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Repo: [https://gitlab.cpsc.ucalgary.ca/zhijie.xia/zhijie\\_cp411\\_final\\_project](https://gitlab.cpsc.ucalgary.ca/zhijie.xia/zhijie_cp411_final_project)

#### Remarks:

1. The scanner provide correct results on all tests-file.
2. Well definite regular expression, there is minimal amount redundant regex to perform lexical analysis.
3. Code is modular: most functions are written in the scanner.h and functions are divided into human readable size. Each function has its speical purpose(do one thing).
4. Code is well documented and easy to figure out.
5. Used pointers and reference whenever it is appropriate (to save storage, to make object grows dynamically).

#### Potential Improvement:

1. In each TOKEN struct, the “attribute” points to an index on yytext. It is possible to mess up the TOKEN struct if the flex does not perserve the yytext.
2. Since I used multiple pointers for memory allocation, there might be memory leaks somewhere. Although John says we should not worry about memory leaks, I can use Valgrind to test it and debug it if needed.

#### Self Grading:

I would give myself 8 out of 8.

1. Provide correct results.
2. Constantly commits on GitLab.
3. Modular and clean code.
4. Error messages are properly displayed on stderr.