

Ex No: 05	AREA CALCULATOR
Date: 19/08/2019	

### Aim:

\*To write a java program to calculate and print the areas of shapes such as Rectangle, Triangle and Circle.

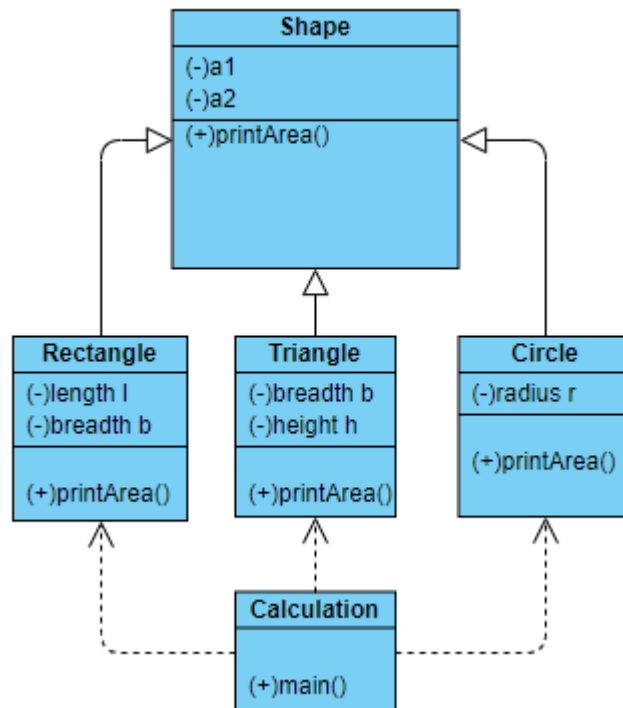
### Requirements:

\*Write a Java Program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.

### Algorithm:

1. Create a package areacalculator.
2. Create an abstract class Shape.
3. Declare the two integers and an empty method printArea()
4. Create the classes Rectangle, Triangle and Circle and inherit them to the abstract class shape.
5. Each of the subclasses contains only the method printArea() that prints the area of the given shape.
6. Create the class calculation and give the required values to calculate the area.
7. Stop.

## Class Diagram:



## Program:

```
/**
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 */

package areacalculator;

public abstract class Shape{
    int a1;
    int a2;

    abstract public void printArea();

}

package areacalculator;

public class Rectangle extends Shape{

    public Rectangle(int l,int b) {
        super.a1= l;
    }
}
```

```

        super.a2=b;
    }
    public void printArea() {
        int area;
        area = super.a1*super.a2;
        System.out.println("area of rectangle is "+ area);
    }
}

```

```

package areacalculator;

```

```

public class Triangle extends Shape{

    public Triangle(int h,int b) {
        super.a1=h;
        super.a2=b;
    }
    public void printArea() {
        double area;
        area= 0.5*super.a1*super.a2;
        System.out.println("area of triangle is"+ area);
    }
}

```

```

package areacalculator;

```

```

public class Circle extends Shape{

    public Circle(int r) {
        super.a1= r;
    }
    public void printArea() {
        double area;
        area = 3.14*super.a1*super.a1;
        System.out.println("area of circle is "+ area);
    }
}

```

```

package areacalculator;

```

```

public class Calculation {

    public static void main(String []args) {

        Rectangle r= new Rectangle(20,40);
        r.printArea();

        Triangle t= new Triangle(20,40);
        t.printArea();
    }
}

```

```
        Circle c = new Circle(20);  
        c.printArea();  
    }  
}
```

### Output:

```
area of rectangle is 800  
area of triangle is 400.0  
area of circle is 1256.0
```

**Result:**

\*Thus, the java program to calculate the area of the given shapes is written and executed successfully