Installations:

1. graphviz → Not sure how to install on windows, aware that other people that have windows are also using it though and have documented how to install it
2. networkx → pip install networkx
3. matplotlib → pip install matplotlib

Running the program

To run the program use the following format:

python gltc66_FOL_compiler.py InputFileName.txt

This will log the outcome of the compilation in compile_log.log and write the grammar for the given language to InputFileName_grammar.txt, provided the input file is of the correct format. If the formula in the input file is also valid it will build a parse tree and output it to InputFileName.png, I'm unsure of how big the image it produces will be and it may require you to zoom out.

Log file format and examples

The log file gives the name of the input file, the time, the validty of the formula and then an appropriate error/success message. I've tried to implement some basic error recovery that works by popping terminals until the total number of closing brackets popped is one greater than the number of opening brackets popped off or there are no more terminals remaining. The comparison of tokens with the lookahead, and entering into other productions then only continues once the closing bracket for the production in which the error occurred is reached, or the end of the formula is reached. This can allow for multiple errors to be identified if they are present. Therefore, for some entries there will be multiple error messages in the log file.

I have included 3 examples one of a valid formulae, example1.txt, and two other invalid formulae.