Tutorial 12: Unit test

Part I: Tutorial Exercises

1. Implement a function named `ModifyString` to remove spaces in a string and make the first letter uppercase. If the first character of input string is not a letter, throw Exception with message "First character is not a letter". Using black box strategy to design unit test cases. After that, implement unit test case for this function by using JUnit 5 and parameterized tests feature using `@ArgumentSource`.

2. Implement a function named `ArraySum` to calculate the sum of all elements in an array. If the input array is null, throw Exception with message "Array is null". If the input array is empty, throw Exception with message "Array is empty". Using black box strategy to design unit test cases. After that, implement unit test case for this function by using JUnit 5 and parameterized tests feature using `@ArgumentSource`.

3. Implement a `FibonacciList` extends `ArrayList`. In this list, implement an iterator that yields all Fibonacci numbers. Using black box strategy to design unit test cases. Implement unit test cases for this list by using JUnit 5 and parameterized tests feature using `@MethodSource`. A Fibonacci number is the sum of the preceding two Fibonacci numbers, and the first two Fibonacci numbers are 0 and 1. The first Fibonacci numbers are 0, 1, 1, 2, 3, 5, 8, 13, 21…

Submission

Submit a **zip** file containing all Java programs to this tutorial's submission box in the course website on FIT Portal.