CS 444 - Compiler Construction **Winter 2020**

Lecture 8: January 29, 2020

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8.1 Analysis Continued

8.1.1 Parsing Continued

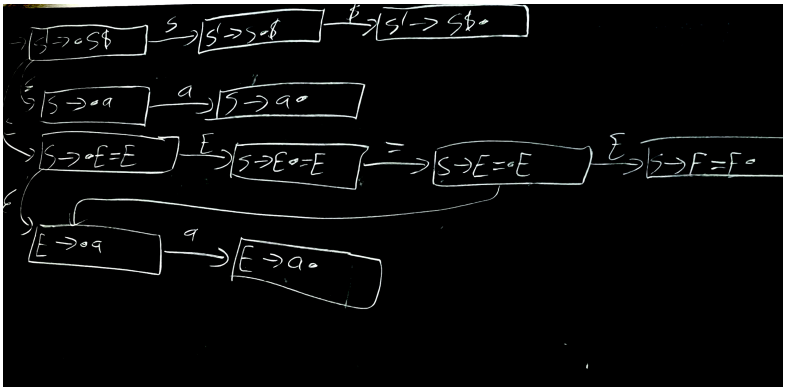
8.1.1.1 SLR(1)

- $Reduce(\beta\gamma, b) = \{A \to \gamma | BA$ is a viable prefix and $\underline{b \in follow(A)}\}$
- If a DFA state contains $A \to \gamma\cdot$ and $B \to a \cdot \gamma\beta$, then (Shift-Reduce)
- If a DFA state contains $A \to \gamma\cdot$ and $\underline{follow(A) \cup fallout(B)$ is not empty $}$, then Reduce Reduce

Example 8.1 *Not SLR (1), is LR(1) and LALR(1)*

- $S^| \to S\$$
- $S \to a$
- $S \to E = E$
- $E \to a$

NFA:



- *Suppose Stack is a*
- *follow(S)* $= \{\$\}$
- *follow(E)* $= \{=, \$\}$