11/22(수) 2h 21강 Deterministic Right Parsers.

Review Deterministic Left Parsers.

$E \to E+T \mid T$
$T \to T*F \mid F$
$F \to a \mid (E)$

$E \to E+T \mid T*F \mid a \mid (E)$
$T \to T*F \mid a \mid (E)$
$F \to a \mid (E)$

+ : left asso.
* : " "
prec(*) > prec(+)

$E \to T+E \mid F*T \mid a \mid (E)$
$T \to F*T \mid a \mid (E)$
$F \to a \mid (E)$

+ : right asso.
* : " "
prec(*) > prec(+)

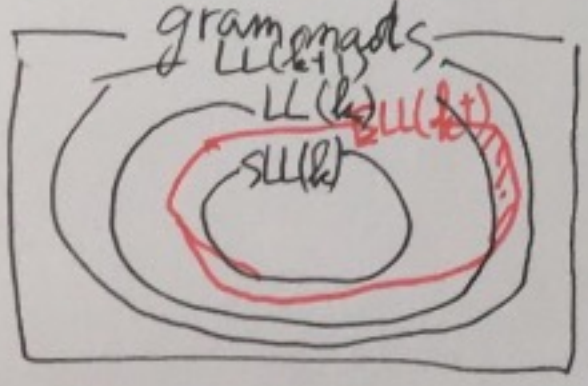
TP p6.

T: $First_1(FT') = \{*\} \{a, (\}$
E: $First_1(TE') = \{+\}$
$TE' = \{a, (\}$
E': $First(*FT) = \{*\}$
$+TE' = \{+\}$

SLL(k) parser

$A \to \alpha \in P \quad x \in First_k(\alpha) \oplus_k Follow(A)$

$(x, A) \to^{A \to \alpha} (x, \alpha)$ ... SLL(k) parser --
$(\varepsilon, A) \to^{A \to \alpha} (\varepsilon, \alpha)$ ... Left parser -- non det.



Deterministic Right Parsers.

LR(0) item $[A \to \alpha . \beta]$ if $A \to \alpha\beta \in P$.

* Size of grammar G

$$|G| = \sum_{A \to \alpha \in P} |A| + |\alpha|$$

D. Knuth (1965)

On the Translation of Languages from Left to Right

$LR(k) = LR(1)$

$\supset LALR(1)$

$\supset SLR(1)$

$\supset LR(0)$