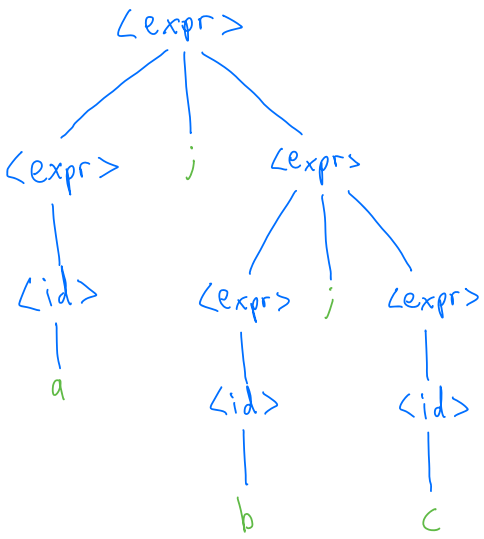
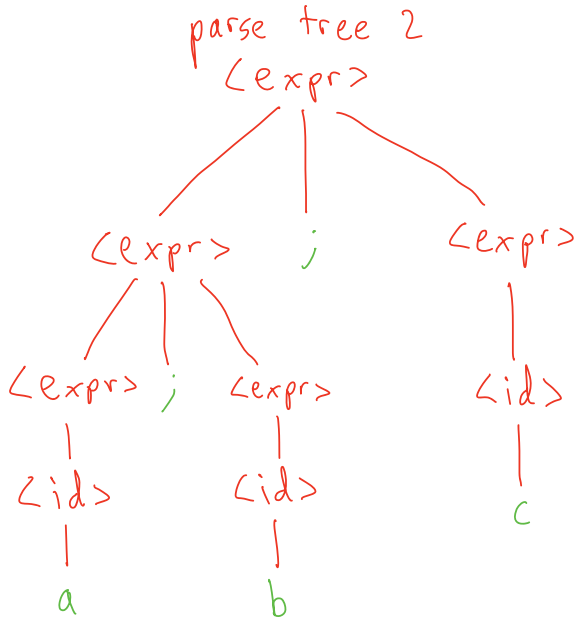
1. Examine the valid sentence: a ; b ; c

parse tree 1



parse tree 2



Since this grammar can produce a sentence that can be derived by 2 (or more) distinct parse trees, the grammar is ambiguous.

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2. modified grammar with changes in red:

<id> ::= a | b | c | ... | z

<dig> ::= 0 | 1 | 2 | ... | 9

<expr> ::= () | <dig> | <id>

| (let <id> = <expr> in <expr>)

| (<expr> ; <expr>)

| (begin <expr> end)

Including parentheses around more complex expressions in the grammar forces any valid sentences to have these disambiguating parentheses.