**Black-Box and Regression Testing**

**1.0 Test Plan Identifier**

Turing Machine (TM) in C# 1.4

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Source Code: <https://github.com/lansdon/cpts422/tree/master/TMSharp/TMSharp>

**2.0 Approach**

Team 2’s approach to this assignment will begin with the careful review of our requirements specification document located on our github account found here:

<https://github.com/lansdon/cpts422/tree/master/docs/tm>

From the review of the document requirements to be tested will be delineated in our test matrix and assigned a unique identifier for traceability.

Based on the requirements description team 2 will derive tests to evaluate the Turing Machine’s implementation of the requirement. The test cases will each be assigned a test case ID that can be traced in the test matrix listing the requirement description, and the section defining requirement in the requirements specification document.

Tests will be run on a Pass/Fail basis. Description of failed event can be found in the test matrix under column heading Result. If the test passes no further description will be required.

For tests that do not pass, review of the Turing Machine source code be corrected to fix the fault. Once the source code has been corrected to address all faults Team 2 will re-run all test cases to ensure full functionality.

After corrections have been made to the source code to correct errors found on the first pass of testing Team 2 has chosen to re-run all tests to ensure a fully functional application.

In the test matrix the column labeled Code Fixed will have a value of True if changes to address failure were made.

In the test matrix the column labeled Regression Result will have a value of pass or fail. If the test had code fixed with a value of true, additional comments will be available in the column labeled Regression Test Comments referring to the result of the regression test.

**3.0 Validation Test Cases**

Descriptions of test cases can be found in the document named ValidationTestCases.pdf. This document will reference the Test Case ID found in the test matrix and provide details on how the test will be implemented.

Traceability from test to requirements can be done within the test matrix.

**4.0 Test Results**

Results from the tests can be found in the following locations of the test matrix. Results are represented as pass/fail. If test results in a fail additional detail describing failed behavior can be found in Comment section of test matrix.

Initial Tests: column Result / column Test Comments

Regression Tests: column Regression Result / column Regression Test Comments

Reported findings for questions presented in Assignment 7: Black-Box and Regression Testing can be found in the document titled: ***testresults.pdf***

**5.0 Acceptance Tests**

“Acceptance test” for questions presented in Assignment 7: Black-Box and Regression Testing can be found in the document titled: ***acceptancetests.pdf***

**6.0 Addition Requirement**

For an additional requirement, we have added a new command. The “Z” command will display a lovely ascii art image of a zombie. To test the requirement, we use black box testing, and press “z” to make sure the image is properly displayed.