Ufte-1-24 Lab 4

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 and circle such that each one of the classes named Rectangle, Triangle and circle each one of the classes contain only the method printArea() that prints the Area of the given shape.

Program :-

```java
import java.util.Scanner;
class InputScanner {
    S=new Scanner s;
    InputScanner () {
        S= new Scanner (System.in); }
}


abstract class Shape Extends InputScanner {
    double a ;
    double b ;
    abstract void getDetails ();
    abstract void printArea (); }

class Rectangle extends Shape {
    void getDetails () {
    System.out.println ("Enter length and breadth ");
    a = S.nextDouble ();
    b = S.nextDouble (); }

void PrintArea () {
    System.out.println ("Area of Rectangle = "+ (a*b));
}}
```

```java
class Triangle extends Shape {
    void getDetails() {
        System.out.println("Enter a and b");
        a = s.nextDouble();
        b = s.nextDouble(); }

    void printArea() {
        System.out.println("Area of triangle = " + (a*b)/2);
    }
}

class Circle extends Shape {
    void getDetails() {
        System.out.println("Enter radius");
        a = s.nextDouble(); }

    void PrintArea() {
        System.out.println("Area of circle = " + (3.14 *a*a));
    }
}

class Abstract Main {
    public static void main(String[] args) {
        Rectangle r = new Rectangle();
        Triangle t = new Triangle();
        Circle c = new Circle();
        r.getDetails();
        r.printArea();
        t.getDetails();
        t.printArea();
        c.getDetails();
        c.getpintArea(); }
        System.out.println("Name = Santhosh S   USN = 2023BMIS02586");
    }
}
```

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Output

Enter length and breadth

5

8

Area of Rectangle = 40.0

Enter a & b

3

8

Area of Triangle = 12.0

Enter radius

2

Area of circle = 12.56.

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