OBJECT-ORIENTED PROGRAMMING LAB

Name: VYSHNAVI BABU S
Roll No: 55
Batch: MCA - B
Date: 24-05-2022

Experiment No.: 15

Aim

Create an interface having prototypes of functions area() and perimeter(). Create two classes Circle and Rectangle which implements the above interface. Create a menu driven program to find area and perimeter of objects.

Program

```
import java.util.*;
import java.math.*;
interface calcul
{
   void input();
void area();
 void perimeter();

}
 class Circle implements calcul
{

   double area;
double peri;
double radius;
public void area()
   {
      area=3.14*radius*radius;
```

```
        System.out.println("area of circle "+area);
    }

        public void perimeter()
         {
        peri=2*3.14*radius;
        System.out.println("perimeter of circle "+peri);
        }

    public void input()
    {
  Scanner sc=new Scanner(System.in);
System.out.println("enter radius");
radius=sc.nextDouble();

    }
}
class Rectangle implements calcul
{
int p,l,b,a;
 Scanner em= new Scanner(System.in);
 public void input()
   {
    System.out.print("enter length");
l=em.nextInt();
    System.out.print("enter breadth");
b=em.nextInt();
   }
 public void area()
```

```
{

   a=l*b;
   System.out.println("area of rectangle "+a);
}
public void perimeter()
{
p=2*(l+b);
   System.out.println("perimeter of rectangle "+p);
}



}

 public class Shape
 {
public static void main(String[] args)
 {
 System.out.println("CALCULATIONS ");
   System.out.println("1.area of circle & Rectangle");
   System.out.println("2.perimeter of circle & Rectangle:");

   System.out.println("enter the choice:");
   Scanner pc =new Scanner(System.in);
   Rectangle r=new
Rectangle();    Circle c=new
Circle();    int
choice=pc.nextInt();
switch(choice)
```

```
  {
     case 1: System.out.println("area of circle and rectangle");
                      r.input();
                     r.area();
              c.input();
               c.area();
                break;
     case 2: System.out.println("perimeter of circle and rectangle");
       r.input();
       r.perimeter();
      c.input();
       c.perimeter();
     break;
default:
     System.out.println("invalid choice");
break;
   }
 }
}
```

Output Screenshot

```
D:\>java Shape
CALCULATIONS
1.area of circle & Rectangle
2.perimeter of circle & Rectangle:
enter the choice:
1
area of circle and rectangle
enter length2
enter breadth3
area of rectangle 6
enter radius
3
area of circle 28.259999999999998

D:\>java Shape
CALCULATIONS
1.area of circle & Rectangle
2.perimeter of circle & Rectangle:
enter the choice:
2
perimeter of circle and rectangle
enter length2
enter breadth3
perimeter of rectangle 10
enter radius
3
perimeter of circle 18.84

D:\>
```