① 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, Circle such that each one of the classes contain only the method printarea() that print the area of the given shape.

Add class inputScanner

abstract class Shape
class Rectangle extend Shape
class Triangle   "
class Circle   "

A mainclass printing main method with objects and

import java.util.*;
abstract class Shape

```
{
    double dim1;
    double dim2;
    double rad;

    Shape(double a, double b)
    {
        dim1 = a;
        dim2 = b;
    }

    Shape(double a)
    {
        rad = a;
    }

    abstract void area();
}
```

```java
class Rectangle extends Shape
{
    Rectangle ( double a, double b)
    {
        super (a, b);
    }
    void area ( )
    {
        System.out.println ("Area of rectangle is : " + (dim1 * dim2));
    }
}

class Triangle extends Shape
{
    Triangle (double a, double b )
    {
        super (a, b);
    }
    void area ( )
    {
        System.out.println (" Area of triangle is " + (dim1 * dim2) / 2);
    }
}

class Circle extends Shape
{
    Circle (double a)
    {
        super (a);
    }
    void area ( );
    {
        System.out.println ("Area of circle is " + (3.14 * dim1 * dim1));
    }
}
```

```java
class AbstractMain
{
    public static void main (String app [])
    {
        Scanner o = new Scanner (System.in);

        System.out.println (" Enter the dimensions of the rectangle ");
        double l = o.nextInt ();
        double b = o.nextInt ();

        System.out.println (" Enter the base and height of triangle ");
        double h1 = o.nextInt ();
        double h2 = o.nextInt ();

        System.out.println (" Enter radius of circle ");
        double r = o.nextInt ();

        Shape sh;

        Rectangle rect = new Rectangle (l, b);
        Triangle tri = new Triangle (h1, h2);
        Circle cir = new Circle (r);

        sh = rect ();
        sh. area ();
        sh = tri ();
        sh. area ();
        sh = cir;
        sh. area ();
```

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OUTPUT

Enter the dimensions of rectangle

5   6

Enter the base and hight of red triangle

4   4

Enter the radius of circle

6

Area of rectangle   =   30.0

Area of triangle   =   8.0

Area of circle   =   113.039999

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