

EXP NO:05	AREA CALCULATOR
DATE:19.08.19	

Aim:

To develop a java console application to generate Area for Triangle, Rectangle and circle using concept of Abstract.

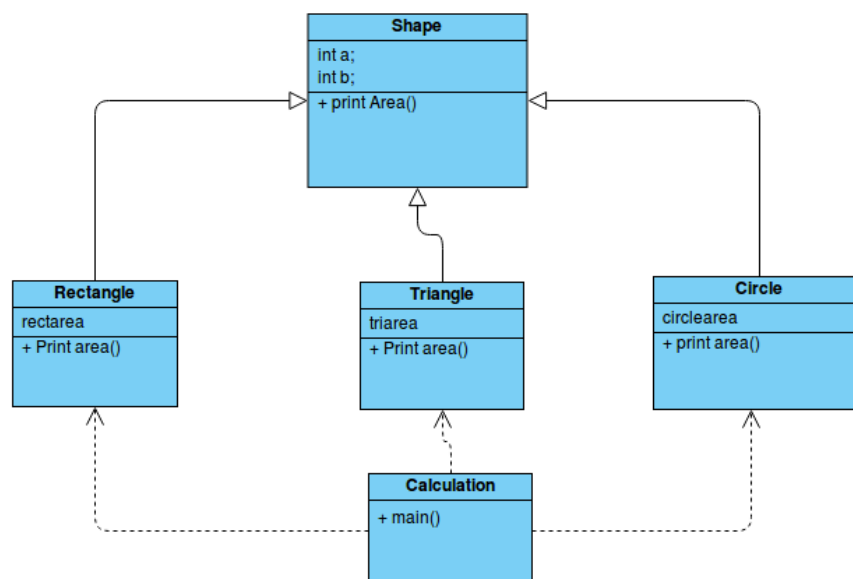
Requirement:

1. Abstract class and shape.
2. With two integer and an empty method name.
3. Print Area().
4. Three class named Rectangle, Triangle, Circle such that each one of class extends shape.
5. Each class containing print Area.

Algorithm:

- Step1:** Declare an Abstract class called Shape.
Step2: Declare a Abstract method within Abstract class and its empty.
Step3: Create three class called Triangle, Rectangle and circle which is inherited.
Step4: Each class must contain a method called Print Area.
Step5: Print Area for all shape.
Step6: Create the new object in the next class.
Step7: Display result.

Class diagram:



Program:

```
/*****
```

```
* Program for shape
```

```
* @author RAJAMANICKAM A
```

```
* rajapandidevi1997@gmail.com
```

```
*/
```

```
package shapeclass;
```

```
public class Calculation
```

```
{
```

```
public static void main(String[] args) {
```

```
    Rectangle r=new Rectangle(12,5);
```

```
    r.printArea();
```

```
    Triangle t=new Triangle(45,6);
```

```
    t.getinput();
```

```
    t.printArea();
```

```
    circle c=new circle(5);
```

```
    c.printArea();
```

```
}
```

```
}
```

```
/*****
```

```
* Program for shape
```

```
* @author RAJAMANICKAM A
```

```
* rajapandidevi1997@gmail.com
```

```
*/
```

```
package shapeclass;
```

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

```
public class circle extends Shape {
```

```
    public circle(int r) {
```

```
        super.a=r;
```

```
    }
```

```
    public void printArea() {
```

```
        double Area;
```

```
        Area=3.14*a*a;
```

```
        System.out.println("The area of the given circle is"+Area);
```

```
    }
```

```
}
```

```

/*****
 * Program for shape

 * @author RAJAMANICKAM A
 * rajapandidevi1997@gmail.com
 */
package shapeclass;

import java.util.Scanner;

public class Rectangle extends Shape{
    public Rectangle(int l,int b)
    {
        super.a=l;
        super.b=b;
    }
    public void printArea() {
        double Area;
        Area=a*b;

        System.out.println("The area of the given Rectangle is"+Area);
    }

}

```

```

/*****
 * Program for shape

 * @author RAJAMANICKAM A
 * rajapandidevi1997@gmail.com
 */
package shapeclass;

public abstract class Shape {
    protected int a;
    protected int b;
    abstract public void printArea();

}

```

```

/*****
 * Program for shape

```

```

* @author RAJAMANICKAM A
* rajapandidevi1997@gmail.com
*/
package shapeclass;

import java.util.Scanner;

public class Triangle extends Shape {
    public Triangle(int h,int b) {
        super.a=h;
        super.b=b;
    }

    public void getinput() {
        Scanner sc=new Scanner(System.in);
        System.out.println("For the Area of Triangle Enter the height and base");
        a=sc.nextInt();
        b=sc.nextInt();
    }

    public void printArea() {
        double Areaoftriangle;
        Areaoftriangle=0.5*a*b;
        System.out.println("The area of Triangle is"+Areaoftriangle);
    }
}

```

Output:

```

The area of the given Rectangle is60.0
For the Area of Triangle Enter the height and base
8
9
The area of Triangle is36.0
The area of the given circle is78.5

```

Result:

Thus program for Area Calculator is successfully created by Java program.

