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

**PROGRAM**

import java.util.\*;

abstract class shape

{

int a,b;

abstract public void printarea();

}

class rectangle extends shape

{

public int area\_rect;

public void printarea()

{

Scanner s=new Scanner(System.in);

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

a=s.nextInt();

b=s.nextInt();

area\_rect=a\*b;

System.out.println("Length of rectangle "+a +"breadth of rectangle "+b);

System.out.println("The area ofrectangle is:"+area\_rect);

}

}

class triangle extends shape

{

double area\_tri;

public void printarea()

{

Scanner s=new Scanner(System.in);

System.out.println("enter the base and height of triangle");

a=s.nextInt();

b=s.nextInt();

System.out.println("Base of triangle "+a +"height of triangle "+b);

area\_tri=(0.5\*a\*b);

System.out.println("The area of triangle is:"+area\_tri);

}

}

class circle extends shape

{

double area\_circle;

public void printarea()

{

Scanner s=new Scanner(System.in);

System.out.println("enter the radius of circle");

a=s.nextInt();

area\_circle=(3.14\*a\*a);

System.out.println("Radius of circle"+a);

System.out.println("The area of circle is:"+area\_circle);

}

}

public class shapeclass

{

public static void main(String[] args)

{

rectangle r=new rectangle();

r.printarea();

triangle t=new triangle();

t.printarea();

circle r1=new circle();

r1.printarea();

}

}

**OUTPUT**

