Tutorial 4: 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". After that, implement unit test case for this function by using JUnit 5 and annotation `@Test`.

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". After that, implement unit test case for this function by using JUnit 5 and annotation `@Test`.

3. Implement unit test case for function `ModifyString` in question 1 by using JUnit 5 and dynamic tests feature.

4. Implement unit test case for function `ArraySum` in question 2 by using JUnit 5 and parameterized tests feature using `@MethodSource`.

5. Implement unit test case for function `ModifyString` in question 1 by using JUnit 5 and parameterized tests feature using `@ValueSource`.

6. Implement a `FibonacciList` extends `ArrayList`. In this list, implement an iterator that yields all Fibonacci numbers. Implement unit test case for this list by using JUnit 5 and parameterized tests feature using `@ArgumentsSource`. 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.