

COP4020 Homework Assignment 5

1. Augment the following grammar of nested parenthesis with semantic rules to count the number of opening parenthesis:

$\langle \textit{parens} \rangle \rightarrow (\langle \textit{parens} \rangle)$

$\langle \textit{parens} \rangle \rightarrow \epsilon$

The synthesized attribute *parens.num* should hold the number of opening parenthesis.

2. Draw a decorated parse tree of the input $((()))$ using the augmented grammar of #1 above.
3. Write (on paper) a recursive descent parser (in Pseudo code or a programming language of your liking) for the augmented grammar of #1 above.
4. Textbook exercise 4.5 (same for ed. 2 & 3).