

CS 374 Spring 2015

Homework 3 Problem 2

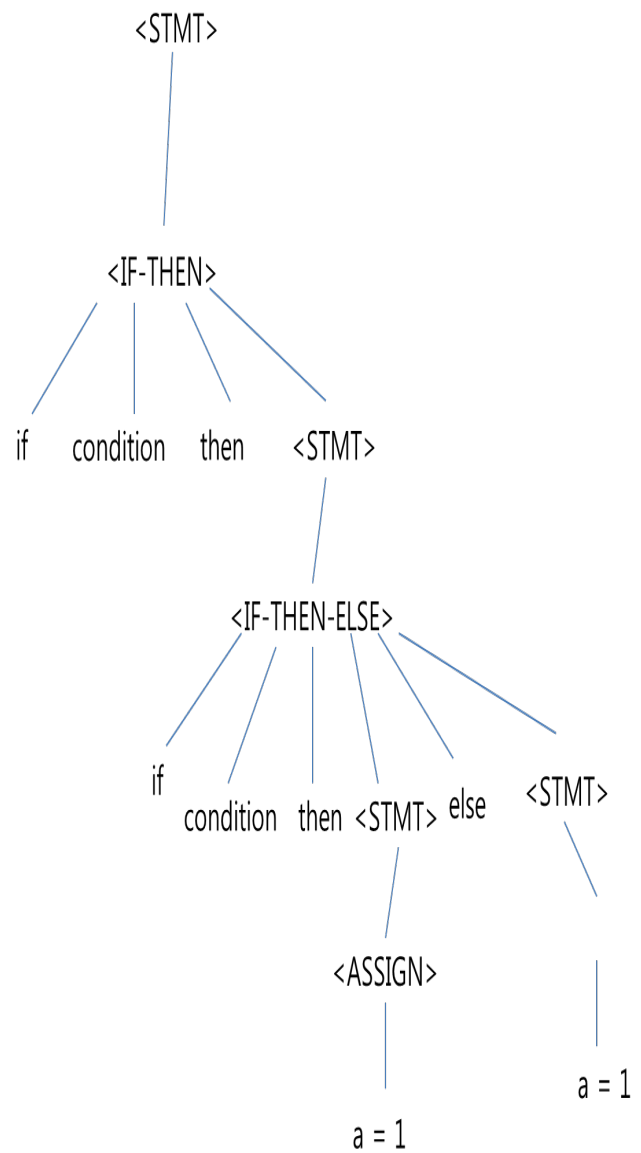
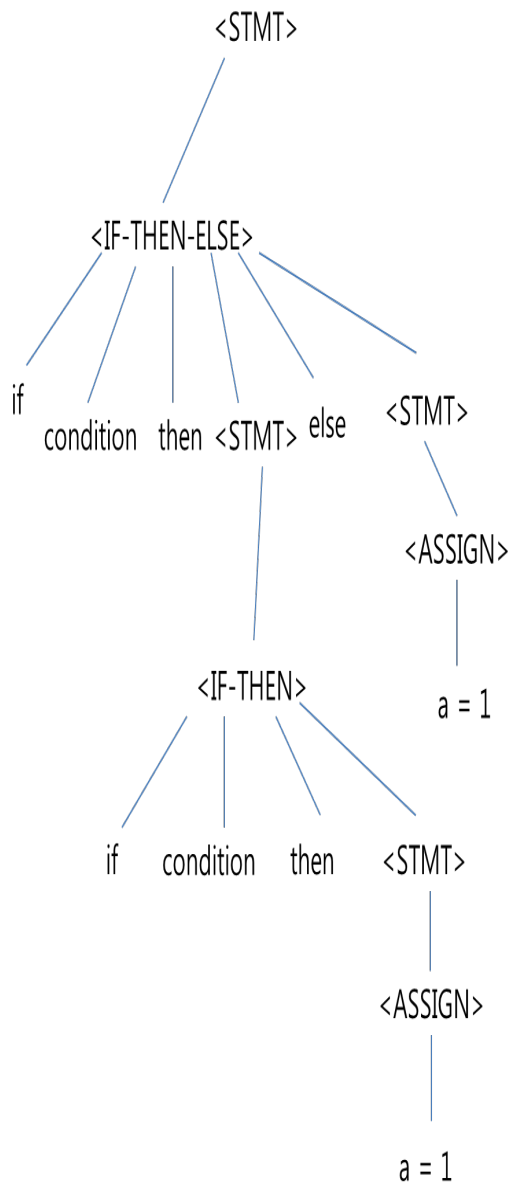
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Problem 2

(a) Show that the grammar G is ambiguous.

Make “If condition then if condition then a=1 else a=1”

There is more than one way for making the statement.



(b) Give an unambiguous grammar that generates the same language as G.

$\langle \text{STMT} \rangle \longrightarrow \langle \text{ASSIGN} \rangle \mid \langle \text{IF-THEN} \rangle$

$\langle \text{IF-THEN} \rangle \longrightarrow \text{if condition then } \langle \text{STMT} \rangle \mid \text{else } \langle \text{STMT} \rangle \mid \langle \text{STMT} \rangle \text{ if condition then } \langle \text{STMT} \rangle$

$\langle \text{ASSIGN} \rangle \longrightarrow a=1$