code:

```java
import java.util.Scanner;
abstract class shape {
    float a, b;
    abstract void printArea();
    Scanner ss = new Scanner (System.in);
}
class Rectangle extends shape {
    void printArea () {
        System.out.print(" Enter Length : ");
        a = ss.nextFloat();
        System.out.print(" Enter Breadth : ");
        b = ss.nextFloat();
        System.out.print(" Area of Rectangle is " + (a*b) + "\n");
    }
}
class Triangle extends shape {
    void printArea () {
        System.out.print(" Enter Base Length: ");
        a = ss.nextFloat();
        System.out.print(" Enter Height : ");
        b = ss.nextFloat();
        System.out.print("Area of Triangle is " + (0.5 * (a*b))
                            + "\n");
    }
}
class Circle extends shape {
    void printArea () {
        System.out.print(" Enter Radius: ");
        a = ss.nextFloat();
        System.out.print(" Area of Circle is " + (3.14 * a * a)
                            + "\n");
    }
}
```

```java
class AreaMain {
    public static void main (String ags[]) {
        int i;
        Scanner ss = new Scanner (System.in);
        do {
            System.out.print ("\n 1. Rectangle \n 2. Triangle \n 3. Circle
                              \n 4. Exit \n Enter Your choice: ");
            i = ss.nextInt();
            if (i == 1) {
                Rectangle r = new Rectangle ();
                r. printArea() }
            else if (i == 2) {
                Triangle t = new Triangle();
                t. printArea();
            }
            else if (i == 3) {
                Circle c = new Circle ();
                c. printArea();
            }
            else if (i == 4)
                break;
            else
                System.out.println ("Enter Valid choice !!");
        } while (i > 0);

    }
}
```

```java
1  import java.util.Scanner;
2  abstract class Shape{
3      float a,b;
4      abstract void printArea();
5      Scanner ss=new Scanner(System.in);
6  }
7
8  class Rectangle extends Shape{
9      void printArea(){
10         System.out.print("Enter Length:");
11         a=ss.nextFloat();
12         System.out.print("Enter Breadth:");
13         b=ss.nextFloat();
14         System.out.print("Area of Rectangle is "+(a*b)+"\n");
15     }
16 }
17 class Triangle extends Shape{
18     void printArea(){
19         System.out.print("Enter Base Length:");
20         a=ss.nextFloat();
21         System.out.print("Enter Height:");
22         b=ss.nextFloat();
23         System.out.print("Area of Triangle is "+(0.5*(a*b))+"\n");
24     }
25 }
26 class Circle extends Shape{
27     void printArea(){
28         System.out.print("Enter Radius:");
29         a=ss.nextFloat();
30         System.out.print("Area of Circle is "+(3.14*a*a)+"\n");
31     }
32 }
33 class AreaMain{
34     public static void main(String args[]){
35         int i;
36         Scanner ss=new Scanner(System.in);
37         do{
38             System.out.print("\n1.Rectangle\n2.Triangle\n3.Circle\n4.Exit\nEnter Your Choice:");
39             i=ss.nextInt();
40             if(i==1){
41                 Rectangle r=new Rectangle();
42                 r.printArea();
43             }
44             else if(i==2){
45                 Triangle t=new Triangle();
46                 t.printArea();
47             }
48             else if(i==3){
49                 Circle c=new Circle();
50                 c.printArea();
51             }
52             else if(i==4)
53                 break;
54             else{
55                 System.out.println("Enter Valid Choice!!");
56             }
57         }while(i>0);
58     }
59 }
```

```
1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:1
Enter Length:2
Enter Breadth:2.2
Area of Rectangle is 4.4

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:2
Enter Base Length:34
Enter Height:11
Area of Triangle is 187.0

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:3
Enter Radius:23
Area of Circle is 1661.06

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:4

Process finished.
