CS117 (Fall 2015) Programming Assignment 2 15 pts.

For the programming assignment 1, we used the following syntax (in right-recursive form) for a language named Simplified-Infix-Expression:

E → T E'
E' → + T E' | - T E' | ε
T → F T'
T' → * F T' | / F T' | ε
F → Num
Num → 0 | 1 | 2 | 3 | . . . | 9

Now, extend the language for accommodating **parenthesis** and **power operation (^)**, i.e., modify the syntax including parenthesis and power operation, and modify the interpreter.

Test your interpreter with the following three strings (programs for the language named Simplified-Infix-Expression-with-Parenthesis-and-Power). Make a data file for each.

(2+3)*4/2-(3*(4-1))+2^3^2+1

2^3^2- 8/(2*1)-9-(4-3)+3*4

2^3^2 + (2^3)^2

- Document the program – both global documentation and each function head documentation, and submit your source code.
- Within the lab session, demonstrate the correctness of your program with the given three strings (shown above).