

q:

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

abstract class Shape

{

int a, b;

Shape (int x)

{

a = x;

{

Shape (int a, int y)

{

a = x;

{

b = y;

{

abstract void printArea();

{

class rec extends Shape

{

rec (int a, int b)

{

super(a, b);

{

void printArea()

{

System.out.println ("The area of the rectangle: " + a \* b);

{

{

class tri extends Shape

{

tri(int a, int b)

{

super(a, b);

{

void printarea()

{

System.out.println("The area of the triangle: " + 0.5 \* a \* b);

{

{

class circ extends Shape

{

circ(int a)

{

super(a);

{

void printarea()

{

System.out.println("The area of the circle: " + 3.14 \* a \* a);

{

{

class Main

{

public static void main(String args[])

{

Shape r = new rec(4, 5);

r.printarea();

Shape t = new tri(7, 8);

t.printarea();

Shape c = new  $\pi r(2)$

c: printArea();

}

}

Output:

The area of the rectangle: 20

The area of the triangle: 28

The area of the circle: 12.56

Ans 02/01/24