

method overriding

Abstract Method

Lab - 8: develop a java program to create an abstract class name shape that contains two int & an empty method named printArea. Provide 3 classes, ~~named~~ rect, tri, circ such that each one of classes extends the class shape. each one of the ~~class~~ classes contain only method printArea() that prints area of shape.

```
// Abstract class Shape
abstract class Shape {
    int a, b;

    // Abstract method
    abstract void printArea();
}

// Rectangle class extending Shape
class Rectangle extends Shape {
    Rectangle(int x, int y) {
        a = x;
        b = y;
    }

    void printArea() {
        System.out.println("Area of Rectangle: " + (a * b));
    }
}
```

```
}
```

```
// Triangle class extending Shape
```

```
class Triangle extends Shape {
```

```
    Triangle(int x, int y) {
```

```
        a = x;
```

```
        b = y;
```

```
    }
```

```
    void printArea() {
```

```
        System.out.println("Area of Triangle: " + (0.5 * a * b));
```

```
    }
```

```
}
```

```
// Circle class extending Shape
```

```
class Circle extends Shape {
```

```
    Circle(int r) {
```

```
        a = r;
```

```
    }
```

```
    void printArea() {
```

```
        System.out.println("Area of Circle: " + (Math.PI * a * a));
```

```
    }
```

```
}
```

```
// Main class
```

```
public class AbstractMethodDemo {
```

```
    public static void main(String[] args) {
```

```
        Rectangle rect = new Rectangle(10, 5);
```

```
        Triangle tri = new Triangle(10, 8);
```

```
        Circle cir = new Circle(7);
```

```
        rect.printArea();
```

```
        tri.printArea();
```

```
        cir.printArea();
```

```
    }
```

```
}
```