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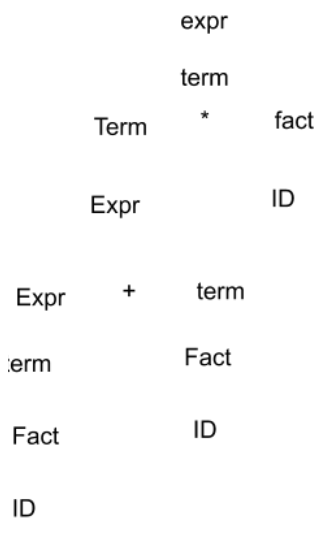
1-31-20
Langs

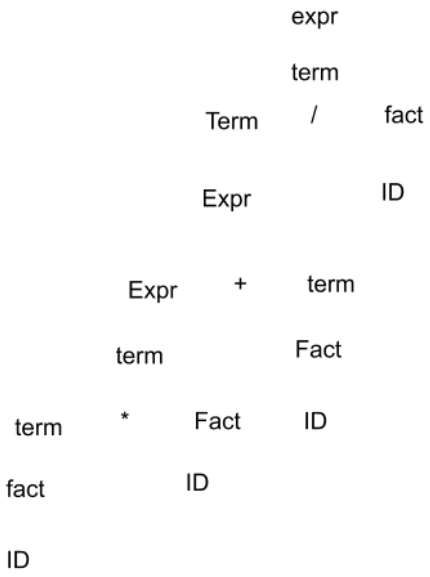
Homework 2

1. Write a context-free grammar for the language of Boolean Expressions. Construct your grammar such that it is unambiguous and it embodies rules of operator precedence. The Boolean not operator has higher precedence than and,which has higher precedence than or. Use ID to represent the atomic values as we did in the grammar for arithmetic expressions. Base Your work on the grammar for arithmetic expressions that we studied in class.
    a. Bool -> True
    b. Bool -> False
    c. Bool -> Bool Or Bool
    d. Bool -> Bool And Bool
    e. Bool -> Not Bool
2. Using the grammar for arithmetic expressions that we studied in class, draw a parse tree for this expression:(ID+ ID) * ID



    a.

3. Using the grammar for arithmetic expressions that we studied in class, do a leftmost derivation of this expression. Indicate the production used for each step of the derivation. (ID* ID+ ID) / ID



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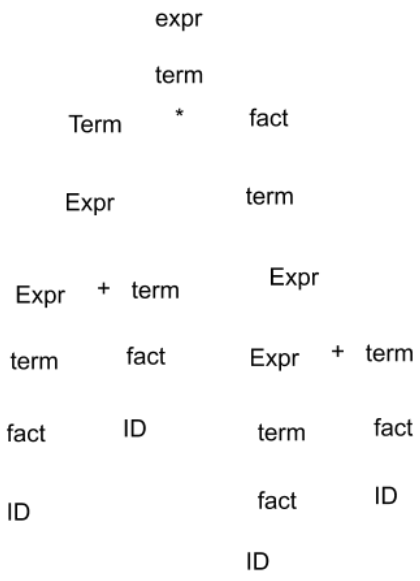
4. Using the grammar for arithmetic expressions that we studied in class, do a rightmost derivation of this expression. Indicate the production used for each step of the derivation. (ID+ ID) * (ID+ ID)



a.