**Code: 4478**

**Test plan: 0538**

**Does the test plan work as intended?**

Features that are included:

1. A table per test case is included with the test case identifier, the current status, the test tittle, the testing approach, the steps, the operator action, the purpose, and the expected results.
2. 10 test cases are available:
   1. Test No. 1: Checking the isSorted method for an empty table.
   2. Test No 2: Checking the isSorted method for a sorted table of size 1 with 1 value within.
   3. Test No 3: Checking the isSorted method for a sorted table of size 5 with 25 values within.
   4. Test No. 4: Checking the isSorted method for an unsorted table of size 5 with 25 values within.
   5. Test No. 5: Checking if the code handles incomplete tables of size 5 with 24 values within. (An error message should be expected)
   6. Test No. 6: Checking if the code handles excess elements for a table of size 5 with 26 values within. (An error message should be expected)
   7. Test No. 7: Checking the sortable and the isSorted method work with an empty table with a size of 0.
   8. Test No. 8: Checking the sortable and the isSorted method to sort a table of one value and return true for being sorted.
   9. Test No. 9: Checking the isSorted and the sortable method to sort an unsorted table of size 5 with 25 values within and return true once it is sorted.
   10. Test No. 10: Checking the isSorted and the sortable method to check if a sorted table of size 5 with 25 values within returns the sorted table for sortable and true for isSorted.

Features that are missing:

1. The Introduction with the purpose, the scope, the system overview, the suspension and exit criteria, the document overview, and the references.
2. The test items and features.
3. The testing approaches.
4. The user interface testing.
5. The test schedules.
6. The following tests are missing:
   1. Testing negatives.
   2. Testing zeros.
   3. Testing maximum and minimum integer values.
   4. Testing decimals.
   5. Testing fractions.
   6. Testing characters (letters and special characters).
   7. Testing large numbers like 3 digits or larger.

Overall, the test plan included important test cases. However, other important test cases were not covered. The test plan was missing the description of what the code is supposed to be and what it is that is being tested. The test plan was also missing some test cases to cover more of the program. Test No. 7-10 are testing the same inputs as Test No. 1-4. The only difference is Test No. 1-4 tests the isSorted only and Test No. 7-10 are testing both the sortable method and the isSorted method. Those test cases should have contained more steps to test both methods in one test case rather than having two separate test cases.

**Does the software work as intended?**

Features that are included:

1. The software returns true or false for a table depending if it’s sorted or not using isSorted method.
2. The software sorts an unsorted table and returns true for being sorted once it is sorted.
3. The software provides the amount of operations.
4. The software returns “Table is empty!!!!” if an empty table is given.
5. The software handles tables of size 1.
6. The software handles sorted tables and returns true for being sorted.
7. The software handles unsorted tables and returns false for being sorted. The software then sorts the table and returns true for being sorted.
8. The software returns an error for a table that is not NxN.
9. The software contains the following methods:
   1. isSorted- This method checks whether a table of NxN dimensions is already sorted in ascending order for all rows and columns. This boolean method returns true if the table is already sorted, false if not.
   2. Sortable- This method sorts a table of NxN dimensions. If the table is already sorted, the method makes no further changes to the existing table.
   3. bubbleSort- This method uses the bubbleSort technique to sort an array.

Features that are missing:

1. The software is missing the ability to return an empty table for empty outputs.

Overall, the software follows the requirements given by Dr. Roach for this assignment. The only thing it is missing is handling empty tables.