EXP.NO:05	AREA CALCULATOR
DATE:09.08.19	

AIM:

To write a Java program to create a “Area Calculator” by creating abstract class named Shape with two integers for finding area of triangle, circle, rectangle.

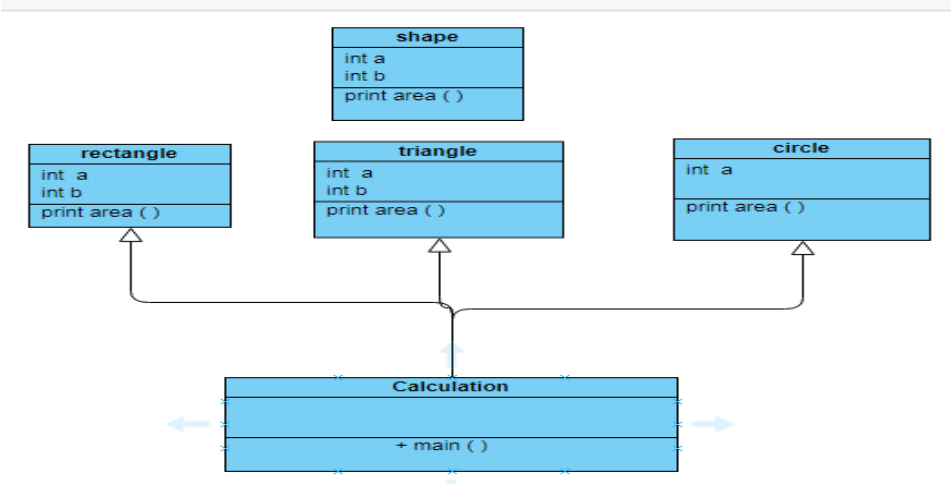
REQUIREMENT:-

-Abstract class named Shape.
-With two integers and an empty method named printarea().
-Three classes named rectangle, triangle and circle. Where Shape is the super class and all other classes are sub classes
-Each class containing printarea() method that is used to print the area of the given shape.

ALGORITHM:-

STEP 1: start
STEP 2: create the package shapearea, super class shape and sub classes Triangle, Circle, Rectangle and Calculation
STEP 3: In the class Shape declare the attributes a, b which will be used in the sub classes for calculating area
STEP 4: each class is provided with a printarea() method where in the calculation class the respective values for calculating the area will be given
STEP 5: By execution of the program the area of the triangle, circle and rectangle is found out
STEP 6: stop

CLASS DIAGRAM:



PROGRAM:

```
//Created by M.uday kanth,eee-B,212217105037
public class triangle extends shape package shapearea;
abstract class shape {
	protected int a;
	protected int b;
	abstract public void printarea();
}
package shapearea;
public class circle extends shape {
	public circle(int l)
	{
		super.a=l;
	}
public void printarea() {
	double area;
	area=3.14*super.a*super.a;
	System.out.println("the area of the circle is:"+area);
}
	}
package shapearea;
public class rectangle extends shape {
public rectangle(int l, int h)
	{
		super.a=l;
		super.b=h;
	}
public void printarea() {
	double area;
	area=super.a*super.b;
	System.out.println("the area of the rectangle is:"+area);
 }
}
package shapearea;
{
public triangle(int l, int h)
{
	super.a=l;
```

```
        super.b=h;
}
public void printarea() {
        double tri;
        tri=0.5*super.a*super.b;
        System.out.println("the area of the triangle is:"+tri);
}
}
package shapearea;
public class calculation {
        public static void main(String[] args) {
                shape sha;
                sha=new rectangle(50,60);
                sha.printarea();
                sha=new circle(20);
                sha.printarea();
                sha=new triangle(40,60);
                sha.printarea();
}
}
```

OUTPUT:

```
the area of the rectangle is:3000.0
the area of the circle is:1256.0
the area of the triangle is:1200.0
```

RESULT: Hence, a Java program is created where a “Area Calculator” by creating abstract class named Shape with two integers for finding area of triangle, circle, rectangle is done and the respective area is found out