

Program: 2D shapes

```
import java.util.*;
abstract class Shape
{
    int dim1,dim2;
    abstract void printArea();
    Shape(int a,int b)
    {
        dim1 = a;
        dim2 = b;
    }
}
class Rectangle extends Shape
{
    Rectangle(int a,int b)
    {
        super(a,b);
    }
    void printArea()
    {
        System.out.println("The area of rectangle = "+(dim1*dim2)+" sq.units");
    }
}
class Triangle extends Shape
{
    Triangle(int a,int b)
    {
        super(a,b);
    }
    void printArea()
    {
        System.out.println("The area of triangle = "+(((double)dim1 * dim2)/2)+" sq. units");
    }
}
class Circle extends Shape
{
    Circle(int a,int b)
    {
        super(a,b);
    }
    void printArea()
    {
        double area = 3.1415*(dim1*dim2);
        System.out.println("The area of rectangle = "+area+" sq.units");
    }
}
class ShapeMain
{
    public static void main(String args[])
    {
        int a,b;
        Scanner in = new Scanner(System.in);
        System.out.println("Enter the dimensions of Rectangle");
        a = in.nextInt();
        b = in.nextInt();
        Rectangle r = new Rectangle(a,b);
        System.out.println("Enter the base length and height length of Triangle");
    }
}
```

```

a = in.nextInt();
b = in.nextInt();
Triangle t = new Triangle(a,b);
System.out.println("Enter the radius of Circle");
a = in.nextInt();
Circle c = new Circle(a,a);
r.printArea();
t.printArea();
c.printArea();

```

```

}
}
Output:

```

```

Enter the dimensions of Rectangle
12
15
Enter the base length and height length of Triangle
6
8
Enter the radius of Circle
10
The area of rectangle = 180 sq.units
The area of triangle = 24.0 sq. units
The area of rectangle = 314.15000000000003 sq.units

```

Program: Bank

```

import java.util.*;
class Bank
{
    String name,Accno;
    int type;
    Scanner in = new Scanner(System.in);
    void input()
    {
        System.out.println("Enter your name");
        name = in.next();
        System.out.println("Enter your Account Number");
        Accno = in.next();
        System.out.println("Enter your Account type : 1 for Savings and 2 for current");
        type = in.nextInt();
    }
}
class Savings extends Bank
{
    double deposit,rate = 0.04,withdrawal, balance;
    int days,ch;
    Scanner in = new Scanner(System.in);
    void calc(String nm,String Acc)
    {
        System.out.println("Hello "+nm+" . Account No. :"+Acc);
        System.out.println("Please enter your first balance in Rs.");
        balance = in.nextDouble();
        for(;;)
        {
            System.out.println("Hello "+nm+" . Account No. :"+Acc);
            System.out.println("What do you want to today?\n Please enter \n1.
Deposit\n2.Withdrawal\n3.View Balance\n4.exit");

```



```

        System.out.println("Please enter the deposit amount
in Rs.");
        deposit = in.nextDouble();
        balance+=deposit;
        break;
    case 2: if(balance<minbal)
        {
            System.out.println("Penalty for not maintaining
minimum balance : Rs.600");
            balance-= 600;
        }
        System.out.println("Please enter the withdrawal
amount in Rs.");
        withdrawal = in.nextDouble();
        if(withdrawal>balance)
            System.out.println("Sorry! Insufficient
Balance");
        else
            balance-= withdrawal;
        break;
    case 3: if(balance<minbal)
        {
            System.out.println("Penalty for not maintaining
minimum balance : Rs.600");
            balance-= 600;
        }
        System.out.println("Balance: Rs." +balance);
        break;
    default: System.out.println("Thank you for visiting!!");
            System.exit(0);
            break;
        }
    }
}
}
class BankMain
{
    public static void main(String args[])
    {
        Bank cust = new Bank();
        cust.input();
        if(cust.type == 1)
        {
            Savings custs = new Savings();
            custs.calc(cust.name,cust.Accno);
        }
        else
        {
            Current custc = new Current();
            custc.calc(cust.name,cust.Accno);
        }
    }
}

```

Output:

```
Enter your name
KIRAN
Enter your Account Number
12345678
Enter your Account type : 1 for Savings and 2 for current
1
Hello KIRAN . Account No. :12345678
Please enter your first balance in Rs.
10000
Hello KIRAN . Account No. :12345678
What do you want to today?
  Please enter
    1. Deposit
    2.Withdrawal
    3.View Balance
    4.exit
  1
Please enter the deposit amount in Rs.
2500
Please enter the no. of days
10
Hello KIRAN . Account No. :12345678
What do you want to today?
  Please enter
    1. Deposit
    2.Withdrawal
    3.View Balance
    4.exit
  2
Please enter the withdrawal amount in Rs.
1500
Please enter the no. of days
5
Hello KIRAN . Account No. :12345678
What do you want to today?
  Please enter
    1. Deposit
    2.Withdrawal
    3.View Balance
    4.exit
  3
Balance: Rs.11072.222408972397
Hello KIRAN . Account No. :12345678
What do you want to today?
  Please enter
    1. Deposit
    2.Withdrawal
    3.View Balance
    4.exit
  4
Thank you for visiting!!
```