**Test Plan**

Types of testing that could be used:

Unit tests (functional)

Component Integration tests (functional)

User acceptance testing [use case or state transition based] (functional and non-functional)

Exploratory testing (functional and non-functional)

**Unit Tests**

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| --- | --- | --- | --- |
| **GIVEN** | **WHEN** | **THEN** | **RESULT** |
| * I have created a test object with shortString | * I call the getInputAsStringArray method | * The result should match the ArrayList in the unit test | Pass |
| * I have created a test object with shortString | * I call the getLongestWord method | * The result should match the ArrayList in the unit test | Pass |
| * I have defined a non-existent file location | * I call the convertTextFile method and pass in the file location | * The String output should be empty | Pass |
| * I have defined a file location that exists | * I call the convertTextFile method and pass in the file location | * The String output should be the same as longString | Pass |
| * I have created a test object with longString | * I call the countCharacters method and pass in inputAsArray and character ‘W’ | * The result should be 14 | Pass |
| * I have created a test object with shortString | * I call the countCharacters method and pass in inputAsArray and character ‘B’ | * The result should be 0 | Pass |
| * I have created a test object with longString | * I call the countCharacters method and pass in inputAsArray and character ‘,’ | * The result should be 9 | Pass |
| * I have created a test object with shortString | * I call the countCharacters method and pass in inputAsArray and character ‘-’ | * The result should be 0 | Pass |
| * I have created a test object with longString | * I call the countCharacters method and pass in inputAsArray and character ‘7’ | * The result should be 2 | Pass |
| * I have created a test object with shortString | * I call the countCharacters method and pass in inputAsArray and character ‘6’ | * The result should be 3 | Pass |
| * I have created a test object with an empty string | * I call the countCharacters method and pass in inputAsArray and character ‘”’ | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getCharacterFrequency method | * The result should match the array in the unit test | Pass |
| * I have created a test object with longString | * I call the getCharacterFrequency method | * The result should match the array in the unit test | Pass |
| * I have created a test object with an empty string | * I call the getCharacterFrequency method | * The result should be an array of zeros | Pass |
| * I have created a test object with shortString | * I call the getNumberOfSpaces method | * The result should be 10 | Pass |
| * I have created a test object with longString | * I call the getNumberOfSpaces method | * The result should be 110 | Pass |
| * I have created a test object with an empty string | * I call the getNumberOfSpaces method | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getNumberOfWords method | * The result should be 11 | Pass |
| * I have created a test object with longString | * I call the getNumberOfWords method | * The result should be 111 | Pass |
| * I have created a test object with an empty string | * I call the getNumberOfWords method | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getRelativeFrequency method | * The result should match the array in the unit test | Pass |
| * I have created a test object with longString | * I call the getRelativeFrequency method | * The result should match the array in the unit test | Pass |
| * I have created a test object with an empty string | * I call the getRelativeFrequency method | * The result should be an array of zeros | Pass |
| * I have created a test object with shortString | * I call the getHighestCount method | * The result should be 7 | Pass |
| * I have created a test object with longString | * I call the getHighestCount method | * The result should be 56 | Pass |
| * I have created a test object with an empty string | * I call the getHighestCount method | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getCharsIncludingSpaces method | * The result should be 59 | Pass |
| * I have created a test object with longString | * I call the getCharsIncludingSpaces method | * The result should be 585 | Pass |
| * I have created a test object with an empty string | * I call the getCharsIncludingSpaces method | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getCharsExcludingSpaces method | * The result should be 49 | Pass |
| * I have created a test object with longString | * I call the getCharsExcludingSpaces method | * The result should be 475 | Pass |
| * I have created a test object with an empty string | * I call the getCharsExcludingSpaces method | * The result should be 0 | Pass |
| * I have created a test object with varietyString | * I call the getNumberOfRecognisedCharacters method | * The result should be 71 | Pass |
| * I have created a test object with an empty string | * I call the getNumberOfRecognisedCharacters method | * The result should be 0 | Pass |
| * I have created a test object with varietyString | * I call the getNumberOfUnrecognisedCharacters method | * The result should be 22 | Pass |
| * I have created a test object with an empty string | * I call the getNumberOfUnrecognisedCharacters method | * The result should be 0 | Pass |
| * I have created a test object with shortString | * I call the getWordLengths method | * The result should match the array in the unit test | Pass |
| * I have created a test object with longString | * I call the getWordLengths method | * The result should match the array in the unit test | Pass |
| * I have created a test object with shortString | * I call the getWordLengthFrequencies method | * The result should match the array in the unit test | Pass |
| * I have created a test object with longString | * I call the getWordLengthFrequencies method | * The result should match the array in the unit test | Pass |