

One Line Lexer

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1st Commit

1 Creating a plan for the lexer

In order to create a lexer for project 1 I decided to do so much research on C++ and it's data structures to use the best ones. After reading some documentation I decided to use an enum. After doing so I started to create the type and realized this task appeared to about to be a lot of repetitive typing. So I asked chatgpt for help.

1.1 ChatGPT Search Terms and Results

I asked ChatGPT to do this "write a lexer in the language c++ to interrupt this grammar" and then afterwards the grammar for the language from our class. I was shocked to see the output. It was a program that processed a string, pretty close to correctly according to our language. It framed out the bare bones for the language. It processed a string and searched for tokens within the string.

1.2 Making the Code what I wanted

After getting some help chatgpt I was off. The first change I made was to the structure of Token. I added more members like string value and word and int position. These would be used for debugging and because its vital to future parts of the project. I edited chatgpts code for each token to correctly assign members. GPT did not correctly handle assigning IDs so I had to correct that as well.

1.3 Taking in Input

Now I had the strings being processed accordingly in the GetNextToken function I was going to allow for a line of input to the function. I did so in the lexer function with a simple do while and a print statement to check my work.

1.4 Testing And Fixes

I was running out of time for the night so I decided to test a line of a code quickly. This was the line " int a = a \$". It worked properly.

1.5 For Next Time

My next step will be to allow for the input of a text file. In doing this I will also have to account for Line numbers as well.

1.6 References

I could not figure how to cite chatpgt but I asked it anyway and it replied with the following, "You cannot cite using ChatGPT as it is an AI language model and not a citation style or tool. However, you can consult the citation style guide relevant to your field (such as MLA, APA, or Chicago) to learn how to properly cite sources in your work." I thought that was funny but I wanted to discuss if using chatgpt like this was ok as well.