

PROGRAM - 4

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```

import java.util.Scanner;
abstract class Shape {
    int x, y;
    abstract void area();
    public static void main (String args[]) {
        Shape obj1 = new Circle();
        obj1.area();
        Shape obj2 = new Rectangle();
        obj2.area();
        Shape obj3 = new Triangle();
        obj3.area();
    }
}

```

```

class Circle extends Shape {
    Circle() {
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter the radius of the circle");
        x = sc.nextInt();
        y = x;
        void area() {
    }
}

```

```

System.out.println ("Area of the circle is "
+ 3.14 * x * y);
}

```

```

class Rectangle extends Shape {
    Rectangle() {
        Scanner sc = new Scanner (System.in);
    }
}

```

System.out.println ("Enter the length and the breadth of the rectangle");

x = sc.nextInt();

y = sc.nextInt();

}

void area ()

{

System.out.println ("area of rectangle is "

+ x * y);

}

}

Class Triangle extends Shape {

Triangle () {

Scanner sc = new Scanner (System.in);

System.out.println ("Enter the base &

height of the triangle");

x = sc.nextInt();

y = sc.nextInt();

void area ()

{

System.out.println ("area of triangle is "

+ 0.5 * x * y);

}

}

Algorithm

Step 1: Start

Step 2: Define abstract class shape

Step 3: Initialise objects circle, rectangle, triangle

Step 4: Extend class shape to circle. Use method area to print area.

Step 5: Extend class Shape to Rectangle, use method area to print area.

Step 6: Extend class to Triangle, use method area to print area.

Step 7: Stop

~~Final part~~

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