CS 401_04

April 18, 2024

Group 3

Assignment 3: Test Plan

Test Objectives:

- Verify the reliability and handling of the string operation methods implemented in the StringUtils class.

- Ensure proper functionality of string concatenation, reversal, uppercase conversion, and trimming operations.

- Validate the behavior of these methods under different input scenarios, including edge cases and typical use cases.

Test Scenarios:

1. String Concatenation

    Description: Test the concatenation functionality of the StringUtils class.

    Steps:

    - Provide two strings to concatenate.

    - Call the StringUtils.concat method with the provided strings.

    Expected Result: The concatenate method should concatenate two given strings and return the result.

    Actual Result: The concatenated string matches the expected result.

2. String Reversal

    Description: Test the string reversal functionality of the StringUtils class.

    Steps:

- Provide a string to reverse.

- Call the StringUtils.reverse method with the provided string.

    Expected Result: The string reversal method should return the reversed string of the given string.

    Actual Result: The reversed string matches the expected result.

3. String Conversion to Uppercase

    Description: Test the conversion to uppercase functionality of the StringUtils class.

    Steps:

- Provide a string to convert to uppercase.

- Call the StringUtils.toUpperCase method with the provided string.

    Expected Result: The uppercase method should make each character in the given string uppercase and return the result.

    Actual Result: The converted uppercase string matches the expected result.

4. Whitespace Trimming

    Description: Test the trimming functionality of the StringUtils class.

    Steps:

- Provide a string with whitespace to trim.

- Call the StringUtils.trim method with the provided string.

Expected Result: The trim method should remove all the whitespace characters in the beginning and end of the given string.

Actual Result: The trimmed string matches the expected result.

Test Data:

The test data includes various types of string inputs:

- Empty strings

- Single characters

- Numeric strings

- Strings with whitespace

- Special character strings

- Combinations of all of the above