```java
import java.util.*;
abstract class shape
{
    int a, b;
    abstract void printArea();
}
class rectangle extends shape
{
    float area_rec;
    void printArea()
    {   area_rec = a*b;
        System.out.println(" Rea area of rectangle
                = " + area_rec);
    }
}

class triangle extends shape
{   float area_tri;
    void printArea()
    {   area_tri = 0.5f * a * b;
        System.out.println(" area of triangle = "
                    + area_tri);
    }
}

class circle extends shape
{   float area_cir;
    void printArea()
    {   area_cir = 3.14f * a * a;
        System.out.println(" area of circle = "
                + area_cir);
    }
}
```

```java
class area_shapes
{
    public static void main (String args[])
    {
        Scanner sc= new Scanner (system.in);
        rectangle a1 = new rectangle();
        System.out.println(" Enter length and
                breath of rectangle ");
        a1.a = sc.nextInt();
        a1.b = sc.nextInt();
        a1.printArea();
        triangle a2 = new triangle();
        System.out.println(" Enter base and
                height of triangle");
        a2.a = sc.nextInt();
        a2.b = sc.nextInt();
        a2.printArea();
        circle a3 = new circle();
        System.out.println(" Enter radius
                of circle");
        a3.a = sc.nextInt();
        a3.printArea();
    }
}
```

Lab 5

banking.

```java
import java.util.*;
class account
{       String cust_name;
        long acc_no;
        double balance;
        int type_acc;
        void input()
    {
            Scanner sc = new Scanner(system.in);
            SOP("----- enter account details --");
            SOP("Enter customer name");
            cust_name = sc.nextLine();
            SOP("Enter customer account number");
            acc_no = sc.nextLong();
            SOP("enter account type 1. savings account
                2. current account");
            type_acc = sc.nextInt();
            SOP("enter customer's balance amount");
            balance = sc.nextDouble();
    }

    void display()
    {   SOP("---- customer's account details --");
        SOP("customer name \t "+ cust_name);
        SOP("customer account number \t"+ acc_no);
        SOP("customer's account type \t" + type_acc);
        SOP("balance amount in account \t"+ balance);

    }
}
```

```
void deposit ()
    { Scanner sc = new Scanner (system.in);
      double amt;
      SOP(" enter amount to be deposited");
      amt = sc.nextDouble ();
      balance = balance + amt;
      display ();
    }
}

class sav_acct extends account
    { double interest
      void compute_interest ()
        { Scanner sc = new Scanner (system.in);
          int rate, time;
          SOP(" enter rate and time period");
          rate = sc.nextInt ();
          time = sc.nextInt ();
          interest = balance * Math.pow (1 + rate/100.0,
                          time) - balance;
          balance = balance + interest;
          SOP(" compound interest = "+ interest);
          SOP(" customer's balance amount = "+ balance);
        }

      void withdrawal ()
        { Scanner sc = new Scanner (system.in);
          double with
          SOP(" enter amount to be withdrawn");
          with = sc.nextDouble ();
          if (with > balance)
              SOP(" withdrawl not possible due to
                  insufficient balance ");
```

```java
        else
        {   balance = balance - with;
            SOP(" customer's balance amount=" + balance);
        }
    }
  void check ().
  {   double pen;
      if ( balance < 2000.0)
      {    pen = 200.0.
           balance = balance - pen;
           SOP (" Penalty : " + pen);
           SoP (" customer's balance amount=" + balance);
      }
  }
}
class Curr_acct extends account
{
    void withdrawl ()
    {   Scanner sc = new Scanner (system.in);
        double with
        SOP (" Enter amount to be withdrawn ");
        with = sc.nextDouble ();
        balance if ( with > balance )
                SOP (" Insufficient balance ");
          else
          {    balance = balance - with;
               SOP (" customer's balance amount =" +
                            balance ) ;
          }
    }
}
```

```java
void check()
{    double pen;
     if ( balance < 2000.0)
     {   pen = 200.0;
         balance = balance - pen;
         SOP("penalty : "+ pen);
         SOP(" customer balance = "+ balance);
     }
}
}


class bank
{    public static void main (String args[])
     {
          Sav_acct 01 = new Sav_acct();
          Cur_act 02 = new Cur_acct();
          SOP(" 1. Savings account 2. current
              account ");
          int ch = sc.nextInt();
          int n = 0;
          if (ch == 1)
     {
          01. input();
          01. display();
          while (n != 3)
     {    SOP(" 1. deposit 2.withdrawal 3.exit)
          n = sc.nextInt();
          if (n == 1)
              01. deposit();
          if (n == 2)
              01. withdrawal();
     }
          01. compute_interest();
          01. check();
     }
}
```

```
else if (ch == 2)
{        o2.input();
         o2.display();
         while (n! = 3)
         {   SOP("1.deposit 2.withdraw 3.exit");
             n= sc. nextInt();
             if (n == 1)
                 o2.deposit();
             if( n == 2 )
                 o2.withdrawal();
         }
         o2.check();
}

else
    SOP("Invalid choice");
}
}
```