LAB PROG-4

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Q) 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 extends the class Shape. Each one of the classes contains only printArea() that prints 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()
    {
        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 LAB4
{
    public static void main (String args[])
    {
        int l,b, base, h, ra;
        Scanner se = 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 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();
}
}
```