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**Batch:B**

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**OBJECT ORIENTED PROGRAMMING LAB**

**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.

**Program:**

**Shapemain**

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("-----------------------------------------------------------------------------------------");

}

}

**Triangle\_graphics**

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;

}

}

**Square\_graphics**

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;

}

}

**Rectangle\_graphics**

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;

}

}

**Circle\_graphics**

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;

}

}

**OUTPUT:**

