9/12/22

Lab Program 4:

Develop a Java program to create an abstract class named shape that contains two integers and an empty method named printArea(). Provide three 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.

```
import java.util.Scanner;
abstract class Shape
{    int a, b;
     abstract void printArea();
     Void set()
     {    Scanner SS = new scanner(System.in);
          System.out.println("Enter the height and breadth: ");
          a = SS.nextInt();
          b = SS.nextInt();
     }
}
Class Rectangle extends Shape
{    Void printArea(){
     { System.out.println("The area of Rectangle is: "+(a*b)); }
}
Class Triangle extends Shape
{    Void printArea() {
     System.out.println("The area of Triangle is: "+(a*b*1/2));
}
Class Circle extends Shape
{    Void printArea()
     {    Scanner SS = new Scanner(System.in);
          System.out.println("Enter the radius: ");
          a = SS.nextInt();
```

```
        System.out.println("the area of circle is : " + (3.14 * a * a));
    }
}
class Main_Abstract
{
    public static void main(String xx[])
    {
        Rectangle R1 = new Rectangle();
        R1.set();
        R1.printArea();
        Triangle T1 = new Triangle();
        T1.set();
        T1.printArea();
        Circle C1 = new Circle();
        C1.printArea();
    }
}
```

```
C:\Users\Aditi Suhrut\Documents\Aditi\Java>java Main_Abstract
Enter The height and breadth:
4 4
The area of Rectangle is: 16
Enter The height and breadth:
4 4
The area of Triangle is: 8
Enter the radius:
4
The area of Circle is: 50.24

C:\Users\Aditi Suhrut\Documents\Aditi\Java>
```