Project 1

CMSC 430

Compiler Theory and Design

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**Approach**

I approached the project as someone who barely knows C++ as a learning opportunity. It was a lot of monkey see monkey do. I used what was already there as a template and added in the new stuff. Looked online for C++ documentation on what tools I could use to make the .cc file work the way I needed. Went with a queue and a for loop for the display errors and if statements for adding errors up.

**Lessons**

I learned how to install the C++ compiler on my computer appropriately and that the necessary files to run flex, and make aren’t installed automatically. That was fun. Need to make sure all the correct dependencies are installed correctly before trying to run new code.

I learned how to make a queue in C++ and that compilers are extremely handy to have already made. Oh and “cout” is better at printing “queue.front()” than “printf.”

I am not sure I could have really made any improvements at this point. The program is really simple and my contribution to it was minimal. When these projects get more complex and my input is more in quantity and need I think there will be many more potential areas of improvement.

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| --- | --- | --- | --- | --- |
| Test | Input | Expected Output | Actual Output | Pass? |
| keywords:  function, returns, Boolean, begin, if, else, end, endif, true, false, then, or,  =, >, (), :, both comment types, id, ints, real literal | ztest1.txt | The text in the file and “Compiled Successfully!” |  | Yes |
| 3 errors  Invalid identifier with trailing underscore, @ symbol and an invalid real\_literal with two decimals | Ztest2\_errors.txt | “Lexical Error, Invalid Character \_” after line 4  “Lexical Error, Invalid Character .” and “Lexical Error, Invalid Character @” after line 7.  At the bottom  “Lexical Errors: 3  Syntax Errors: 0  Semantic Errors: 0” |  | Yes |
| All the new things added from the requirement | Test\_newStuff.txt | The contents of the file printed in the terminal followed by “Compiled Successfully!” |  | Yes |