

Lab program 4:

Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given shape.

```
import java.util.*;
abstract class Shape
{
    int a;
    int b;

    abstract void printArea();
}
class Rectangle extends Shape
{
    Rectangle(int x, int y)
    {
        a=x;
        b=y;
    }

    void printArea()
    {
        System.out.println("Area is "+(a*b));
    }
}

class Triangle extends Shape
{
    Triangle(int x, int y)
    {
        a=x;
        b=y;
    }

    void printArea()
```

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```
        {
            System.out.println("Area is "+(a*b*0.5));
        }
    }
class Circle extends Shape
{
    Circle(int x)
    {
        a=x;
    }
    void printArea()
    {
        System.out.println("Area is "+(a*a*3.14));
    }
}

class lab5
{
    public static void main(String ss[])
    {
        int l,b,ba,h,ra;
        Scanner sc = new Scanner(System.in);

        System.out.println("enter the length and breadth of rectangle");
        l= sc.nextInt();
        b= sc.nextInt();
        Rectangle r= new Rectangle(l,b);
        r.printArea();

        System.out.println("enter the base and height of triangle");
        ba= sc.nextInt();
        h= sc.nextInt();
        Triangle t = new Triangle(ba,h);
        t.printArea();

        System.out.println("enter the radius of circle");
        ra= sc.nextInt();
        Circle c = new Circle(ra);
        c.printArea();
    }
}
```

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```
}  
}
```

```
enter the length and breadth of rectangle  
5  
5  
Area is 25  
enter the base and height of triangle  
7  
3  
Area is 10.5  
enter the radius of circle  
8  
Area is 200.96
```