

**Object Oriented Programming Using - JAVA**

**Experiment No: 9**

**Aim: Write a program in Java to demonstrate the use of the final keyword in the field declaration and how it is accessed using objects.**

**Theory:**

In Java, the final keyword is used to declare constants or fields whose values cannot be changed once initialized. When a field is marked final, it must be assigned a value either during declaration or inside the constructor. Attempting to modify a final variable results in a compile-time error. Final variables are typically accessed using object references, but the value remains immutable.

**CODE:-**

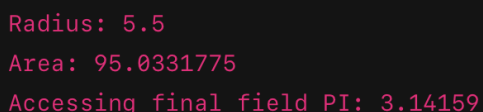
```
/// File: FinalFieldDemo.java
class Circle {
    final double PI = 3.14159; // final field
    double radius;

    Circle(double r) {
        radius = r;
    }
    void displayArea() {
        double area = PI * radius * radius;
        System.out.println("Radius: " + radius);
        System.out.println("Area: " + area);
    }
}
public class FinalFieldDemo {
    public static void main(String[] args) {
        Circle c1 = new Circle(5.0);
        c1.displayArea();

        // Accessing final field
        System.out.println("Accessing final field PI: " + c1.PI);

        // Uncommenting the line below will cause an error
        // c1.PI = 3.14;
    }
}
```

**Output:-**



```
Radius: 5.5
Area: 95.0331775
Accessing final field PI: 3.14159
```