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:
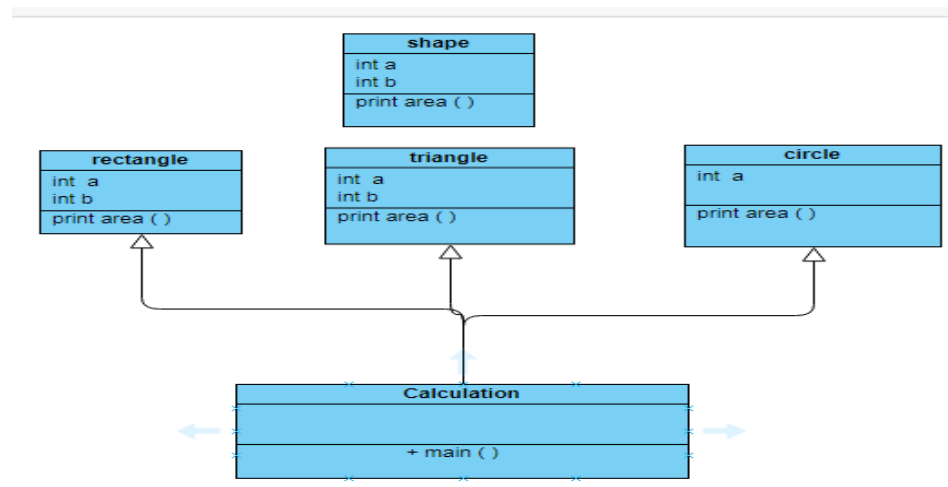
PROGRAM:

//Created by M.uday kanth,eee-B,212217105037

```java
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;
```

```java
            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