Write a Java program which creates only one object. If user attempts to create second object, he should not be able to create it. (Using Exception Handling).

CODE:

import java.util.Scanner;

// Singleton class

class Singleton {

// Static instance variable

private static Singleton instance;

// Private constructor to prevent instantiation from outside

private Singleton() {}

// Method to get the singleton instance

public static Singleton getInstance() {

// Check if instance is null, create new instance if it is

if (instance == null) {

instance = new Singleton();

}

return instance;

}

}

public class Exceptionhandling1 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

try {

// Attempt to create first object

Singleton obj1 = Singleton.getInstance();

System.out.println("First object created successfully.");

// Attempt to create second object

Singleton obj2 = Singleton.getInstance();

System.out.println("Second object created successfully.");

// If second object is created, throw exception

throw new IllegalStateException("Attempted to create a second object.");

} catch (IllegalStateException e) {

System.out.println("Error: " + e.getMessage());

}

scanner.close(); // Closing the scanner object

}

}

OUTPUT:

C:\javap>javac Exceptionhandling1.java

C:\javap>java Exceptionhandling1

First object created successfully.

Second object created successfully.

Error: Attempted to create a second object.

