Program - 4

WAP to create an abstract class called shape that contains 2 integers and an empty method named printarea(). Provide 3 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.

```java
import java.util.Scanner;
abstract class shape
{
    shape() { }
    int h, b;
    abstract void printArea();
}

class rectangle extends shape
{
    Scanner s = new Scanner(System.in);
    void printArea()
    {
        System.out.println("Enter
                    length and breadth of rectangle");
        h = s.nextInt();
        b = s.nextInt();
        System.out.println("Area of Rectangle is "+ b*h);
    }
    rectangle() { }
```

```
class triangle extends shape
{
    Scanner s = new Scanner(System.in);
    void printArea()
    {
        System.out.println("Enter height
            and base of triangle");
        b = s.nextInt();
        l = s.nextInt();
        System.out.println("Area of Triangle
            is "+0.5* b * h);
    }
    triangle() { }
}

class circle extends shape
{
    Scanner s = new Scanner(System.in);
    void printArea()
    {
        System.out.println("Enter radius
            of Circle");
        R = s.nextInt();
        System.out.println("Area of circle
            is "+3.14* R * R);
    }
    circle() { }
}

class main
{
```

```
public static void main(String a[])
{
    rectangle r = new rectangle();
    r.printArea();
    triangle t = new triangle();
    t.printArea();
    circle c = new circle();
    c.printArea();
}
}
```

Output

Enter length and breadth of rectangle
2
3
Area of Rectangle is 6
Enter height and base of triangle
3
6
Area of Triangle is 9.0
Enter the radius of circle
4
Area of Circle is 50.24

```
C:\Users\bmsce>cd C:\Users\bmsce\Desktop\1BM21CS040

C:\Users\bmsce\Desktop\1BM21CS040>javac p4.java

C:\Users\bmsce\Desktop\1BM21CS040>java main
Enter length and breadth of rectangle
2
3
Area of Rectangle is 6
Enter height and base of triangle
3
6
Area of Triangle is 9.0
Enter radius of Circle
4
Area of Circle is 50.24

C:\Users\bmsce\Desktop\1BM21CS040>_
```