Inheritence\finalCode\02\Code02\P_05.java

```java


import java.util.Scanner;


class Rectangle {
    int length;
    int breadth;


    public Rectangle(int length, int breadth) {
        this.length = length;
        this.breadth = breadth;
    }


    public void printArea() {
        System.out.println("Area of Rectangle: " + (length * breadth));
    }


    public void printPerimeter() {
        System.out.println("Perimeter of Rectangle: " + (2 * (length + breadth)));
    }
}

class Square extends Rectangle {
    // Constructor
    public Square(int side) {
        super(side, side); // call parent constructor with (side, side)
    }


    public void printArea() {
        System.out.println("Area of Square: " + (length * length));
    }


    public void printPerimeter() {
        System.out.println("Perimeter of Square: " + (4 * length));
    }
}

public class P_05 {
    public static void main(String[] args) {
        // Part 1: Rectangle and Square objects
        Rectangle rect = new Rectangle(5, 3);
        Square sq = new Square(4);
```

```
49
50          rect.printArea();
51          rect.printPerimeter();
52          sq.printArea();
53          sq.printPerimeter();
54
55          System.out.println("\n--- Areas of 15 Squares (1 to 15 sides) ---");
56
57          // Part 2: Array of 15 Squares with fixed sides
58          Square[] squares = new Square[15];
59          for (int i = 0; i < 15; i++) {
60              squares[i] = new Square(i + 1); // side = i+1
61              System.out.println("Square " + (i + 1) + " - Area of Square: " +
(squares[i].length * squares[i].length));
62          }
63
64          System.out.println("\n--- Enter sides of 15 Squares ---");
65          Scanner sc = new Scanner(System.in);
66
67          Square[] userSquares = new Square[15];
68          for (int i = 0; i < 15; i++) {
69              System.out.print("Enter side of Square " + (i + 1) + ": ");
70              int side = sc.nextInt();
71              userSquares[i] = new Square(side);
72          }
73
74          System.out.println("\n--- Areas of 15 User-given Squares ---");
75          for (int i = 0; i < 15; i++) {
76              System.out.println("Square " + (i + 1) + " - Area of Square: " +
(userSquares[i].length * userSquares[i].length));
77          }
78
79          sc.close();
80      }
81  }
82
```