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 class shape. Each one of the class contain only the method printArea() that prints the area.

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


class Rectangle extends shape {
    void printArea() {
        double area = a*b;
        System.out.println("Area of rectangle = " + area);
    }
}


class Triangle extends shape {
    void printArea() {
        System.out.println("Area of triangle = " + area);
```
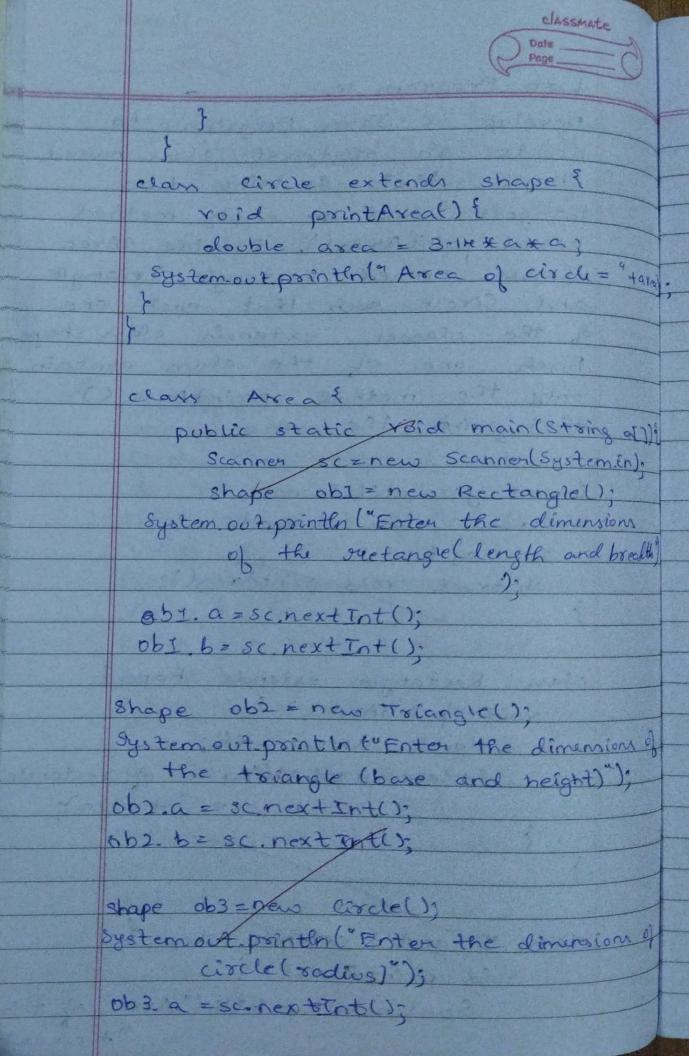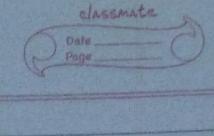
```java
        }
    }

class circle extends shape {
    void printArea() {
        double area = 3.14 * a * a;
        System.out.println("Area of circle = " + area);
    }
}


class Area {
    public static void main(String a[]) {
        Scanner sc = new Scanner(System.in);
        shape obI = new Rectangle();
        System.out.println("Enter the dimensions
             of the rectangle(length and breadth)
             ");
        obI.a = sc.nextInt();
        obI.b = sc.nextInt();


        shape ob2 = new Triangle();
        System.out.println("Enter the dimensions of
             the triangle (base and height)");
        ob2.a = sc.nextInt();
        ob2.b = sc.nextInt();


        shape ob3 = new Circle();
        System.out.println("Enter the dimensions of
             circle(radius)");
        ob3.a = sc.nextInt();
```

```
ob1.printArea();
ob2.printArea();
ob3.printArea();
    }
}
```

output:

Enter the dimensions of the rectangle (length and Breadth)

10   20

Enter the dimensions of the triangle(base and height)

10   5

Enter the dimensions of the circle (radius)

4

Area of rectangle = 200.0
Area of triangle = 25.0
Area of circle = 50.24

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