

OBJECT ORIENTED PROGRAMING LAB**Experiment No.: 17****Name : Susan Sebastian****Roll No : 47****Batch : B****Date : 31-05-22****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

Source Code

```
import graphics.*;
import java.util.*;

public class Driver{
    public static void main(String [] args){
        Scanner Sc =new Scanner(System.in);
        int choice;
        area_cal obj1 = new circle();
        area_cal obj2= new rectangle();
        area_cal obj3 = new square();
        area_cal obj4= new triangle();
        while(true){
            System.out.println("enter the option 1)circle, 2)rectangle, 3)square, 4)triangle 0)exit");
            choice = Sc.nextInt();
            switch(choice) {
                case 1:
                    obj1.area();
                    break;
                case 2:
                    obj2.area();
```

```
break;
case 3:
obj3.area();
break;
case 4:
obj4.area();
break;
case 0: System.exit(0);
default: System.out.println("invalid opt");
break;
}
}
}
}

package graphics;

public interface area_cal{
    final double pi=3.141;
void area();
}


package graphics;
import java.util.*;
public class circle implements area_cal{
double r,area=0;
public void area(){
Scanner Sc= new Scanner(System.in);
System.out.println("enter the radius");
r=Sc.nextDouble();
// String area= Double.toString(Math.PI*r*r);
```

```
area=pi*(r*r);
System.out.println("area of the circle is : "+area);
}
}

package graphics;
import java.util.Scanner;
public class rectangle implements area_cal {
    int l,b;
    public void area(){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the length of the rectangle :");
        l = sc.nextInt
        System.out.println("Enter the breath of the rectangle");
        b = sc.nextInt();
        System.out.println("Area of the rectangle = "+l*b);
    }
}

package graphics;
import java.util.Scanner;
public class square implements area_cal{
    int side;
    public void area() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Input side length of square : ");
        side = sc.nextInt();
        String area = Double.toString(side*side);
        System.out.println("Area of the square : "+area);
    }
}
```

```
package graphics;

import java.util.Scanner;

public class triangle implements area_cal{

    int height;

    int breadth;

    public void area() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Input height of the triangle : ");

        height = sc.nextInt();

        System.out.println("Input breadth of triangle : ");

        breadth = sc.nextInt();

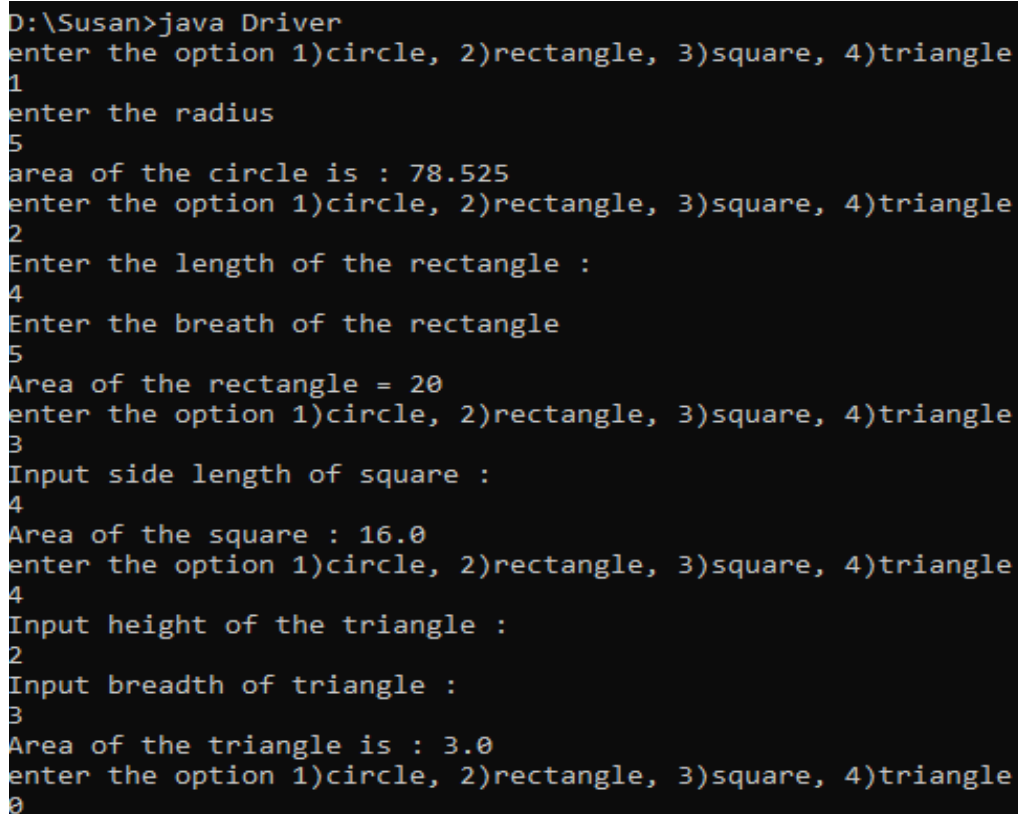
        String area = Double.toString((height*breadth)/2f);

        System.out.println("Area of the triangle is : "+area);

    }

}
```

Output Screenshot



```
D:\Susan>java Driver
enter the option 1)circle, 2)rectangle, 3)square, 4)triangle
1
enter the radius
5
area of the circle is : 78.525
enter the option 1)circle, 2)rectangle, 3)square, 4)triangle
2
Enter the length of the rectangle :
4
Enter the breath of the rectangle
5
Area of the rectangle = 20
enter the option 1)circle, 2)rectangle, 3)square, 4)triangle
3
Input side length of square :
4
Area of the square : 16.0
enter the option 1)circle, 2)rectangle, 3)square, 4)triangle
4
Input height of the triangle :
2
Input breadth of triangle :
3
Area of the triangle is : 3.0
enter the option 1)circle, 2)rectangle, 3)square, 4)triangle
0
```