double amount;
90         System.out.printf("\n Enter the amount to deposit: ");
91         amount=get.nextDouble();
92         balance=amount;
93         System.out.printf("\n %4f amount is Credited, Total balance = %4f ",amount,balance);
94         fineCheck();
95     }
96     void balanceDebit()
97     {
98         double amount;
99         System.out.printf("\n Enter the amount to Withdraw: ");
100        amount=get.nextDouble();
101        balanceCheck(amount);
102        balance=amount;
103        System.out.printf("\n %4f amount was Debited, Total balance = %4f ",amount,balance);
104        fineCheck();
105    }
106    void balanceDisplay()
107    {
108        System.out.printf("\n Total balance = %4f ",balance);
109    }
110    void operation()
111    {
112        int choice,flag=0;
113        do
114        {
115            System.out.printf("\n Enter the choice:\n 1.Deposit\n 2.Withdraw\n 3.Display Balance\n 4.Exit\n Choice: ");
116            choice=get.nextInt();
117            switch(choice)
118            {
119                case 1 : this.balanceCredit();
120                    break;
121                case 2 : this.balanceDebit();
122                    break;
123                case 3 : this.balanceDisplay();
124                    break;
125                case 4 : System.exit(0);
126            }
127            default: System.out.printf(" \n Error input Give choice again! ");
128            operation();
129        }
130        System.out.printf("\n Do you wish to continue? Press 1 to continue :");
131        flag=get.nextInt();
132        }while(flag==1);
133    }
134
135 }
136
137 class savAcc extends account
138 {
139     Scanner get = new Scanner(System.in);
140     double interestRate;
```

```

131 Scanner get = new Scanner(System.in);
132 double interestRate;
133 double interest;
134 int years;
135 savAcc()
136 {
137     System.out.println("\n <-----Welcome to Savings Account, Enter the below details to create an Account----->");
138     System.out.printf(" Name: ");name get.nextLine();
139     typeOfAccount="Savings Account";
140     chequeBook=false;
141     accountNo="SBE-".concat("SAV-").concat(name);
142     System.out.printf(" Your Account No is %s ",accountNo);
143     balance=0;
144     interestRate=0.08;
145     interest=0;
146     firstDeposit();
147 }
148 void firstDeposit()
149 {
150     int k;
151     System.out.printf("\n Do you wish to deposit money now? Press 1 to deposit : ");
152     k=get.nextInt();
153     if(k==1)
154         balanceCredit();
155     System.out.printf("\n Thank you are creating An Account!\n ");
156     this.operation();
157 }
158 void operation()
159 {
160     int choice,flag=0;
161     do
162     {
163         System.out.printf("\n Enter the choice:\n 1.Deposit\n 2.Withdraw\n 3.Display Balance\n 4.Interest Display\n 5.Exit\n Choice: ");
164         choice=get.nextInt();
165         switch(choice)
166         {
167             case 1 : this.balanceCredit();
168                     break;
169             case 2 : this.balanceDebit();
170                     break;
171             case 3 : this.balanceDisplay();
172                     break;
173             case 4 : this.compoundInt();
174                     break;
175             case 5 : System.exit(0);
176

```

```

175             case 5 : System.exit(0);
176
177             default: System.out.printf(" \n Error input Give choice again! ");
178                     operation();
179         }
180         System.out.printf("\n Do you wish to continue? Press 1 to continue :");
181         flag=get.nextInt();
182     }while(flag==1);
183 }
184
185 void balanceCheck(double amount)
186 {
187     if(amount>balance)
188     {
189         System.out.printf("\n The Withdraw Amount exceeds the Balance, check your balance and try again! ");
190         balanceDisplay();
191         operation();
192     }
193 }
194 void balanceCredit()
195 {
196     double amount;
197     System.out.printf("\n Enter the amount to deposit: ");
198     amount=get.nextDouble();
199     balance+=amount;
200     System.out.printf("\n %s %.4f amount is Credited, Total balance = %s %.4f ",amount,balance);
201 }
202 void balanceDebit()
203 {
204     double amount;
205     System.out.printf("\n Enter the amount to Withdraw: ");
206     amount=get.nextDouble();
207     balanceCheck(amount);
208     balance-=amount;
209     System.out.printf("\n %s %.4f amount was Debitted, Total balance = %s %.4f ",amount,balance);
210 }
211 void balanceDisplay()
212 {
213     System.out.printf("\n Total balance = %s %.4f ",balance);
214 }
215 void compoundInt()
216 {
217     int k;
218

```

