4) Develop a Java program to create an abstract class named Shapethat contains two integers and an empty method named printArea( ). Providethree classes named Rectangle, Triangle and Circle such that each one of theclasses extends the class Shape. Each one of the classes contain only themethod printArea( ) that prints the area of the given shape.

1) 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.

```java
import java.util.Scanner;
abstract class Shape
{
    abstract void printarea();
}

class Rectangle extends Shape
{
    double width, length, breadth;

    Rectangle (double l, double b)
    {
        length = l;
        breadth = b;
    }

    void printarea()
    {
        System.out.println("the area of the rectangle is :" + (length * breadth));
    }
}

class Triangle extends Shape
{
    double base, height;

    Triangle (double b, double h)
    {
        base = b;
        height = h;
    }

    void printarea()
    {
        System.out.println(" the area of triangle is :" + (0.5 * base * height));
    }
}

class Circle extends Shape
{
    double radius;
    Circle (double r)
    {
        radius = r;
    }

    void printarea()
    {
        System.out.println(" the area of circle:" + (3.14 * r * r));
    }
}

class Myshape
{
    public static void main (String[] args)
    {
        Scanner sc = new Scanner(System.in);
        Rectangle rect = new Rectangle (20,10);
        Triangle tri = new Triangle (10,8);
        Circle cir = new Circle (50);

        rect.printarea();
        tri.printarea();
        cir.printarea();
    }
}
```

output

```
the area of the rectangle is : 200.0
the area of triangle is ; 40.0
the area of circle is : 7850.0
```

Output

```
                 1 File(s)                 784 bytes
                17 Dir(s)   323,797,487,616 bytes free

C:\Users\Chinmay Hegde\Documents>cd java practise

C:\Users\Chinmay Hegde\Documents\java practise>javac shape.java

C:\Users\Chinmay Hegde\Documents\java practise>java Myshape
the area of the rectangle is:200.0
the area of the triangle is:40.0
the area of the circle is:7850.0

C:\Users\Chinmay Hegde\Documents\java practise>
```