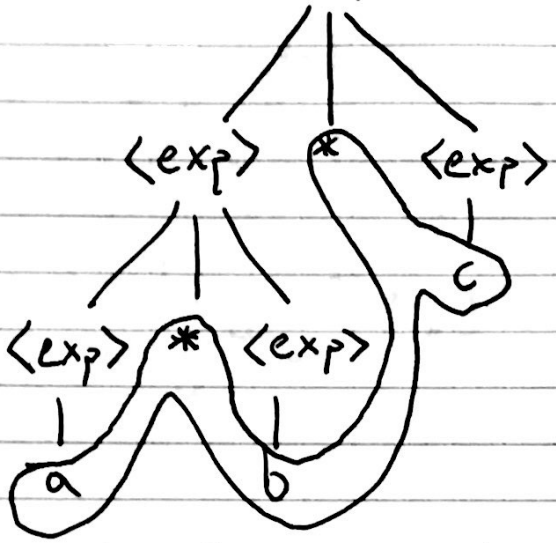
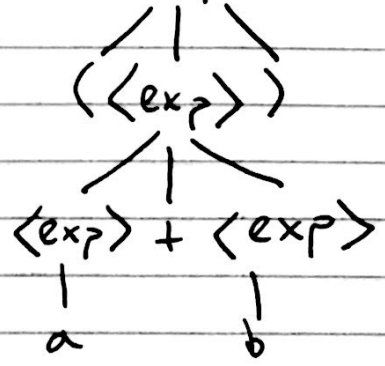
Matthew Silva
CSC 301
Lab 2
9/21/17

a * b * c ⟶ <exp>*



(a+b)(a+b) is not in the language because there can't be adjacent expressions. (a+b)(a+b) does not belong to the grammar because there is no production allowing a non-terminal to produce two adjacent sets of parentheses-enclosed expressions. The grammar could produce two parentheses-enclosed expressions with a plus or multiplication symbol between them, but not directly adjacent. The individual parentheses-enclosed expressions are legal expressions in the grammar when presented alone.

Example: (a+b) ⟶ <exp>*



(a+b)(a+b) would belong to the grammar if the grammar had the production <exp> ::= (<exp>)(<exp>), or the production <exp> ::= <exp><exp>.

Constructing grammars

$\langle S \rangle^* ::= \langle empty \rangle \mid a; \langle S \rangle$

The strings generated are either empty, as in "" or one or more "a;" repeated directly after each other.
Examples: "", "a;", "a;a;", "a;a;a;", ...

The simplest string the grammar should generate is the empty string, or "".