```

Lab 5 Program:

code:

```java
import java.util.Scanner;
class Account {
    String on;
    char t;
    int ano;
    float bal = 0, wit = 0;
    Scanner ss = new Scanner(system.in);
    void dep() {
        System.out.print("Enter    Amount to be    Deposited: ");
        bal = ss.nextFloat();
        System.out.print("Balance = " + bal);
    }
    void withd() {
        System.out.print("Enter   Amount to be withdrawn: ");
        wit = ss.nextFloat();
        bal-= wit;
        System.out.print("Balance = " + bal);
    }
    void bal() {
        System.out.print("Balance = " + bal);
    }
}
class sav-acct extends Account {
    void interest() {
        float per; double in; int yr;
        System.out.print("Enter  Rate of Interest (%) and
                            years Invested: ");
        per = ss.nextFloat();
        yr = ss.nextInt();
        in = bal * Math.pow((1 + (per/100)), yr);
        System.out.print("Deposit Interest = " + in);
    }
}
```

```java
class curr_acct extends Account {
    void pen () {
        if (bal <= 2000)
        {
            bal - = 100;
            System.out.print ("\n Penalty of rs. 100 levied ");
            System.out.print ("\n Balance = " + bal);
        }
        else
            System.out.print ("\n Mininum Balance Maintained");
    }
}

class Bank Main
{
    public static void main (String args[])
    {
        Scanner ss = new Scanner (System.in);
        System.out.println ("***** Bank *****");
        Account A = new Account ();
        System.out.print ("Enter Name :");
        A.cn = ss.next ();
        System.out.print ("Enter Account No:");
        A.ano = ss.nextInt ();
        System.out.print ("Enter S for Saving on
                                    C for Current :");
        A.t = ss.next ().charAt (0);
        int i;
        if (A.t == 'S' || A.t == 's') {
            sav_acct sav = new sav_acct ();
            do {
                System.out.print ("\n\n 1. Deposit \n 2. Withdraw
                                    \n 3. View Balance
                                    \n 4. View Deposit Interest
                                    \n 5. Exit
                                    \n Enter Choice:");
                i = ss.nextInt ();
```

```java
            if (i==1)
                sav.dep();
            else if (i==2)
                sav.withd();
            else if (i==3)
                sav.bal();
            else if (i==4)
                sav.interest();
            else if (i==5)
                break;
            else
                System.out.print("Enter Valid choice!!");
        } while (i>0);
    }
    if (A.t == 'C' || A.t == 'c'){
        curr_acct cur = new curr_acct();
        do {
            System.out.print("\n 1.Deposit \n 2. Widthdraw \n 3. View Bala
                                \n 4.Exit \n Enter choice :")
            i = ss.nextInt();
            if (i==1)
                cur.dep();
            else if (i==2){
                cur.withd();
                cur.pen();
            }
            else if (i==3)
                cur.bal();
            else if (i==4)
                break;
            else
                System.out.print("Enter Valid choice!!");
        }
    }
}
```

```java
import java.util.Scanner;
class Account{
   String cn;
   char t;
   int ano;
   float bal=0,wit=0;
   Scanner ss=new Scanner(System.in);
   void dep(){
      System.out.print("Enter Amount to be Deposited:");
      bal=ss.nextFloat();
      System.out.print("Balance = "+bal);
   }
   void withd(){
      System.out.print("Enter Amount to be Withdrawn:");
      wit=ss.nextFloat();
      bal-=wit;
      System.out.print("Balance = "+bal);
   }
   void bal(){
      System.out.print("Balance = "+bal);
   }
}
class sav_acct extends Account{
   void interest(){
      float per;double in;int yr;
      System.out.print("Enter Rate of Interest(%) and years Invested:");
      per=ss.nextFloat();
      yr=ss.nextInt();
      in=bal*Math.pow((1+(per/100)),yr);
      System.out.print("Deposit Interest = "+in);
   }
}
class curr_acct extends Account{
   void pen(){
      if(bal<=2000)
      {
        bal-=100;
        System.out.print("\nPenalty of rs.100 levied");
        System.out.print("\nBalance = "+bal);
      }
      else
      {
        System.out.print("\nMinimum Balance Maintained");
      }
   }
}
 class BankMain
 {
    public static void main(String args[])
    {
    Scanner ss=new Scanner(System.in);
    System.out.println("*****Bank*****");
    Account A=new Account();
    System.out.print("Enter Name:");
    A.cn=ss.next();
    System.out.print("Enter Account No:");
    A.ano=ss.nextInt();
    System.out.print("Enter S for Savings or C for Current:");
    A.t=ss.next().charAt(0);
    int i;
    if(A.t=='S'||A.t=='s'){
      sav_acct sav=new sav_acct();
      do{
         System.out.print("\n\n1.Deposit\n2.Widthdraw\n3.View Balance\n4.View Deposit Interest\n5.Exit\nEnter Cho
         i=ss.nextInt();
         if(i==1){
           sav.dep();
         }
         else if(i==2){
           sav.withd();
         }
         else if(i==3){
           sav.bal();
         }
         else if(i==4){
           sav.interest();
         }
         else if(i==5){
           break;
         }
         else{
           System.out.print("Enter Valid Choice!!");
         }
      }while(i>0);
    }
    if(A.t == 'C'||A.t=='c'){
      curr_acct cur=new curr_acct();
      do{
         System.out.print("\n1.Deposit\n2.Widthdraw\n3.View Balance\n4.Exit\nEnter Choice:");
         i=ss.nextInt();
         if(i==1){
           cur.dep();
         }
         else if(i==2){
            cur.withd();
            cur.pen();
         }
         else if(i==3){
           cur.bal();
         }
         else if(i==4){
           break;
         }
         else{
           System.out.print("Enter Valid Choice!!");
         }
      }while(i>0);
    }
```

```
   ×    Terminal

*****Bank*****
Enter Name:Ahmed
Enter Account No:123456
Enter S for Savings or C for Current:S


1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:1
Enter Amount to be Deposited:5000
Balance = 5000.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:2
Enter Amount to be Withdrawn:600
Balance = 4400.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:3
Balance = 4400.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:4
Enter Rate of Interest(%) and years Invested:4 2
Deposit Interest = 4759.039650878913

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:5

Process finished.
```

```
×   Terminal

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:1
Enter Amount to be Deposited:3000
Balance = 3000.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:2
Enter Amount to be Withdrawn:1200
Balance = 1800.0
Penalty of rs.100 levied
Balance = 1700.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:3
Balance = 1700.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:5
Enter Valid Choice!!

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:4

Process finished.
```