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Assignment 4 Interpreter

**Step 1**

The c parser simply extracts and outputs the lexemes at sentence level in the submitted program in the toy language grammar given. The interpreter has the lexeme output of the parser but has more classes to handle the evaluation of the lexemes. It does this by creating sentences out of the lexemes and properly evaluating and returning them.

Input file:

Text

Description automatically generated

Output of the parser:

Text

Description automatically generated

As you can see the output is cut off, this is because there is some error within the given parser file, it is reading the tokens wrong. However it can be seen that there is no evaluation of the lexemes put together however it still has the sentence level expression, term and factor functions.

Input for interpreter:

Text

Description automatically generated

Output:

Text

Description automatically generated

Text

Description automatically generated

As you can see the interpreter runs and executes the code, returning the sentence level evaluation out to the console.

**Steps 2, 3, 4**

This section is comprised of my 5 programs, 3 good and 2 bad, interpreting the grammar set in the assignment

**Good Programs**

**1.**

**Input:**

**Text

Description automatically generated**

**Output:  
Text

Description automatically generated**

**Text

Description automatically generated**

**2.**

**Input:**

**Text

Description automatically generated with medium confidence**

**Output:**

**Text

Description automatically generated**

**Text

Description automatically generated**

**3.**

**Input:**

**Text

Description automatically generated with medium confidence**

**Output:**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Bad Programs**

**1.**

**Input:** Missing the Begin keyword

**Text

Description automatically generated with medium confidence  
Output:**

**Text

Description automatically generated with medium confidence**

**2.**

**Input:** Missing semicolon on the status statement

**Shape

Description automatically generated with medium confidence**

**Output:**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Summary**

Overall I found this assignment fun, getting the starter code up and running took a minute, eventually I found an error in the if(strcmp… conditonals were expecting a 1 back when strcmp returns a 0 when it is equal. I implemented the conditional statement successfully, if you would like a demo or more test cases let me know, I believe I got to most of the abilities of Olang, I tried to keep the sample programs short however because the output gets lengthy very fast in an evaluating interpreter.