

OBJECT ORIENTED PROGRAMMING LAB**Experiment No.: 15****Name: Justin V Kalappura****Roll No: 10****Batch: MCA****Date: 24/05/2022****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.

Procedure:

```
import java.util.Scanner;
```

```
interface Part
```

```
{ void area();  
  void perimeter();  
}
```

```
class Rectangle implements Part
```

```
{ int l,b,ra,rp;  
  public void area()  
  { Scanner sc = new Scanner(System.in);  
    System.out.print("\nEnter the length :");  
    l = sc.nextInt();  
    System.out.print("Enter the breadth :");  
    b = sc.nextInt();  
    ra = l*b;  
    System.out.println("\nArea of the rectangle: "+ra);
```

```
    }  
    public void perimeter()  
    {   rp = 2*(l+b);  
        System.out.print("Perimeter of the rectangle : "+rp);  
        System.out.print("\n");  
    }  
}
```

class Circle implements Part

```
{   double r,ca,cp;  
    public void area()  
    {   Scanner sr = new Scanner(System.in);  
        System.out.print("\nEnter the radius :");  
        r = sr.nextInt();  
        ca = 3.14*r*r;  
        System.out.println("\nArea of the circle : "+ca);  
    }  
    public void perimeter()  
    {   cp = 2*3.14*r;  
        System.out.print("Perimeter of the circle : "+cp);  
        System.out.print("\n");  
    }  
}
```

public class Shape

```
{ public static void main(String args[])
{ Scanner s = new Scanner(System.in);
    Part ci = new Circle();
    Part r = new Rectangle();
    while(true)
    { int c;
        System.out.print("\nMENU : ");
        System.out.print("\n1.Rectangle\n2.Circle\n3.Exit\nEnter
the choice :");
        c=s.nextInt();
        switch(c)
        { case 1: r.area();
            r.perimeter();
            break;
          case 2: ci.area();
            ci.perimeter();
            break;
          case 3: System.exit(0);
          default: System.out.println("!!!!!!!!!!!!Wrong
Entry!!!!!!!!!!!!");
        }
    }
}
```

Output Screenshot:

```
C:\Users\Student\Desktop\Justin Java>javac Shape.java

C:\Users\Student\Desktop\Justin Java>java Shape

MENU :
1.Rectangle
2.Circle
3.Exit
Enter the choice :1

Enter the length :1
Enter the breadth :1

Area of the rectangle: 1
Perimeter of the rectangle : 4

MENU :
1.Rectangle
2.Circle
3.Exit
Enter the choice :2

Enter the radius :1

Area of the circle : 3.14
Perimeter of the circle : 6.28

MENU :
1.Rectangle
2.Circle
3.Exit
Enter the choice :4
!!!!!!!!!!!!Wrong Entry!!!!!!!!!!!!

MENU :
1.Rectangle
2.Circle
3.Exit
Enter the choice :3
```