

제 10 주 목 L/R parser 와 Rewriting System

그리고 CNF (Chomsky Normal Form)

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② (변형) 등식의 변형 (부등) 방정식 풀이

10-부-①

Project # 1 (한글, 영문) 프로젝트

FA의 구조



Table-driven programming

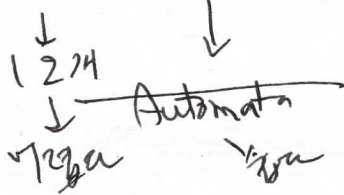
* 4가지 프로그램

na solin X 4 = 3-4work

↓ Macro.

~~Sol~~
1-2work

* 3차자판 33차



Char. class table → fract

space-time conservation law - readability

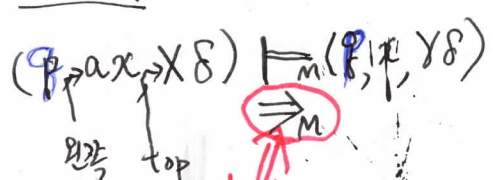
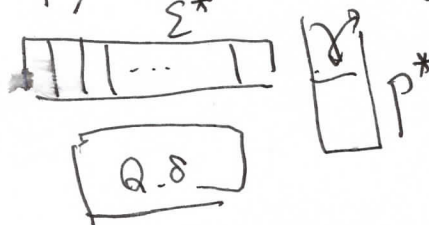


10-부-② Rewriting system & PDA

PDA M = (Q, Σ, P, δ, q₀, Z₀, F) or (Q, Σ, P, δ, q₀, Z₀, φ)

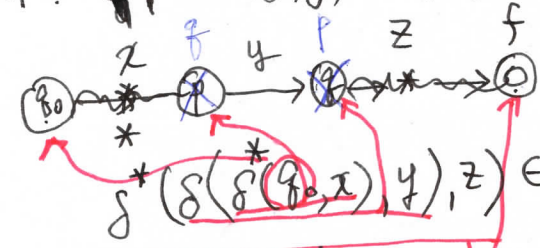
Configuration (ID) $Q \times \Sigma^* \times P^*$
 $(p, x) \in \delta(q, a, X) \Rightarrow$

$p, q \in Q, a \in \Sigma \cup \{\epsilon\}$
 $X \in P, Y \in P^*$



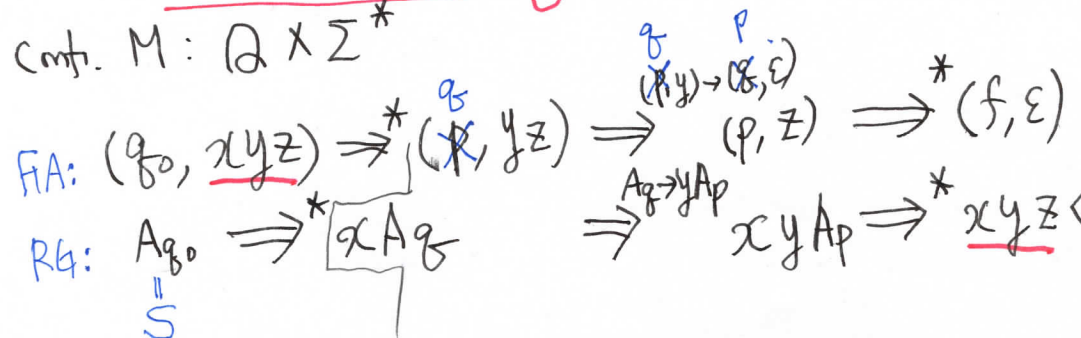
$(q, a, X) \rightarrow (p, \epsilon, Y)$

FA M: $p \in \delta(q, y)$ $p, q \in Q, y \in \Sigma^*$



$\delta(\delta(\delta(q_0, x), y), z) \in F$

Conf. M: $Q \times \Sigma^*$



$A, B \in \Sigma$
 $A \rightarrow aB$ or $a \in \Sigma$
 $A \rightarrow xB$ or $x \in \Sigma^*$

