

## **WEEK 8**

### **Q1 Shaped**

#### **Code:**

```
import java.util.Scanner;

abstract class Shapes{

    int a;

    int b;

    abstract void printArea();

}

class Rectangle extends Shapes{

    void printArea()

    {

        System.out.println("Area of Rectangle: "+a*b);

    }

}

class Circle extends Shapes{

    void printArea()

    {

        System.out.println("Area of Circle: "+3.14*a*a);

    }

}

class Triangle extends Shapes{

    void printArea()

    {
```

```

        System.out.println("Area of Triangle: "+0.5*a*b);
    }

}

public class ShapesMain{

    public static void main(String args[])
    {

        Scanner sc=new Scanner(System.in);

        Rectangle r=new Rectangle();

        Circle c=new Circle();

        Triangle t=new Triangle();

        int check=1,choice;

        while(check==1)
        {

            System.out.println("Enter choice:\n1)Rectangle\n2)Circle\n3)Triangle\n4)Exit");

            choice=sc.nextInt();

            switch(choice)
            {

                case 1:    System.out.println("Enter length and breadth of Rectangle:");

                           r.a=sc.nextInt();

                           r.b=sc.nextInt();

                           r.printArea();

                case 2: System.out.println("Enter radius of Circle:");

                           c.a=sc.nextInt();

                           c.printArea();

                case 3: System.out.println("Enter height and base of triangle:");

```

```

        t.a=sc.nextInt();

        t.b=sc.nextInt();

        t.printArea();

        default:check=0;

    }

}

}

```

## **Output:**

```

C:\Users\misaf\Desktop\OOJ-LAB\Week8>java ShapesMain
Enter choice:
1)Rectangle
2)Circle
3)Triangle
4)Exit
3
Enter height and base of triangle:
10
10
Area of Triangle: 50.0

C:\Users\misaf\Desktop\OOJ-LAB\Week8>java ShapesMain
Enter choice:
1)Rectangle
2)Circle
3)Triangle
4)Exit
5

```

---



---

## **Q2 Bank**

## **Code:**

```
import java.util.Scanner;

import java.lang.Math;

class Account{

    String name;

    int acc_num;

    int type;

    double balance=0;

    void accept_deposit()

    {

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter the amount to be deposited");

        float depo;

        depo=sc.nextFloat();

        balance=balance+depo;

    }

    void withdraw()

    {

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter the amount to be withdrawn");

        float wd;

        wd=sc.nextFloat();

        balance=balance-wd;

    }

    void getData()

    {
```

```

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter name of customer:");

        name=sc.next();

        System.out.println("Enter Account number:");

        acc_num=sc.nextInt();

        System.out.println("Press 1 for Savings account\nPress 2 for Curent Account");

        type=sc.nextInt();

    }

}

class Savings_acc extends Account{

    void calc_ci(float t)

    {

        double r=0.05;

        int n=12;

        double temp=balance;

        balance=balance*Math.pow((1+r/n),n*t);

        System.out.println("CI added:"+(balance-temp));

    }

    void display()

    {

        System.out.println("Balance:"+balance);

    }

}

}

```

```
class Curr_acc extends Account{
```

```
    void calc_penalty()
```

```
    {
```

```
        balance=balance-500;
```

```
    }
```

```
    void display()
```

```
    {        if(balance>5000)
```

```
        {
```

```
            System.out.println("Balance: "+balance);
```

```
        }
```

```
        else
```

```
        {
```

```
            System.out.println("Your account does not have minimum balance of  
rs5000,hence penalty rs500 is being charged");
```

```
            calc_penalty();
```

```
            System.out.println("Balance: "+balance);
```

```
        }
```

```
    }
```

```
}
```

```
public class Bank{
```

```
    public static void main(String args[])
```

```
    {
```

```
        Scanner sc=new Scanner(System.in);
```

```
        Account a=new Account();
```

```
Curr_acc ca=new Curr_acc();  
  
Savings_acc s=new Savings_acc();  
  
a.getData();
```

```
int c,choice;
```

```
float t;
```

```
c=a.type;
```

```
if(c==1)
```

```
{
```

```
    while(c==1)
```

```
    {
```

```
        System.out.println("Enter code of your choice of action:\n1)View  
Balance\n2)Deposit Amount\n3)Withdraw\n4)Exit");
```

```
        choice=sc.nextInt();
```

```
        switch(choice)
```

```
        {
```

```
            case 1:System.out.println("Enter the number of years after  
which balance is being checked(to calculate compound interest):");
```

```
                t=sc.nextFloat();
```

```
                s.calc_ci(t);
```

```
                s.display();
```

```
                break;
```

```
            case 2:s.accept_deposit();break;
```

```
            case 3:s.withdraw();break;
```

```
            default:c=0;
```

```
        }
```

```

        }
    }
    if(c==2)
    {
        while(c==2)
        {
            System.out.println("Enter code of your choice of action:\n1)View
Balance\n2)Deposit Amount\n3)Withdraw\n4)Exit");
            choice=sc.nextInt();
            switch(choice)
            {
                case 1:ca.display();break;
                case 2:ca.accept_deposit();break;
                case 3:ca.withdraw();break;
                default:c=0;
            }
        }
    }
}

```

## **Output:**

**Example output for savings account:**



```
Enter name of customer:
Saffan
Enter Account number:
12345
Press 1 for Savings account
Press 2 for Curent Account
1
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
1
Enter the number of years after which balance is being checked(to calculate compound interest):
1
CI added:0.0
Balance:0.0
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
2
Enter the amount to be deposited
50000
```

```
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
1
Enter the number of years after which balance is being checked(to calculate compound interest):
2
CI added:5247.066777916341
Balance:55247.06677791634
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
3
Enter the amount to be withdrawn
25000
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
1
Enter the number of years after which balance is being checked(to calculate compound interest):
1
CI added:1547.4973417137153
Balance:31794.564119630057
```

```
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
4
```

## Example output for current account:

```
Enter name of customer:
Saffan
Enter Account number:
12345
Press 1 for Savings account
Press 2 for Curent Account
2
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
2
Enter the amount to be deposited
1000
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
1
Your account does not have minimum balance of rs5000,hence penalty rs500 is being charged
Balance: 500.0
```

```
Balance: 500.0
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
2
Enter the amount to be deposited
10000
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
3
Enter the amount to be withdrawn
3000
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
1
Balance: 7500.0
Enter code of your choice of action:
1)View Balance
2)Deposit Amount
3)Withdraw
4)Exit
4
```

