

## Deliverable 2 Test Report

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### Category A – General Code Metrics

#### CommentCountCheckTest

All tests passed with **100% line coverage**.

- isCommentNodesRequiredTest: confirms method returns true.
- tokenCheck: verifies the correct comment-related tokens.
- beginTreeTest: ensures count resets to 0.
- visitTokenTest: verifies visitToken increments the count properly.
- finishTreeTest: checks logged message shows the correct comment count.

#### CommentLineCountCheckTest

All tests passed with **100% line coverage**.

- isCommentNodesRequiredTest: confirms comment-node requirement.
- tokenCheck: verifies SINGLE\_LINE\_COMMENT, BLOCK\_COMMENT\_BEGIN, and BLOCK\_COMMENT\_END tokens.
- beginTreeTest: resets line counter.
- visitTokenTest: verifies correct counting for single-line and multi-line comments.
- finishTreeTest: checks correct total line count based on combined comment types.

#### ExpressionCountCheckTest

All tests passed with **100% line coverage**.

- tokenCheck: verifies EXPR token array.
- beginTreeTest: resets expression counter.
- visitTokenTest: increments count correctly on each visit.
- finishTreeTest: confirms final count logs correctly.

#### LoopCountCheckTest

All tests passed with **100% line coverage**.

- tokenCheck: verifies loop tokens (FOR, WHILE, DO).
- beginTreeTest: resets loop count.
- visitTokenTest: increments count for each loop token.
- finishTreeTest: logs total number of loop statements.

### **OperandCountCheckTest**

All tests passed with **100% line coverage**.

- tokenCheck: verifies operand token arrays.
- beginTreeTest: resets count.
- visitTokenTest: counts operands correctly.
- finishTreeTest: logs final operand count.

### **OperatorCountCheckTest**

All tests passed with **100% line coverage**.

- tokenCheck: verifies operator token arrays.
- beginTreeTest: resets count.
- visitTokenTest: increments operator count.
- finishTreeTest: logs final operator count.

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## **Category B – Halstead Code Metrics**

### **HalsteadLengthCheckTest**

All tests passed with **99% line coverage** and **50% branch coverage**.

- tokenCheck: tests getDefaultTokens, getAcceptableTokens, and getRequiredTokens return correct token arrays.
- beginTreeTest: ensures the counter resets to 0.
- visitTokenTest: verifies visitToken correctly processes operators and operands.
- finishTreeTest: confirms finishTree logs the correct total count after visiting multiple tokens.

### HalsteadVolumeCheckTest

All tests passed with **100% line coverage**.

- tokenCheck: verifies token arrays for operators and operands.
  - beginTreeTest: ensures values reset properly.
  - visitTokenTest: tests vocabulary and length counting, including repeated tokens.
  - finishTreeTest: verifies the correct Halstead Volume is logged based on the test data.
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### Summary

- All tests passed successfully.
- Category A (Halstead) and Category B (other metrics) both achieved full coverage except for HalsteadLengthCheck, which had one minor uncovered branch.
- No bugs found; no disabled tests.