

# CSC341 Lab 4B

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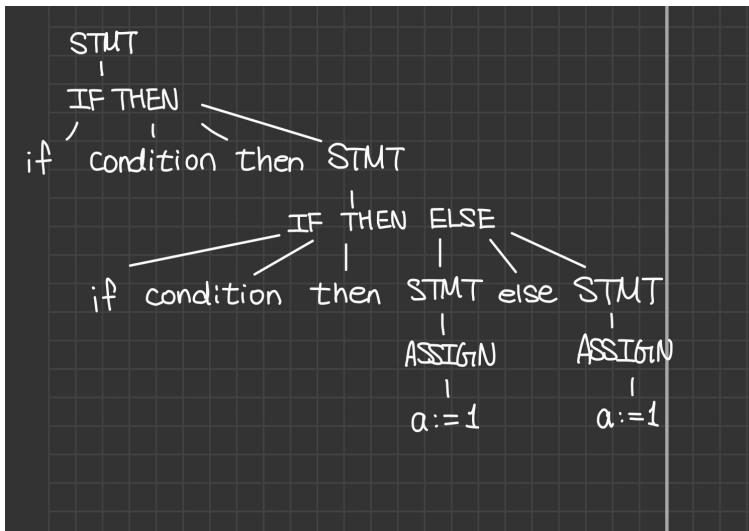
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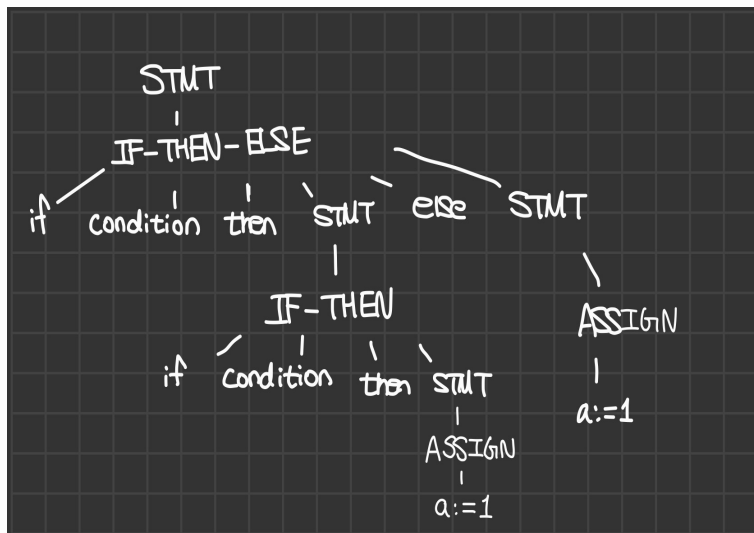
## 1 The Basics

- (1)  $S, U, T, X$
- (2)  $a, b, \epsilon$
- (3)  $aab, abb, baa$
- (4)  $bbb, b, a$
- (5)  $XXX \rightarrow axx \rightarrow abx \rightarrow aba$
- (6)  $T \rightarrow XTX \rightarrow XXX \rightarrow aXX \rightarrow abX \rightarrow aba$
- (7)  $T \rightarrow XTX \rightarrow X\epsilon X \rightarrow XX$
- (8)  $U \rightarrow aTb \rightarrow aXTXb \rightarrow aXXXb \rightarrow aaXXb \rightarrow aabXb \rightarrow aabbb$
- (9)  $L(G) = \{s \in \{a, b\}^* | s \text{ contains at least one } a \text{ and at least one } b\}$

## 2 Conditional Ambiguity

- (1)





(2) The first tree.

(3)

STMT  $\rightarrow$  ASSIGN | IF-THEN | IF-THEN-ELSE

IF-THEN  $\rightarrow$  if condition then {STMT}

IF-THEN-ELSE  $\rightarrow$  if condition then {STMT} else {STMT}

ASSIGN  $\rightarrow$  a:=1