Lab 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 contains only the method printArea() that prints the area of the given shape.

```
abstract class Shape
{ int a, b;
  abstract void printArea();
}
class Rectangle extends Shape
{ Rectangle(int x, int y)
  { a=x;
    b=y;
  }
  void printArea()
  { System.out.println("The area of the rectangle is "+(a*b));
  }
}
class Triangle extends Shape
{ Triangle(int x, int y)
  { a=x;
    b=y;
  }
  void printArea()
  { System.out.println("The area of the triangle is: "+(a*b/2));
  }
}
```

```
class Circle extends Shape
{Circle(int r)
 {a=r;
 {
 void printArea()
 {System.out.println("The area of the circle is: "+(3.14*a*a));
 }
}
Class ShapeDemo
{public static void main(String args[])
 {Rectangle r = new Rectangle
  Triangle t = new Triangle
  Circle c = new Circle
  r.printArea();
  t.printArea();
  c.printArea();
 }
}
```

Output

```
The area of the rectangle is 20
The area of the triangle is 10
The area of the circle is 153.86
```