Test Objectives

Objective: Was to verify the correctness of the string manipulation methods in the StringUtils class including concatenation, reversal, conversion to uppercase, and trimming of whitespace.

Goal: The goal was to ensure that each method handles various inputs correctly, including normal strings, edge cases (e.g., empty strings, strings with only whitespace), and erroneous inputs (e.g., null values).

Test Scenarios

Concatenation:

- Normal strings
- One or both inputs null
- Empty strings
- Strings with whitespace

Reversal:

- Normal strings
- null input
- Single character
- Strings with whitespace

Uppercase Conversion:

- Normal strings
- null input
- String with mixed casing

- Strings with non-alphabetic characters

Trimming:

- Strings with leading and trailing whitespace
- null input
- Strings without whitespace
- Empty strings

Test Data

Example Data:

Concatenation: {("assigment", "three"), ("assignment", null), ("", "three"), (" ", "test")}

Reversal: {("assignment"), (null), ("a"), (" test ")}

To Uppercase: {("assignment"), (null), ("Test"), ("123 abc")}

Trim: {(" assignment "), (null), ("assignment"), ("")}

Test Results

Methodology

Utilize JUnit tests with parameterized data to automate the execution.

Each test method must assert the expected outcome against the actual outcome from the StringUtils methods.

Execution

Environment: Eclipse IDE

Execution: Manual initiation of tests via Eclipse

Test Report

Test Coverage

Methods Tested: All methods in StringUtils.

Cases Covered: Includes positive and negative testing, boundary conditions, and handling of special inputs like null and empty strings.

Test Execution Results

Total Tests Executed: Number of test cases: 32

Pass/Fail Statistics: Number and percentage of passed and failed tests: 22 Failures