```

220     if(balance==0)
221     {
222         System.out.printf("\n You have Zero balance : Press 1 to Deposit and try again : ");
223         k=get.nextInt();
224         if(k==1)
225             balanceCredit();
226         operation();
227     }
228     System.out.printf("\n Enter the No of years: ");
229     years=get.nextInt();
230     interest=balance*Math.pow((1+interestRate),years)-balance;
231     System.out.printf("\n Initial Balance:%s %.4f\n Interest:%s %.4f",balance,interest);
232     balance+=interest;
233     System.out.printf("\n Final Balance:%s %.4f ",balance);
234 }
235 }
236
237
238 class bank
239 {
240
241     public static void main(String[] args)
242     {
243         int savCount=0,curCount=0,k,n=0;
244         Scanner get = new Scanner(System.in);
245         System.out.printf("\n Enter the No Of Accounts(MAX is 20): ");
246         n=get.nextInt();
247         savAcc s[];
248         curAcc c[];
249         s=new savAcc[10];
250         c=new curAcc[10];
251     }
252     do
253     {
254         System.out.printf("\n <-----Enter the Type Of Account-----> ");
255         System.out.printf("\n 1.Savings\n 2.Current\n Choice: ");
256         k=get.nextInt();
257         switch(k)
258         {
259             case 1 : s[savCount++]=new savAcc();
260                     break;
261             case 2 : c[curCount++]=new curAcc();
262                     break;
263

```

P5:Output

```
Enter the No Of Accounts(MAX is 20): 2

<----Enter the Type Of Account----->
1.Savings
2.Current
Choice: 1

<----Welcome to Savings Account, Enter the below details to create an Account---->
Name: Amarnath
Your Account No is SBE-SAV-Amarnath
Do you wish to deposit money now? Press 1 to deposit : 1

Enter the amount to deposit: 10000

10000.0000 amount is Credited, Total balance = 10000.0000
Thank you are creating An Account!

Enter the choice:
1.Deposit
2.Withdraw
3.Display Balance
4.Interest Display
5.Exit
Choice: 2

Enter the amount to Withdraw: 5000

5000.0000 amount was Debitted, Total balance = 5000.0000
Do you wish to continue? Press 1 to continue :4

<----Enter the Type Of Account----->
1.Savings
2.Current
Choice: 2

<----Welcome to Currents Account, Enter the below details to create an Account---->
Name: Gils
Your Account No is SBE-CUR-Gils
You need Have min balance of 1000.0 Rupees, else you will be charged 50.0 every month
Deposit Now!

Enter the amount to deposit: 1001
```

```
Deposit Now!

Enter the amount to deposit: 1001

1001.0000 amount is Credited, Total balance = 1001.0000
Thank you are creating An Account!

Enter the choice:
1.Deposit
2.Withdraw
3.Display Balance
4.Exit
Choice: 2

Enter the amount to Withdraw: 500

500.0000 amount was Debitted, Total balance = 501.0000
You need Have min balance of 1000.0 Rupees, else you will be charged 50.0
Deposit Now!
Press 1 To deposit or you will be charged with50.0
Choice: 2

Do you wish to continue? Press 1 to continue :1

Enter the choice:
1.Deposit
2.Withdraw
3.Display Balance
4.Exit
Choice: 3

Total balance = 451.0000
Do you wish to continue? Press 1 to continue :1

Enter the choice:
1.Deposit
2.Withdraw
3.Display Balance
4.Exit
Choice: 1

Enter the amount to deposit: 1000

1000.0000 amount is Credited, Total balance = 1451.0000
Do you wish to continue? Press 1 to continue :1

Enter the choice:
1.Deposit
```

```
1.Deposit
2.Withdraw
3.Display Balance
4.Exit
Choice: 4
```