A description of the program:

This program is meant to simulate the lexical analyzer in a compiler. In a nutshell, the program takes in c++ code, breaks it up into a set, and then identifies each member of the set and matches it up with its respective token.

First, multiple sets are created with various tokens. Each creation is in O(n) time.

Then, the file is opened and read. The read function has a time complexity of O(n).

Then, going through the file and with the re.find command with specific regex parameters to fish out applicable words (meaning no whitespace or comments are brought in) has a time complexity of O(n).

Finally, going through the set of tokens and comparing them to regex criteria is in O(n) time.