

EXP.NO:5	AREA CALCULATOR
DATE:19-08-19	

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

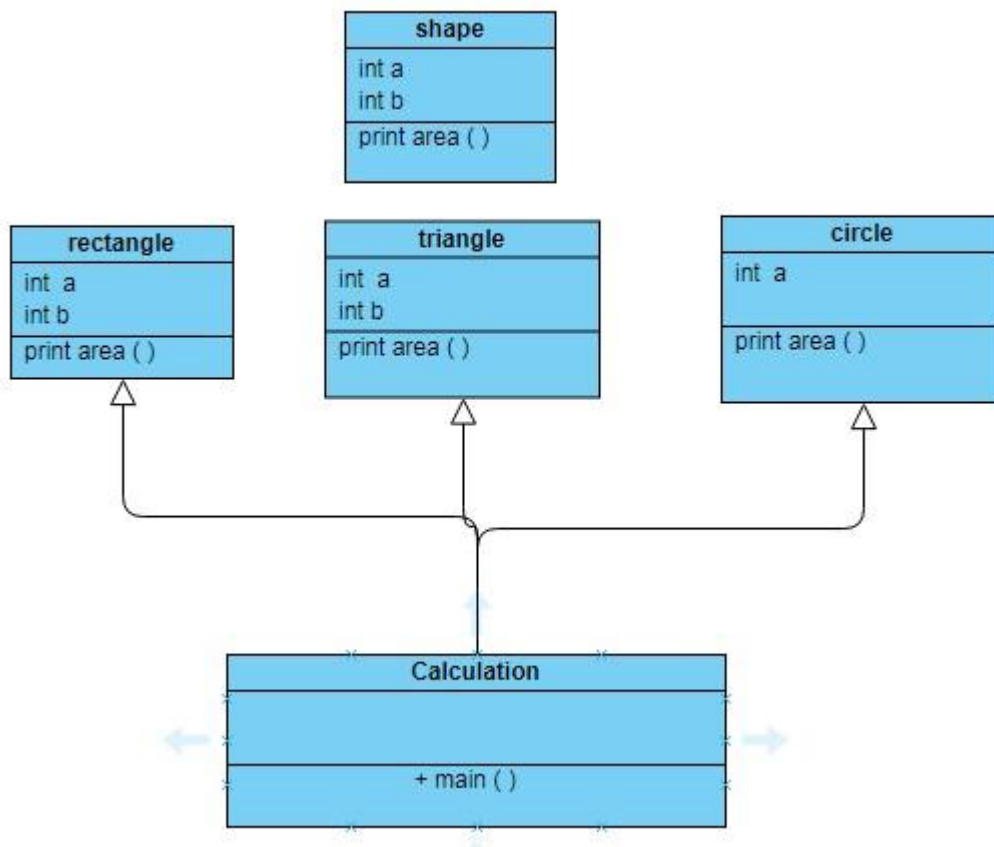
STEP 3: In the class Shape declare the attributes a, b which will be used in the sub classes for calculating area

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:

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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