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

① Add class InputScanner
⑤ Add class shape extend input Scanner
        rectangle extend shape
        triangle   "   "
        circle   "   "

Add mainclass involving main method with Objects and calling input method and printarea method.

Lab Program - 4

```java
import java.util.Scanner;

class InputScanner {
        Scanner s;
        InputScanner() {
                s = new Scanner(System.in);
        }
}

abstract class Shape extends InputScanner {
        double a;
        double b;

        abstract void getInput();
        abstract void displayArea();
}
```

```java
class Rectangle extends Shape {
    void getInput() {
        InputScanner is = new InputScanner();
        System.out.println("Enter the length
                            and breadth of the
                            rectangle : ");
        a = is.s.nextDouble();
        b = is.s.nextDouble();
    }
    void displayArea() {
        System.out.println("The area
                            of the rectangle is : "+
                            (a*b));
    }
}

class Triangle extends Shape {
    void getInput() {
        InputScanner is = new InputScanner();
        System.out.println("Enter the height and
                            base of the triangle");
        a = is.s.nexDouble();
        b = is.s.nextDouble();
    }
    void displayArea() {
        System.out.println("The area of the
                            triangle is "+ (a*b* 0.5));
    }
}

class Circle extends Shape {
    void getInput() {
        InputScanner is = new InputScanner();
        System.out.println("Enter the radius of
                            the circle : ");
```

```java
        a = is.s.nextDouble();
}

void displayArea(){
    System.out.println("The area
    of the circle is : " + (3.14 * a * a);
}
}

public class AbstractMain{
    public static void main(String args[]){

        Rectangle rect = new Rectangle();
        rect.getInput();
        rect.displayArea();

        Triangle triangle = new Triangle();
        triangle.getInput();
        triangle.displayArea();

        Circle circle = new Circle();
        circle.getInput();
        circle.displayArea();

        System.out.println("Name : Shashidhar
        B M");
        System.out.println("VSN : 1BM22CS287");
```

Output :

Enter the length and breadth of the rectangle
10
5
the area of the rectangle is : 50

Enter the base and height of the triangle:
10

5.
The area of the triangle is 25.0
Enter the radius of the circle:

10
The area of the circle is 314.0.

Name : Shashidhar B M
USN : 1BM22CS257.

2/1/2023

Enter the base and height of the triangle:

10

5.
The area of the triangle is 25.0
Enter the radius of the circle: