## OBJECT ORIENTED PROGRAMMING LAB

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**Batch:MCA-B**

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## Experiment No.: 17

## Aim

Create a Graphics package that has classes and interfaces for figures Rectangle, Triangle,

Square and Circle. Test the package by finding the area of these figures.

## Procedure

```
package graphics;
 interface  Interface
        {
         public double Rectangle(double l,double b);
        }
         public class Rectangle_graphics implements Interface
          {

                public double Rectangle(double l,double b)
                {
            double len=l;
                double bred=b;
                double side=len*bred;

                return side;
            }
    }
```

```
package graphics;

 interface Interface1
        {
         public double Triangle(double a,double d);
        }
         public class Triangle_graphics implements Interface1
          {

                public double Triangle(double a,double d)
                {
            double side1=a;
                double side2=d;
                double tarea=(side1*side2)*0.5;

                return tarea;
           }
    }

package graphics;
 interface Interface2
        {
         public double Square(double q);
        }
         public class Square_graphics implements Interface2
          {

                public double Square(double q)
                {
```

```
        double side=q;

            double sarea=side*side;

            return sarea;
        }
    }

package graphics;


 interface Interface3
       {
        final double pi=3.14;
        public double Circle(double q);
       }
        public class Circle_graphics implements Interface3
         {

            public double Circle(double r)
            {
          double radius=r;

            double carea=pi*r*r;

            return carea;
         }

        }
```

```
import graphics.*;
import java.util.*;
public class ShapeMain
{
	public static void main(String args[])
	{
		Scanner sc=new Scanner(System.in);
		System.out.println("-------------------");
		System.out.println("-------------------");
		System.out.println("Enter the length of Rectangle");
		double l=sc.nextDouble();
		System.out.println("Enter the breadth of Rectangle");
		double b=sc.nextDouble();
		Rectangle_graphics rec= new Rectangle_graphics();
		System.out.println("Area of Rectangle is:" +rec.Rectangle(l,b));
		System.out.println("--------------------");
		System.out.println("--------------------");
		System.out.println("Enter the side1 of triangle");
		double a=sc.nextDouble();
	   System.out.println("Enter the side2 to be triangle");
		double d=sc.nextDouble();
		Triangle_graphics tri= new Triangle_graphics();
		System.out.println("Area of triangle is:" +tri.Triangle(a,d));
		System.out.println("-----------------------");
		System.out.println("-----------------------");
		System.out.println("Enter the side of square");
		double q=sc.nextDouble();
		Square_graphics sq= new Square_graphics();
```

```
            System.out.println("Area of square is:" +sq.Square(q));
            System.out.println("----------------------");
            System.out.println("----------------------");
            System.out.println("Enter the Radius of Circle");
            double r=sc.nextDouble();
            Circle_graphics ci= new Circle_graphics();
            System.out.println("Area of Circle is:" +ci.Circle(r));
            System.out.println("-----------------------");
            System.out.println("-----------------------");

        }
}
```

**Output Screenshot**

```
D:\JAVA PGMS>javac ShapeMain.java

D:\JAVA PGMS>java ShapeMain
--------------------
--------------------
Enter the length of Rectangle
4
Enter the breadth of Rectangle
5
Area of Rectangle is:20.0
--------------------
--------------------
Enter the side1 of triangle
3
Enter the side2 to be triangle
4
Area of triangle is:6.0
------------------------
------------------------
Enter the side of square
6
Area of square is:36.0
------------------------
------------------------
Enter the Radius of Circle
5
Area of Circle is:78.5
------------------------
------------------------
```