$f \in F$ consuming
 $A \rightarrow \epsilon$
 $x y z \leftarrow A \rightarrow \epsilon \Rightarrow x y z$ generating (xyAz)

10.3 Rewriting System & Left/Right Parser

Rewriting system = (A, P) $P \subseteq A^* \times A^*$

If $\alpha \rightarrow \beta \in P$ $\gamma \alpha \delta \Rightarrow \gamma \beta \delta$

PDA with out states $P = (\Sigma, P, \rightarrow, i, \Phi)$

Conf. $P^* \times \Sigma^*$ (with $Q \times \Sigma^* \times P^*$)

If $(\alpha, x) \rightarrow (\beta, \epsilon)$, then

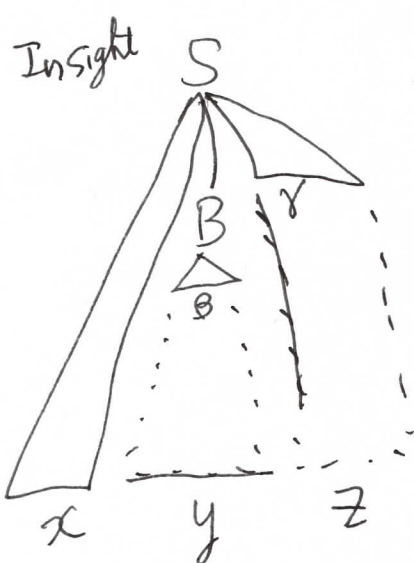
$(\alpha\gamma, \alpha z) \Rightarrow (\beta\gamma, z)$

$L(P) = \{ \alpha \in \Sigma^* \mid (i, \alpha) \Rightarrow_P^* (\phi, \epsilon), \phi \in \Phi \}$

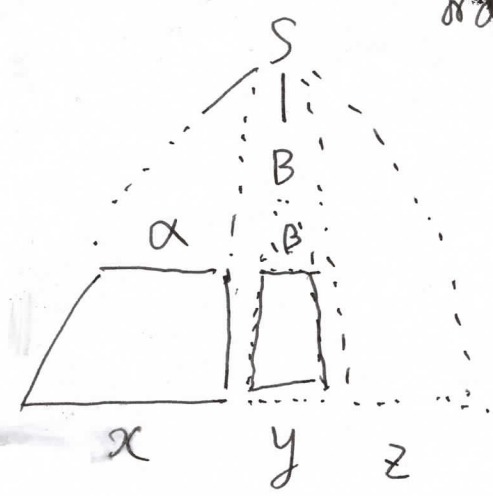
Left Parser $L_P = (N \cup \Sigma, \Sigma, \rightarrow_L, S, \{ \epsilon \})$ for CFG $G = (N, \Sigma, P, S)$

$(A, \epsilon) \rightarrow_L (\alpha, \epsilon)$... Guess α as α

$(\alpha, \alpha) \rightarrow_L (\epsilon, \epsilon)$... verify α



Right Parser in reversed order of \Rightarrow



TP 6P proof in ...

Right parser $(N \cup \Sigma, \Sigma, \rightarrow_R, \epsilon, \{S\})$

$\forall a \in \Sigma: (\epsilon, a) \rightarrow (\alpha, \epsilon)$

shift a (push a)

$\forall A \rightarrow \alpha \in P: (\alpha^R, \epsilon) \rightarrow A, \epsilon$

reduce α to A ($A \rightarrow \alpha \in P$)

$\alpha \rightarrow A$

* HW # 8의 (1)은 위의 right parser 사용
 " (2)의 CNF는 11화에서 가능함
 (Chap 7의 TP를 미리 보고 예시보 A.A)

state? —
 ↳ stack content (inf)
 ↳ onto the state (finite)

PDA in Thm 6.13 of text.