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.

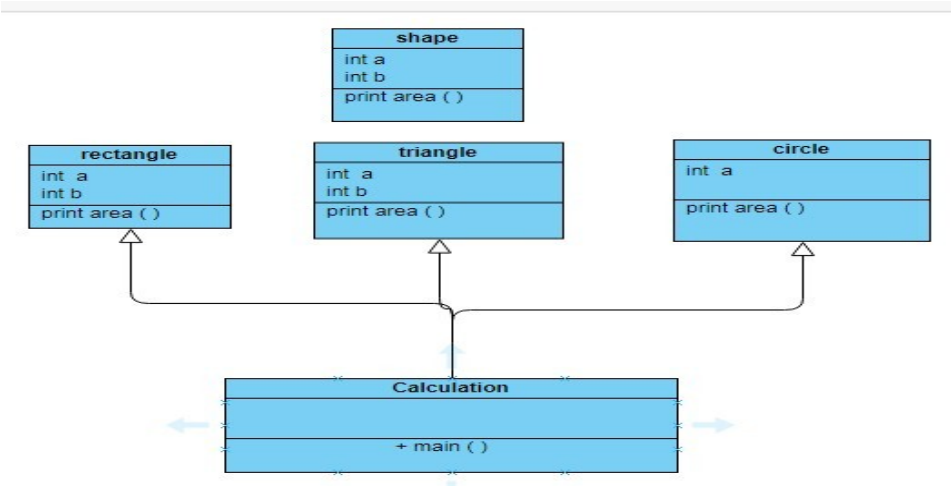
REQUIREMENT:-

-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 print area() 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 A. Santhosh,
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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 rectange is:"+area);
 } } package shapearea; public class
triangle extends shape { 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