Assignment 1 Report

Building the Front End Java Scanner was an interesting way to learn how to build a language token parser. Many of the logical factors in the program seem to fit well with each other in terms of logic and language independency. However, we did have to make some assumptions in order for the entire program to work. For example the apostrophe character directly follows a word token. However, the apostrophe character is also a special character. To accomadate this, the word token in the program takes precedence to the special characters. Making the compiler read the token 'hello' as a word. Given any other case, the apostrophe will be treated as a special character.

Something unique that had to be implemented was the seperation between white characters and comments. Although both should be ignored by the parser, we don't believe both of them should be treated as one. Especially given that in java, a comment is started by two chars, the program needs to know a special token of "//" or "/*" has been read. In order to do this, our team made a clever implementation that will check whether the token read was one of these and if it is skip until a certain condition is met. Seperating white spaces from comments helps us in further implementation when we try to make sense out of comments. An example of this could be java docs!

Also in terms of character recognition, some special characters in java are three characters long. In order to accomadate this situation a basic if statement check would not work. Thus a neat implementation was a nested if statement in order to accomadate the speical case of three characters. For example take the special characters <, <<, <<=, <=. All these characters can be handled by one case statement by nested if statements in order to reduce more check statements. Due to the fact that the scanner can only read one character at a time, it is crucial that such a case handler is used in order to detect the entire special character in such a situation. Overall the Assignment was engaging and finished succesfully.