**Testing approach:** Black box testing. Based on the requirements of the assignment the tests will be split into two partitions, the set that meets the requirements and the set the does not.

**Setup:** Ensure you have the files, TableSorter.java and Table.java in a folder.

Create a test text file named “Test.txt.” in the same folder as the java files and ensure the file contains the appropriate values specified by each test.

(If needed) Set up the main method in TableSorter.java of the program as follows:

Table t = Table.GetTable(“Test”);

if (isSorted(t)){

System.out.println(“Table is sorted.”);

return;

}

sortable(t);

System.out.println(isSorted(t));

**Set of tests that meet requirements.**

**Objective:** To ensure the program acts accordingly to the given test sets of meeting requirements.

**Notes:** Tests should be done in an eclipse environment with a text file named “Test” in the same folder. The Test file can be edited to match the specific test with the correct values of the table. Each test must be ran individually and observe the output to ensure correctness.

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| Test No.: 1 | | | | Current Status: Pending | | |
| Test title: Sorted table with valid inputs | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [1 4 6  7 10 12  14 20 25] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results | | | EXEPCTED RESULTS  Output: The table is sorted. isSorted is true. | COMMENTS |
| Concluding Remarks: Table should remain unchanged | | | | | | |
| Testing Team: | | | Date Completed: | | | |

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| Test No.: 2 | | | | Current Status: Pending | | |
| Test title: Unsorted table with valid inputs | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [8 1 5 4 6 7 2 3 1 12 13  2 9 5 8 10 99 20 25 12 12 13  9 11 24 100 1 0 2 4 8 3 1  2 45 34 43 67 78 39 4 5 10 22  5 4 5 55 66 23 43 12 34 2 56  6 0 99 82 74 65 29 2 3 78 11  3 4 55 99 88 22 33 43 12 21 33  9 99 0 22 3 43 46 54 52 6 77  10 11 18 19 12 16 63 62 68 69 67  34 71 74 79 82 85 77 92 94 92 11  11 28 29 26 3 36 37 38 28 29 10] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results | | | EXEPCTED RESULTS  The isSorted method returns true. | COMMENTS |
| Concluding Remarks: Table should be sorted. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

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| Test No.: 3 | | | | Current Status: Pending | | |
| Test title: Unsorted table with valid inputs that are negative numbers | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [-5 -1 -2  -9 -10 -8  0 -3 -7] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results | | | EXEPCTED RESULTS  The isSorted method returns true. | COMMENTS |
| Concluding Remarks: Table should be sorted. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

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| Test No.: 4 | | | | Current Status: Pending | | |
| Test title: Unsorted table with valid inputs of numbers with more than 8 digits ex. 123456789 | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [856432147 144785126 533251894  277845621 968457213 555555555  999999999 113456125 241457852] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results | | | EXEPCTED RESULTS  The isSorted method returns true. | COMMENTS |
| Concluding Remarks: Table should be sorted. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

**Set of tests that does not meet requirements.**

**Objective:** To ensure the program acts accordingly to the given test sets of not meeting requirements.

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| Test No.: 5 | | | | Current Status: Pending | | |
| Test title: Invalid table size | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [8  2  9] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results. | | | EXEPCTED RESULTS  Output: “Error: Input must be square. | COMMENTS |
| Concluding Remarks: Test should fail with an exception message. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

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| Test No.: 6 | | | | Current Status: Pending | | |
| Test title: Valid table size with invalid inputs | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [a b c  d e f  h i j] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results. | | | EXEPCTED RESULTS  Number format exception | COMMENTS |
| Concluding Remarks: Test should fail with an exception message. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

**Notes:** Tests should be conducted in an eclipse environment with a text file named “Test” in the same folder. The Test file can be edited to match the specific test with the correct values of the table. Each test must be ran individually and observe the output to ensure correctness.

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| Test No.: 7 | | | | Current Status: Pending | | |
| Test title: Valid table size with invalid special characters | | | | | | |
| Testing approach: “Test.txt” file shall contain the following values for the table  [@ ! #  $ % ^  & ( \*] | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has correct values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results. | | | EXEPCTED RESULTS  Number format exception | COMMENTS |
| Concluding Remarks: Test should fail with an exception message. | | | | | | |
| Testing Team: | | | Date Completed: | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Test No.: 8 | | | | Current Status: Pending | | |
| Test title: Empty File | | | | | | |
| Testing approach: “Test.txt” file shall contain no values | | | | | | |
| STEP  1  2 | OPERATOR ACTION  Ensure Test.txt has no values.  Run the program. | PURPOSE  This test relies on the correct values.  Test the program results. | | | EXEPCTED RESULTS  Number format exception | COMMENTS |
| Concluding Remarks: Test should fail with an exception message. | | | | | | |
| Testing Team: | | | Date Completed: | | | |