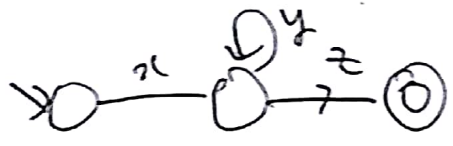


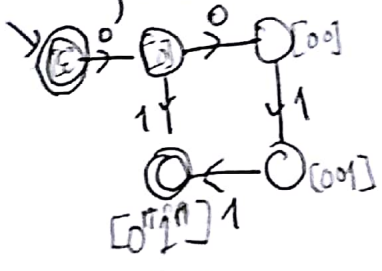
Pumping Lemma



If L is regular. Then $\forall n \in \mathbb{N}_0, xy^nz \in L$
 $xy^nz \in L$
 $y \neq \epsilon$

$L_n = \{0^n 1^n \mid n \geq 0\}$ is not regular.

f.a. 는 세지 못함?



not f.a.

R.L f.a. r.g. r.e. \rightarrow regular parsing
 CFL f.a+stack cfg (Pda) \rightarrow LR parsing LL parsing
 parse tree

NP complete 는 두항이 아니다! - 리과부

Chap 4 Context free grammars

4.1 Def. of CFG and terminologies in CFG

Regular Grammar (Right Linear Grammar)

Derivation in

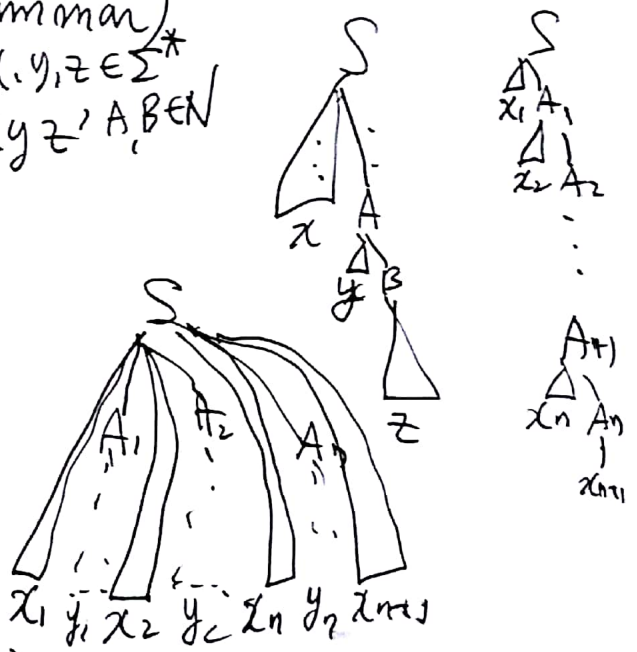
$$S \Rightarrow^* xA \Rightarrow^* x(yB) \Rightarrow^* xyz'ABEN$$

$A \rightarrow yB$

Derivation in Context free grammar

$$S \Rightarrow x_1 A_1 \Rightarrow x_2 A_2 \dots \Rightarrow x_n A_n \Rightarrow x_{n+1}$$

$x_1, x_2, \dots, x_n, x_{n+1} \in \Sigma^*$
 $A_1, A_2, \dots, A_n \in N$



A_1, \dots, A_n are nonterminal symbols

문장을 생성하는 parse tree는 다. 문장을 생성하는 parse tree는 다.

leftmost (middle most) rightmost
 LR(L) LR(R)

$$S \xrightarrow{lm} xAY \xrightarrow{A \rightarrow yB} xpy \xrightarrow{lm} xpyz \xrightarrow{lm} xpyz$$

$$S \xrightarrow{rm} xAZ \xrightarrow{A \rightarrow \beta Z} x\beta Z \xrightarrow{rm} x\beta Z \xrightarrow{rm} x\beta Z$$

$\alpha \in (N \cup \Sigma)^*$

