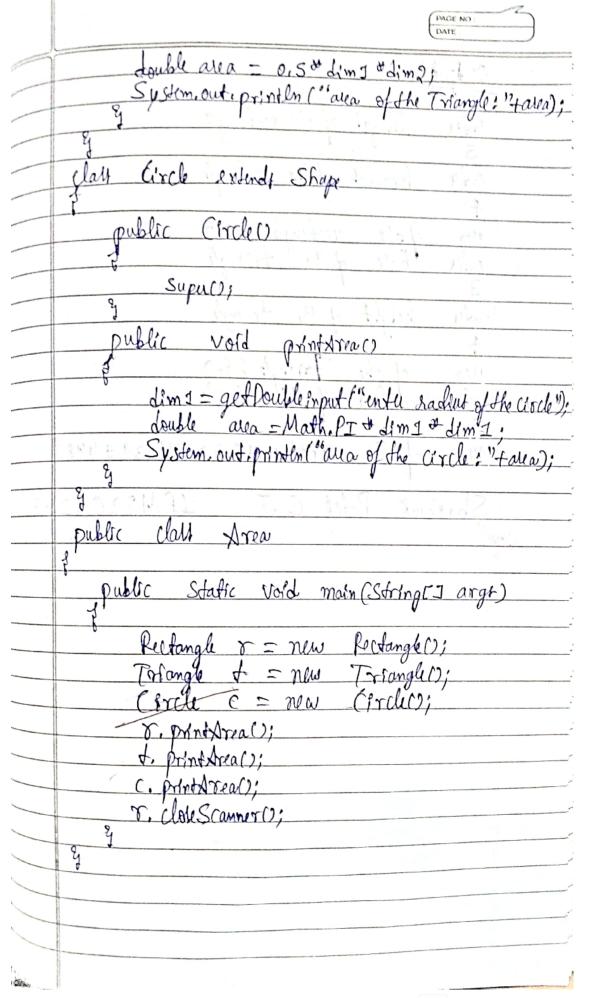1. Develop a java program to create an abstract class named Shaped that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given Shape.

```java
import java.util.*;
class InputScanner
{
    protected Scanner s;
    public InputScanner()
    {
        s = new Scanner(System.in);
    }
    public double getDoubleInput(String message)
    {
        System.out.println(message);
        return s.nextDouble();
    }
    public void closeScanner()
    {
        s.close();
    }
}
abstract class Shape extends InputScanner
{
    protected double dim1;
    protected double dim2;
    Shape()
    {
```

```java
        Super();
    }
    public abstract void printArea();
}
class Rectangle extends Shape
{
    public Rectangle()
    {
        Super();
    }
    public void printArea()
    {
        dim1 = getDouble input ("enter length of the
                                 rectangle");
        dim2 = getDouble input (" enter breadth of the
                                 rectangle ");
        double area = dim1 * dim2;
        System.out.println(" area of the rectangle:"
                           + area);
    }
}
class Triangle extends Shape
{
    public Triangle()
    {
        Super();
    }
    public void printArea()
    {
        dim1 = getDouble input (" enter base of the
                                 triangle ");
        dim2 = getDouble input (" enter height of the
                                 triangle ");
```

```java
        double area = 0.5 * dim1 * dim2;
        System.out.println("area of the Triangle: "+area);
    }
}

class Circle extends Shape
{
    public Circle()
    {
        super();
    }
    public void printArea()
    {
        dim1 = getDoubleInput("enter radius of the circle");
        double area = Math.PI * dim1 * dim1;
        System.out.println("area of the circle: "+area);
    }
}

public class Area
{
    public static void main(String[] args)
    {
        Rectangle r = new Rectangle();
        Triangle t = new Triangle();
        Circle c = new Circle();
        r.printArea();
        t.printArea();
        c.printArea();
        r.closeScanner();
    }
}
```

Output:

enter length of the rectangle
5
enter breadth of the rectangle
4
area of the rectangle : 20.0
enter base of the triangle
3
enter height of the triangle
4
area of the Triangle : 6.0
enter radius of the circle
5
area of the Circle : 78.53981633974483

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