

## Scanner Test

The screenshot shows the Eclipse IDE interface with the following components:

- Top Bar:** gebruCompiler - Compilerproj/src/tests/ScannerTest.java - Eclipse IDE
- Menu Bar:** File Edit Source Refactor Navigate Search Project Run Window Help
- Toolbar:** Standard Eclipse development icons.
- Package Explorer:** Shows the project structure with 'JUnit' and 'ScannerTest' (Runner: JUnit 5) (0.000 s). It lists two tests: 'testNextToken (0.000 s)' and 'testYytext (0.000 s)'. A progress bar indicates 'Runs: 2/2', 'Errors: 0', and 'Failures: 0'.
- Editor:** Displays the code for 'ScannerTest.java'. The visible code includes:

```
141 expectedResult = TokenType.NUMBER;  
142 result = instance.nextToken().getType();  
143 System.out.println("testNextToken3 Result Found: "+result+" [VS] Expected Result: "+  
144 assertEquals(expectedResult, result);  
145  
146 expectedResult = TokenType.DIVIDE;  
147 result = instance.nextToken().getType();  
148 System.out.println("testNextToken4 Result Found: "+result+" [VS] Expected Result: "+  
149 assertEquals(expectedResult, result);  
150
```
- Console:** Shows the output of the JUnit tests:

```
<terminated> ScannerTest [JUnit] C:\Program Files\Java\jdk1.8.0_112\bin\javaw.exe (Apr 2, 2019, 11:37:34 AM)  
*****Testing the nextToken()  
Testing Input Total file size to read (in bytes) : 12  
Content of file is : 455*7/4=7  
testNextToken1 Result Found: NUMBER [VS] Expected Result: NUMBER  
testNextToken2 Result Found: MULTIPLY [VS] Expected Result: MULTIPLY  
testNextToken3 Result Found: NUMBER [VS] Expected Result: NUMBER  
testNextToken4 Result Found: DIVIDE [VS] Expected Result: DIVIDE  
testNextToken5 Result Found: NUMBER [VS] Expected Result: NUMBER  
testNextToken6 Result Found: EQUAL [VS] Expected Result: EQUAL  
testNextToken7 Result Found: NUMBER [VS] Expected Result: NUMBER  
*****Testing the yytext()  
Testing Input Total file size to read (in bytes) : 12  
Content of file is : 455*7/4=7  
yytext1 Result Found: 455 [VS] Expected Result: 455  
yytext2 Result Found: * [VS] Expected Result: *  
yytext3 Result Found: 7 [VS] Expected Result: 7  
yytext4 Result Found: / [VS] Expected Result: /  
yytext5 Result Found: 4 [VS] Expected Result: 4  
yytext6 Result Found: = [VS] Expected Result: =  
yytext7 Result Found: 7 [VS] Expected Result: 7
```
- Bottom Left:** A 'Failure Trace' tab is visible but empty.

## Parser Test

The screenshot shows the Eclipse IDE interface. The top menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. Below the menu is a toolbar with various icons. The left sidebar shows the Project Explorer with a tree view containing ParserTest, testDeclarations, testSubprogramDe, testStatement, testProgram, testFactor, and testSimpleExpressi. The main editor window displays the ParserTest.java file with the following code:

```
215 Parser badPascal = new Parser("test/parser/factor_fail.pas", true);
216
217 // should pass
218 try {
219     happyPascal.factor();
220 }
```

The bottom of the IDE shows the Console window with the following output:

```
<terminated> ParserTest [JUnit] C:\Program Files\Java\jdk1.8.0_112\bin\javaw.exe (Apr 16, 2019, 12:29:49 AM)
Matching (PROGRAM) with token from lookAhead(ID)
Error Match Error - Expected token-> PROGRAM : found ID instead at line 0 column 0
Matching (ID) with token from lookAhead(ID)
Illegal character or whitespace: ' ' found.
Matching (SEMICOLON) with token from lookAhead(ID)
Error Match Error - Expected token-> SEMICOLON : found ID instead at line 0 column 8
Matching (BEGIN) with token from lookAhead(ID)
Error Match Error - Expected token-> BEGIN : found ID instead at line 0 column 8
Error Name not found in symbol table. at line 0 column 8
Matching (END) with token from lookAhead(ID)
Error Match Error - Expected token-> END : found ID instead at line 0 column 8
Matching (PERIOD) with token from lookAhead(ID)
Error Match Error - Expected token-> PERIOD : found ID instead at line 0 column 8
Passed tests - valid pascal program()
Matching (PROGRAM) with token from lookAhead(ID)
Error Match Error - Expected token-> PROGRAM : found ID instead at line 0 column 0
Matching (ID) with token from lookAhead(ID)
Illegal character or whitespace: ' ' found.
Matching (SEMICOLON) with token from lookAhead(ID)
Error Match Error - Expected token-> SEMICOLON : found ID instead at line 0 column 8
Matching (BEGIN) with token from lookAhead(ID)
Error Match Error - Expected token-> BEGIN : found ID instead at line 0 column 8
Error Name not found in symbol table. at line 0 column 8
Matching (END) with token from lookAhead(ID)
Error Match Error - Expected token-> END : found ID instead at line 0 column 8
Matching (PERIOD) with token from lookAhead(ID)
Error Match Error - Expected token-> PERIOD : found ID instead at line 0 column 8
Failed to find a valid program()
Matching (ID) with token from lookAhead(ID)
Illegal character or whitespace: ' ' found.
Valid Factor() found
Matching (ID) with token from lookAhead(ID)
Illegal character or whitespace: ' ' found.
```