**Exercise 3: Assertions in JUnit**

**MathUtils.java**

class MathUtils {  
  
 public int multiply(int a, int b) {  
 return a \* b;  
 }  
  
 public boolean isEven(int number) {  
 return number % 2 == 0;  
 }  
  
 public int[] getFibonacci(int count) {  
 int[] fib = new int[count];  
 if (count > 0) fib[0] = 0;  
 if (count > 1) fib[1] = 1;  
 for (int i = 2; i < count; i++) {  
 fib[i] = fib[i - 1] + fib[i - 2];  
 }  
 return fib;  
 }  
  
 public Object getNullValue() {  
 return null;  
 }  
}

**Tests.java**

import org.junit.jupiter.api.Test;  
  
import static org.junit.jupiter.api.Assertions.*assertEquals*;  
import static org.junit.jupiter.api.Assertions.\*;

public class Tests {  
 MathUtils math = new MathUtils();  
  
 @Test  
 public void testMultiply() {  
 int result = math.multiply(3, 4);  
 *assertEquals*(12,result,"Not Equal");  
 }  
  
 @Test  
 public void testIsEven() {  
 *assertTrue*(math.isEven(10), "Should be even");  
 *assertFalse*(math.isEven(7), "Should be odd");  
 }  
  
 @Test  
 public void testFibonacciArray() {  
 int[] expected = {0, 1, 1, 2, 3};  
 *assertArrayEquals*(expected,math.getFibonacci(5),"Fibonacci not matched");  
 }  
  
 @Test  
 public void testNullValue() {  
 *assertNull*( math.getNullValue(),"Expected null value");  
 *assertNotNull*( math,"Should not be null");  
 }  
  
 @Test  
 public void testSameAndNotSame() {  
 String str1 = "hello";  
 String str2 = "hello";  
 String str3 = new String("hello");  
  
 *assertSame*( str1, str2);  
 *assertNotSame*( str1, str3);  
 }  
}

Output :

