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Lab program-4

Develop a Java program to create an abstract class named Shape

```
import java.util.Scanner;

class inputScanner
{
    protected Scanner s;
    public inputScanner()
    {
        s = new Scanner(System.in);
    }

    public int getInput(String message)
    {
        System.out.println(message);
        return s.nextInt();
    }
}

abstract class Shape extends inputScanner
{
    protected int a, b;

    public Shape()
    {
        super();
    }
    abstract public void printArea();
}
```

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```
class Rectangle extends Shape
{
    protected int a, b;
    public Rectangle()
    {
        super();
    }
    public void printArea()
    {
        a = getInput("Enter the length:");
        b = getInput("Enter the breadth:");
        int area = a*b;
        System.out.println("Area of Rectangle:" +area);
    }
}
class Triangle extends Shape
{
    protected int a, b;
    public Triangle()
    {
        super();
    }
    public void printArea()
    {
        a = getInput("Enter the Side1:");
        b = getInput("Enter the side2:");
        double area = 0.5 * a*b;
        System.out.println("Area of the Triangle:" +area);
    }
}
```

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```
class circle extends Shape
{
    protected int a;
    public Circle()
    {
        super();
    }
    public void printArea()
    {
        a = getInput("Enter the radius :");
        double area = 3.14 * a*a ;
        System.out.println("Area of the circle : " +area);
    }
}

public class MainShape
{
    public static void main (String[] args)
    {
        Rectangle r = new Rectangle();
        Triangle t = new Triangle();
        Circle c = new Circle();

        r. printArea();
        t. printArea();
        c. printArea();
    }
}
```

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output:

```
Enter the length : 3
Enter the breadth : 4
Area of the Rectangle : 12
Enter the side 1 : 5
Enter the side 2 : 6
Area of Triangle : 15.0
Enter the radius : 4
Area of the circle : 50.24
```

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