

Exercise 1: Implementing the Singleton Pattern

```
package com.example.singleton;

public class Singleton {
    private static Singleton instance;
    private Singleton() {
        System.out.println("Singleton instance created.");
    }
    public static Singleton getInstance() {
        if (instance == null) {
            instance = new Singleton();
        }
        return instance;
    }
    public void showMessage() {
        System.out.println("I am from Singleton!");
    }
}

package com.example.singleton;

public class SingletonTest {
    public static void main(String[] args) {
        Singleton obj1 = Singleton.getInstance();
        Singleton obj2 = Singleton.getInstance();
        obj1.showMessage();
        System.out.println("Are both instances same? " + (obj1 == obj2));
    }
}
```

OUTPUT:

