CSC402 - Assignment #3

Problems

1. Copy the files exp1_lex.py, exp1_lrinterp_gram.py, and exp1_lrinterp.py from the code folder and extend them in such a way that the '*' and '/' arithmetic operators are are supported (Note: the '/' operator represents an integer division because our language only supports integer values). Then attach rules to the productions that allow for syntax directed interpretation of the new operators:

2. Your interpreter should produce results to the terminal output similar to the interpreter discussed in class. In particular, your interpreter should produce correct results for these two programs which is the printed value 2 for the first program and the printed value 6 for the second:

   ```
   store x 1;
   store y 2;
   print  (+ x (/ y 2));
   ```

   and

   ```
   store x 2;
   store y 3;
   print (+ x (* y 2));
   ```

Hint: the division operator should be implemented as the 'integer division operator' in Python using the '//' operator. Also, remember that you will have to extend both the grammar specification and the lex specification.

Deliverables

Hand in your source code together with a Jupyter Notebook that shows that your program works. To submit your work create a zip file of your sources and the notebook and submit it through BrightSpace. Assignments submitted in formats other than Jupyter Notebooks will not be graded and a failing grade will be recorded. Rubric: the correct execution of each program is worth 5 points.